Successful Teacher Education

Partnerships, Reflective Practice and the Place of Technology

Mellita Jones and Josephine Ryan (Eds.)

SensePublishers

Successful Teacher Education: Partnerships, Reflective Practice and the Place of Technology

Successful Teacher Education: Partnerships, Reflective Practice and the Place of Technology

Edited by

Mellita Jones

Australian Catholic University, Ballarat Campus, Australia

and

Josephine Ryan

Australian Catholic University, Melbourne Campus, Australia

SENSE PUBLISHERS
ROTTERDAM/BOSTON/TAIPEI

A C.I.P. record for this book is available from the Library of Congress.

ISBN: 978-94-6209-675-2 (paperback)
ISBN: 978-94-6209-676-9 (hardback)
ISBN: 978-94-6209-677-6 (e-book)

Published by: Sense Publishers,
P.O. Box 21858,
3001 AW Rotterdam,
The Netherlands
https://www.sensepublishers.com/

Printed on acid-free paper

TABLE OF CONTENTS

Conclusion

ACKNOWLEDGMENTS

This book is based on the work of many people. At its heart are the many pre-service teachers, teachers and teacher educators whose work the writers are committed to understanding and enhancing. We hope that the book will generate ideas that will create stronger teacher education for them.

The authors are grateful to the contributing writers who completed their work with professionalism and cheerfulness in the face of ever-present deadlines. The editors learned from each writer's contribution to making the book a rich account of innovative approaches to teacher education.

To the chapter reviewers special thanks are due since they offered their constructive suggestions on each chapter without expectations of reward; their collegiality is exemplary and their incisive critiques have improved the book.

Our colleagues at ACU have been very supportive, offering encouragement as well as useful advice.

Sense Director for the Asia-Pacific region, Michel Lokhorst has made it all seem possible. Kate Ryan has shown us what a well-edited manuscript looks like.

All these people have assisted us but we are responsible for any errors that remain.

We thank our families on whom the burden of living with people preoccupied with completing a major task has fallen. Doug has been patient and a great cook. He has made it all possible. David, Jesse and Marne are becoming all too used to an absent wife/mother, and their ongoing love and support is much appreciated and definitely not taken for granted.

BLIND PEER REVIEW

The quality of the contributions to this book has been ensured through a double blind peer review process. Each manuscript was distributed without author identification to two reviewers, expert in the field of teacher education. Each author revised their work on the basis of these reviews.

ABOUT THE CONTRIBUTORS

THE EDITORS

MELLITA JONES

Dr. Mellita Jones is a lecturer at Australian Catholic University's Ballarat campus where she teaches in Science Education. Her research is concerned with effective teacher education where her focus has been on school-university partnerships, reflective practice and authentic uses of technology for learning. Her recent work has involved school-based approaches to science teacher education and practicum partnerships for rural and regional teacher education courses. She also has an interest in working with teachers in the Pacific region and has had significant involvement in the Solomon Islands.

JOSEPHINE RYAN

Josephine Ryan is Senior Lecturer in English/Literacy Education at Australian Catholic University, Melbourne campus. She teaches literacy education to students there and is engaged in researching successful approaches to teacher education, especially the value of school partnerships, teacher education in rural and regional contexts and how teacher education can be enhanced through technology.

THE WRITERS

BILL ECKERSLEY

Associate Professor Bill Eckersley is the Director of Learning and Teaching (Networks and Student Experience) in the College of Education at Victoria University in Melbourne. His experience as a teacher and a teacher educator has created opportunities for him to explore innovative preservice teacher models of learning that focus on building trust, mutuality and reciprocity with school-university partners.

KIM FLINTOFF

Kim Flintoff has a background in Drama, Education and Technology, and currently works as Academic Engagement Developer with the Centre for Aboriginal Studies at Curtin University in Western Australia. His recent work includes staff development in teaching and learning, lecturing and coordination in K-12 teacher education, and interdisciplinary practice in Performance Studies.

LISA HALL

Although she grew up north of Melbourne, Lisa was lured to the blue skies and red dirt of Central Australia over a decade ago and has lived and worked in remote communities throughout the desert ever since. She has worked as a teacher, a curriculum advisor and a teacher-lecturer across a number of remote Indigenous schools and is currently working for Batchelor Institute of Indigenous Tertiary Education as a Lecturer in the Australian Centre of Indigenous Knowledges and Education (ACIKE) Preparation for Tertiary Success (PTS) course. She is also completing her PhD in 'Pathways into Teacher Education for students from Remote Communities'.

JAN HERRINGTON

Jan Herrington is a Professor of Education at Murdoch University in Perth, Western Australia. She teaches in the educational technology stream in the School of Education, and her main areas of research are authentic e-learning and mobile learning.

ALAN MCLEAN

Mr Alan McLean is an associate lecturer in Education at La Trobe University. After a long career in teacher education, which included a lengthy period as a secondary principal, Mr McLean joined the staff of La Trobe where he works extensively managing and implementing the Graduate Diploma of Education Middle Years. His research interests include online and blended learning and use of technology in assessment.

GREG NEAL

Dr. Greg Neal is a senior lecturer in the School of Education at Victoria University in Melbourne, Australia. As the coordinator of the Graduate Diploma in Primary Teaching degree it is Greg's passion to work in and develop site-based teacher education models to develop effective teachers prepared for 21st century learners.

NATHANIEL OSTASHEWSKI

Nathaniel Ostashewski is an Academic Engagement Project Developer at Curtin University in Perth, Western Australia. He works as the MOOC Lead and online projects for Curtin Teaching and Learning, and his main research areas are blended and online education implementations and mobile learning.

CHRISTINE REDMAN

Christine Redman is Senior Lecturer and head of Science Education program delivery. She teaches Science and Technology Education, Personalised Learning and Curriculum, Pedagogy, Design and Assessment Education. She chairs the Capstone Research program. Her research focus is often on the use of technologies in teaching for effective learning, especially in Science education. Through her work in Positioning Theory she has developed approaches for analyzing discursive practices between people, objects and events to better support productive relationships, and learning, between people.

DOUG REID

Doug Reid is the Operational Coordinator for eLearning Design and Delivery at Grant MacEwan University in Edmonton, Alberta, Canada. He oversees the design, development and delivery of all the online courses offered at the university, and his main areas of research are instructional design and mobile learning.

JO-ANNE REID

Professor Jo-Anne Reid is Associate Dean, Teacher Education at Charles Sturt University, and has worked as a literacy teacher educator in several universities around Australia during her career. As a member of the Research Institute for Professional Practice, Learning and Education [RIPPLE] at CSU, she has worked with colleagues to respond to the opportunities created by the work of practice theorists and philosophers to explore ways in which attention to theories of practice can be utilised in teacher education.

CAROLINE WALTA

Dr Caroline Walta is a senior lecturer in education at La Trobe University, Shepparton Campus, Victoria. Her research interests are issues in student practicum and online learning. Dr Walta has worked with research grants associated with student practicum in both rural and international locations. She is currently coordinator of the online Graduate Diploma in Education, Middle Years managed from the regional campus at Shepparton.

JOSEPHINE RYAN

INTRODUCTION

Successful Teacher Education: Partnerships, Reflective Practice and the Place of Technology

THE STATE OF TEACHER EDUCATION INTERNATIONALLY

Teacher educators in Australia and around the world must endure the pervasive presence of their critics. As those working in Australian teacher education are all too well aware, there has been a major state or national inquiry into teacher education almost yearly for the last 30 (Dinham & Scott, 2012). In fact, there have been so many critiques and inquiries into Australian teacher education that Louden (2008) wrote of the "101 damnations" of teacher education. Inadequate *initial* teacher education is most frequently seen as the central problem, whether because of low entry requirements, the impracticality of its teaching approaches or the absence of meaningful links between schools and universities (Department of Education and Early Childhood Development [DEECD], 2012; House of Representatives, 2007; Parliament of Victoria, 2005). For those within teacher education, popular and political discussions of the limitations of their work can lead to engagement in defensive discussion that distracts from the real challenges in creating high quality teacher education (Dinham, 2013).

The social and educational context of twenty-first century teacher education in Australia is one of anxiety about the educational outcomes of Australian students. International testing scores such as the Programme for International Student Assessment (PISA) have shown Australian students to be slipping down the international ranking tables in comparison to those of our Asian neighbours such as Singapore and Korea, as well as other countries like Canada that Australians expect to at least equal (Tovey & Patty, 2013). At the same time societies around the world are requiring an educated workforce to participate in the knowledge economy (Brown, Lauder, & Ashton, 2008; Department of Education, Science and Training, 2002; Darling-Hammond, 2005). In such a context the school teacher, who is predominantly of the female gender, is seen as a pivotal figure with the future in *her* hands. Governments in Australia see teacher education as performing inconsistently in terms of producing teachers who can operate effectively in the current school environment (DEECD, 2012; New South Wales Department of Education and Communities [NSWDEC], 2012).

Jones & Ryan (Eds.), Successful Teacher Education, 1–7.

While Australia's politicians may suggest that Australia alone is at risk of falling behind in the race for global success, a fear of losing ground in the field of education has been expressed in many other countries, as was testified in the world response to the 2013 PISA results (Organisation for Economic and Cooperative Development [OECD], 2013). Nor is the belief that teacher education is a key to improving educational standards limited to the Australian context (OECD, 2011). The 2011 OECD report (OECD, 2011) argued that the early twenty-first century was the critical time to address the issue of teacher quality because of the changing educational needs demanded by the shift to a knowledge economy and concerns around the aging teacher workforce.

It has been argued (Dinham & Scott, 2012) that one reason for teachers' vulnerability to criticism is that teaching is a feminised profession with most of its members not traditionally in decisive and powerful societal positions. Another explanation for the persistent criticism to which teachers in many western countries are subjected, is that teaching is within everyone's experience so there is a tendency for people to think they know how it is done (Lortie, 1975). Despite these caveats, and recognising that educational outcomes are shaped by a complexity of socioeconomic factors of which teachers are only a part, there is ample evidence indicating that teachers do matter (Hattie, 2003; OECD, 2011).

The research showing the significance of a teacher in affecting the educational outcomes of young people has been complemented by evidence that teacher education also makes a difference. Therefore, the effective preparation of teachers is highly significant (Dinham, 2013). Linda Darling-Hammond (2010) reports that in the United States (US) there are claims made that the teacher knowledge developed in teacher education programs is not significant in producing better teachers. Contesting this, Darling-Hammond's research found that teachers with university teacher education qualifications are associated with higher outcomes for children and longevity as teachers. The present volume takes its inspiration from such a position. Its editors are participants in the Australian teacher education system, observing at the time of publication the announcement of the most recent review of teacher education, to be undertaken in 2014 by the Tertiary Education Quality and Standards Agency [TEQSA] (Universities Australia, 2013). Scrutiny of teacher education is high. Testing regimes for prospective teachers designed to ensure that their literacy and numeracy results are among the top 30% of Year 12 graduates are under discussion (Australian Institute of Teaching and School Leadership [AITSL], 2011). The newly established national teacher registration body, AITSL, is aiming to manage the education of high quality teachers through a range of measures, including entrance standards into initial teacher education, as well as professional and registration standards upon entry into the profession (AITSL, 2012).

As noted, severe critique of the education system is not unique to Australia, and British, European and North American teacher educators are also familiar with appraisals, criticisms and calls for greater accountability (OECD, 2013; Zeichner,

2010). International testing regimes encourage this scrutiny. Currently Asian school and teacher education systems are seen as most successful, but previously it was Finland. The discussion is fraught with competition and blame (OECD, 2013). In this context analyses of teacher education programs and practices are needed. Teacher educators and researchers must talk to one another and share knowledge of high quality practice so that responses to appraisals and criticisms are less reactive and limited, but rather are proactive and build on one another's successes.

SUCCESSFUL APPROACHES TO TEACHER EDUCATION FROM AUSTRALIA

A book on successful models of Australian teacher education should be useful to an international audience for a number of reasons. One factor is that Australia, with a relatively low population, of approximately 21 million people, and a history of accommodation to high levels of government intervention for social reform, has been quick to respond to new initiatives in education. The history of Australia's rapid and radical responses to changing international trends in literacy teaching is an example of its tendency to quickly adopt new ideas (Cope & Kalantzis, 1993). In the last decades Australian educational systems have changed from a more school-based approach to state-based standards curricula (Melbourne Graduate School of Education Curriculum Policies Project, 2012); and, in the early twenty-first century, the most recent major education reform has been the creation of a national Australian curriculum designed to replace state curricula (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2014). Citing the need to compete in the global economy and connect with the Asian context in which Australia is located, the new curriculum aims to embody contemporary sustainability concerns across all learning areas as well as focusing on relationships with Asia and Indigenous knowledge (ACARA, 2014). Australians can see a significant educational achievement in the creation of such a national document. Furthermore, for all its angst about its diminishing success in international testing, educational achievement in Australia is still relatively high and education reform has been effective in some areas (Darling-Hammond, 2010; Dinham, 2013).

And yet it needs to be noted that while Australia might have achieved many educational reforms in its history, the country has not been able to overcome the fact that Indigenous peoples' achievement has been *significantly* below that of the general population (Lyons & Janca, 2012). As is described in Hall's contribution to this volume (Chapter 5), the issues involved in improving the outcomes of education for Indigenous students are complex and ongoing. Moreover, serious socioeconomic inequalities persist in the education system (Dinham, 2013). With this mixed record in mind, the value of an analysis of the Australian educational context to world education may be that Australia's relatively small population, with only seven jurisdictions, makes reform initiatives easier to trial than, for example, in the complex republic of nearly three hundred million people and 50 states, which must cooperate to create national reform in the US. Australia's willingness to undertake change

puts Australia in a prime position to analyse and generate evidence for more and less successful educational outcomes, illustrating the impact of innovation to places where reform is more difficult to co-ordinate. The Australian educational scene with both its achievements and its failures can therefore be both exemplary and salutary for world educators. There is a need for these discussions to be internationalised so that effective approaches can be shared and missteps not repeated (Luke, 2011).

With this experience of continual change, Australia's teaching workforce has had to be flexible, although changes have not always been for the better. Pay and conditions have been progressively decreasing, and until recently, have been somewhat dis-similar across the country. This has made it increasingly difficult to attract high-quality applicants to teaching and subsequently there have been short-falls in suitably qualified teachers, particularly in area like mathematics and science, and especially in rural and regional areas (Dinham, 2013; DEECD, 2012). Such a situation in which teacher education is not necessarily creating the teachers desired by the society is echoed in other places (OECD, 2011; Zeichner, 2010). It is not easy to identify what is valuable in the teacher education field as there significant variation in approach and arguably, in quality (Dinham, 2013). Teacher education research, both from within and outside the teacher education profession, is clearly needed to make judgments about quality in teacher education. The positioning of teacher education in universities since the 1990s has meant that teacher educators in Australia, and elsewhere, have been encouraged to be researchers. Although the teacher education research field does not have a long history, one of its strengths has been that teacher educators have frequently studied their own programs and practice (Nuttall, Murray, Seddon & Mitchell, 2003). The ideas in this book represent work of this kind. It is based on a range of teacher education programs involving 11 different authors from the various states of Australia and one from Canada. Each writer puts forward their approach with an argument about the necessity of renewal. There are patterns in the challenges each address, ones which connect with issues in teacher education internationally: the theory practice gap which those learning to teach need to bridge, the development of partnerships between schools and universities as a response to the perceived gap, the belief in reflective practice as a professional skill to encourage improvement in practice and the use of technology to enable or enhance learning within twenty-first century teacher education. The editors' aim was to encourage readers to conduct the reviews of innovations which are needed to develop shared expertise. This process also contributes to the collection of the evidence needed to persuade funding bodies to support reform.

PLAN OF THE BOOK

The first section of the book, consisting of five chapters, presents a range of models of teacher education. The first two chapters are accounts of *collaborative* partnership models of teacher education, that is, ones which are based on close relationships between the universities and the schools where pre-service teachers are placed, often

seen as the most desirable, if the most complex model of teacher education program (Darling-Hammond, 2005; Kruger, Davies, Eckersley, Newell & Cherednichenko, 2009). The first chapter by Redman (Chapter 1) describes a teacher education program, the design of which is based on an encompassing theory of teacher education, namely a *clinical practice* model. This unifying approach to preparing teachers for all levels of schooling provokes us to consider the importance of theory in the world of teacher education, which is sometimes mistakenly construed as a wholly practical activity (Reid, 2011). As well as seeing teacher education within a different conceptual framework, Neal and Eckersley (Chapter 2) analyse the key features of a teacher education designed through a government-funded initiative aiming to create school centres of teaching excellence in which pre-service teacher education is integrated into the work of schools, assisting teachers in their work as they learn about teaching.

Another version of a school-integrated model, this time focusing on schools away from the urban mainstream, is presented in Chapter 3 (Ryan). The rural and regional model, which has been developed to promote access to teacher education for pre-service teachers in areas often less than well served by education, is explicated and evaluated in this chapter, and includes the feature of significant use of technology as a means of enabling learning. The considered use of technology within a blended learning teacher education program is a feature of the chapter by Walta and McLean (Chapter 4). This chapter argues that online approaches to teacher education, if designed appropriately, can promote active, engaged learning among pre-service teachers. The model is important given the factors that are making online delivery a more prevalent aspect of teacher education.

The final chapter in the first section has as its focus the highly significant contemporary Australian challenge of designing a teacher education approach that will prepare teachers for remote Indigenous communities. In this chapter, Hall provides a picture of the approaches that have been tried in this demanding context and offers evidence for what works.

The second half of the book aims to look more deeply at practices within teacher education programs to highlight the pedagogies that inform strong teacher education. The opening chapters explore two broad concerns of teacher education, those of partnerships between universities and schools, in this case through improved communication using Information and Communication Technology [ICT] (Ryan & Jones, Chapter 6); and a reconsideration of *practice,* the basis of pre-service teacher learning (Reid, Chapter 7). The next two chapters take a different view of technology, where it is used to foster learning rather than just for communication. In these chapters, the theme of what constitutes effective use of technology within a teacher education program is explored. Herrington et al. (Chapter 8) examines the best ways to prepare teachers to take advantage of the mobile technologies for learning and thus for their own teaching practice. In Chapter 9, Jones takes as her focus one of the key ideas in contemporary teacher education, that of reflective practice as the means of teacher learning, and how to achieve this in the online space.

The final chapter aims to integrate what each of the contributions offer in terms of their successes and what can be learnt about the direction of teacher education from the book as a whole. The editors and all the contributors look forward to provoking conversations and debate with readers about successful teacher education.

REFERENCES

ACARA. (2014). *Cross curriculum priorities*. Retrieved from http://www.australiancurriculum.edu.au/CrossCurriculumPriorities

AITSL. (2012). Professional standards for teachers. Retrieved from http://www.teacherstandards.aitsl.edu.au/Overview/ProfessionalStandards

AITSL. (2011). *Accreditation of initial teacher education programs in Australia. Standards and procedures*. Retrieved from http://www.aitsl.edu.au/verve/_resources/Accreditation_of_initial_teacher_education_file.pdf

Brown, P., Lauder, H., & Ashton, D. (2008). *Education, globalization and the knowledge ecomony.* London, UK: Teaching and Learning Research Programme (TLRP) and Economic and Social Research Council (ESRC). Retrieved from http://www.tlrp.org/pub/documents/globalisationcomm.pdf

Cope, B., & Kalantzis, M. (1993). Introduction: How a genre approach to literacy can transform the way writing is taught. In B. Cope & M. Kalantzis. (Eds.), *The powers of literacy. A genre approach to teaching writing* (pp. 1–9). London: The Falmer Press.

DEECD. (2012). *New directions for school leadership and the teaching profession discussion paper.* Melbourne: Department of Education and Early Childhood Development. Retrieved from http://www.eduweb.vic.gov.au/edulibrary/public/commrel/about/teachingprofession.pdf

Darling-Hammond, L. (Ed.). (2005). *Professional development schools. Schools for developing a profession*. New York: Teachers College Press.

Darling-Hammond, L. (2010). Teacher education and the American future. *Journal of Teacher Education, 61*(1–2), 35–47.

Department of Education, Science and Training (DEST). (2002). *Review of teaching and teacher education: Strategies to attract and retain teachers of science, technology and mathematics*. Canberra, Commonwealth of Australia.

Dinham, S., & Scott, C. (2012). Why we're never satisfied with teachers. *The conversation*. August 8, 2012. Retrieved from http://theconversation.edu.au/why-were-never-satisfied-with-teachers-8654

Dinham, S. (2013). The quality teaching movement in Australia encounters difficult terrain: A personal perspective. *Australian Journal of Education, 57*(2), 91–106.

Hattie, J. (2003). *Teachers make a difference: What is the research evidence?* Melbourne: Australian Council for Educational Research.

House of Representatives, Standing Committee on Education and Vocational Training. (2007). *Top of the class. Report on the inquiry into teacher education*. [Electronic version]. Retrieved from http://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=evt/teachereduc/report.htm

Kruger, T., Davies, A., Eckersley, B., Newell, F., & Cherednichenko, B. (2009). *Effective and sustainable university-school partnerships. Beyond determined efforts of inspired individuals*. Canberra: Teaching Australia. [Electronic version]. Retrieved from http://hdl.voced.edu.au/10707/144200

Lortie, D. (1975). *Schoolteacher: A sociological study*. Chicago: University of Chicago Press.

Louden, W. (2008). 101 Damnations: The persistence of criticism and the absence of evidence about teacher education in Australia, *Teachers and Teaching: theory and practice*, *14*(4), 357–368.

Lyons, Z., & Janca, A. (2012). Indigenous children in Australia: Health, education and optimism for the future. *Australian Journal of Education, 56*(1), 5–21.

Luke, A. (2011). Generalizing across borders: Policy and the limits of educational science. *Educational Researcher 40*(8), 367–377. doi: 10.3102/0013189X11424314

Melbourne Graduate School of Education Curriculum Policies Project. (2012). *Australian curriculum*

trajectory 1975–2005. Retrieved from http://web.education.unimelb.edu.au/curriculumpoliciesproject/trajectory.html

New South Wales Department of Education and Communities (NSWDEC). (2012). *Great teaching, inspired Learning .Discussion paper NSW government*. Retrieved from http://www.schools.nsw.edu.au/media/downloads/news/greatteaching/gtil.pdf

Nuttall, J., Murray, S., Seddon, T., & Mitchell, J. (2006). Teacher Education in Australia: Charting new directions. *Asia-Pacific Journal of Teacher Education, 34*(3), 321–332.

OECD. (2011). *Teachers matter: attracting, developing and retaining effective teachers – pointers for policy development*. Paris: OECD Publishing.

OECD. (2013). World reaction to PISA. Retrieved from http://www.oecd.org/education/focus-world-reaction-to-pisa.htm

Parliament of Victoria, Education and Training Committee. (2005). *Step up, step in, step out. Report on the suitability of pre-service teacher training in Victoria*. Melbourne: Victorian Government Printer.

Reid, J. (2011). A practice turn for teacher education? *Asia-Pacific Journal of Teacher Education, 39*(4), 293–310. doi: 10.1080/1359866X.2011.614688

Tovey, J., & Patty, A. (2013). OECD report finds Australian students falling behind. *Sydney Morning Herald*. December 4. Retrieved from http://www.smh.com.au/national/education/oecd-report-finds-australian-students-falling-behind-20131203-2you0.html

Universities Australia. (2013). National standards to ensure quality teacher education. (Media release No. 12/13). Retrieved from http://www.universitiesaustralia.edu.au/resources/795/1553

Zeichner, K. (2010). Competition, economic rationalization, increased surveillance, and attacks on diversity: Neo-liberalism and the transformation of teacher education in the U.S. *Teaching and Teacher Education 26*, 1544–1552.

AFFILIATION

Josephine Ryan
Australian Catholic University

SECTION ONE

CONTEMPORARY MODELS OF TEACHER EDUCATION: CASE STUDIES FROM AUSTRALIA

CHRISTINE REDMAN

1. THE MELBOURNE GRADUATE SCHOOL OF EDUCATION MASTER OF TEACHING: A CLINICAL PRACTICE MODEL

INTRODUCTION

This chapter explores a *clinical practice* model of teacher education at the University of Melbourne and the influences behind the decision to investigate and establish this new model of teacher education. It has been constructed in three key sections. Section one reviews the progressive changes in teacher education since the mid-1980s and Section two describes the theoretical conceptual thinking behind the restructuring of the Melbourne Graduate School of Education's model for the Master of Teaching degree. This section also provides a description of the functions of elements of the redefined teacher education model, and the educational literature that has supported its implementation. Section three concludes with a summary of ways that this redeveloped Master of Teaching degree may be shaping and influencing the personal and professional identities of future teachers.

Several unfamiliar terms to readers may be used in this chapter, and are introduced here for ease of reference. The term teacher candidate refers to the pre-service teacher, student teacher or trainee teacher. Clinical teaching refers to classroom-based practices that draw on the pupil's data, utilise theory, and result in evidenced-informed decisions for teaching and learning. In this chapter a reference to schools includes any learning environment whether it is a secondary, primary or early childhood kindergarten or childcare setting.

HISTORICAL REVIEW OF A SCHOOL OF EDUCATION

The following section describes the theoretical underpinnings informing the development of a renewed and refined model for teacher education. This redefined model has been significantly shaped by major international reviews of education. The teacher education model was introduced at the Melbourne Graduate School of Education, at The University of Melbourne, Victoria, Australia in 2008.

There are many reasons that could be offered for the need to redevelop and refine the approaches being taken to teacher education. Education is constantly reviewed and researched. Consequently, new information arises and informs schools of education about effective ways to prepare teacher educators. Hayes, Mills, Christie

Jones & Ryan (Eds.), Successful Teacher Education, 11–29.

and Lingard (2006) detailed the contributions of productive pedagogies suitable for twenty-first century learning. Marzano and Toth (2013) point to the need for teachers to develop pedagogical skills that support multiple methods of evaluation of learners' needs, which will increase the validity and reliability of tracking and responding to a learner's progress. Teacher education programs are continually reformed in response to the growing body of evidence that is addressing, and is related to, quality instruction. There has been a consistent focus on how to identify and define the elements that combine to create *teacher quality* and its relationship to student learning outcomes. The research continues to inform understandings about how, and why, various elements combine to impact on teacher quality. This focus has been at the hub of much of the contemporary educational research. In 2000 Linda Darling-Hammond, reported that:

> For many years, educators and researchers have debated which school variables influence student achievement. As policy makers become more involved in school reform, this question takes on a new importance since their many initiatives rely on the presumed relationships between various education-related factors and learning outcomes. .... As new standards for student learning have been introduced across the states, greater attention has been given to the role that teacher quality plays in student achievement. (p. 2)

The call for the renewal of teacher education practices constantly reverberates, as higher and higher standards for teacher quality are sought.

> All countries in the developed world aspire to ever-higher standards of education and teaching. Clearly this depends at least in part, on having a sufficient supply of high quality school teachers. (Brighouse, 2008, p. 313)

The McKinsey report (Barber & Mourshed, 2007) researched the question, "How [did] the world's best performing school systems come out on top?" Significantly, this report responded with an apparently simple answer; in summary it is stated that the common and most significant feature and function of top schooling systems is the quality of teaching.

In 1997, Sanders, Wright and Horn had stated that the most important factor that affects student learning is the teacher. The combination of *quality teaching and quality teacher* was determined to lead to effective schooling outcomes. So, if it is the quality of the teacher that leads to quality teaching, then teacher preparation systems need to be able to assure others that they are producing quality teachers. Dinham (2006) and Hattie (2003, 2009) note too, that the teacher has the greatest systemic influence on students' learning and learning outcomes. Dinham (2006) reports that there have been long-held concerns, indeed for several decades, about the preparation of teachers. Teacher pre-service programs have been frequently examined and often considered problematic (Hattie, 2009).

The McKinsey (Barber & Mourshed, 2007) report found three elements were common to the top school systems. The first of these three elements was the careful

selection of the people who were to become teachers. The second element was to ensure that they were skilled classroom practitioners. Finally, and critically, the third element was that teachers had been ably supported to be skilled educators in the school system. Schools must therefore continue to enable the growth in capacity of teachers to be able to provide effective learning experiences for every child.

Enacting each of these elements has tended to be problematic, in part because they require system-wide changes to many existing practices. However, if the quality of an educational system relates to, and cannot exceed, the quality of its teachers (Barber & Mourshed, 2007), then we know how and where to be focusing our efforts.

A HISTORICAL REVIEW OF CHANGES TO TEACHER EDUCATION AND DEVELOPMENT MODELS

This chapter now reviews changes to teacher education and training to provide an historical perspective. Historical lenses are being used to help understand the origins and impetus behind previous changes to teacher education programs. In England in the mid-1980s there were distinctive changes made to Oxford's teacher-in-preparation courses. These changes are related to recent changes in the Melbourne Graduate School of Education (MGSE) model of teacher education and development in Australia. The new MGSE model has been informed by recent reviews of teacher education around the world, and then shaped and informed by reviews and research into teacher education models. The Oxford changes too, seem to have arisen after the James Committee of Inquiry into Teacher Training (1971- 1972), and through some insightful visionary opportunities identified by Dr Harry Judge. This historical review of changes to a teacher education model begins first by examining a new approach to education that had been instigated to support the newly graduated teacher. This approach foreshadowed the type of changes that occurred in subsequent teacher education development models. This new approach for supporting beginning graduate teachers was instigated by Harry Judge.

In 1962, Judge established a new school in Oxfordshire called the Banbury Grammar School. Judge, as the head teacher, implemented a support program for the newly graduated teachers in his school. Judge created a mentoring system that involved experienced teachers acting in roles that Judge labelled *professional tutors*. Professional tutors were school-based staff members and were offered the role because they were acknowledged as highly competent classroom teachers. Judge recognised that new teacher graduates needed ongoing support when they secured their school-based appointments and that the people best placed to support them were the highly capable and experienced teachers in the school.

The title of professional tutor was significant as it was purposefully clarifying Judge's intent for the new roles. This title conveyed that this role served to support and guide the beginning teacher. It is notable that Judge intended for the professional tutor to focus on supporting new graduates' classroom practices, rather than introducing them to the necessary but mundane everyday administrative matters. Later, Judge

became Director of the Oxford University Department of Educational Studies, and proceeded to formally establish stronger links between schools and the university.

Judge introduced his school-based induction model using professional tutors (Pring, 2008). Now, based inside the university, he sought again to refine the existing model. Traditionally a university visitor called upon a trainee teacher based in a school. These visits occurred once or twice during their school-based placement, and sometimes not at all. Together with Tim Brighouse, Judge established a formal school and university partnership (Phillips, 2008), resulting in the Post Graduate Certificate in Education.

This overview of an historical change reveals that it began as part of Judge's vision for an improved set of learning experiences for teacher trainees. In 1987 Judge introduced the Oxford Internship Scheme (OIS) into the Oxford University Department of Educational Studies (Benton, 1990). Three elements of the OIS will be discussed here in detail, and examined for the way they have informed the development of MT model at MGSE. The three aspects involved forming partnerships with schools, role changes for academic staff, and the introduction of an internship.

The first noteworthy element of the OIS was that it introduced and involved people in a purposeful partnership arrangement. The partnership was formed between the Oxford University Department of Educational Studies, local Oxford schools and the Local Education Authority. This emphasis on a partnership model was a distinctive element of Judge's reform, introducing a modified model for secondary teachers based in the schools as trainee teachers. He developed effective relationships between schools and the university, between teachers and academics, to better support the development of the trainee teachers.

The second key element was the introduction of a role change for university academics. Staff from the university now worked with the trainee teachers in school settings. Prior to this, university staff with research-intensive workloads had had very little capacity or time to visit trainee teachers in schools. Judge overcame this obstacle by bringing experienced teachers into the university. He provided them with teacher education lecturing roles, as well as roles in visiting pre-service teachers in school settings.

The third significant element of the OIS model that warrants attention is the introduction of the concept of the internship into a teacher education program. This was a new and direct reference to the medical internship model of educating trainee doctors. The term was drawn from the American medical model that used internship to describe trainee doctors working in teaching hospitals, in closely supervised roles. This use of the word internship in education created new images, new relationships and a new way of thinking about developing trainee teachers.

The implications of using the word internship had changed the model and the roles of people in the model. The intent of this new model was clear, as the school site had now become an additional and valued contributor. This partnership model was designed to support the development of the teacher in training. The school site

was a teaching and learning site for young teachers, in the same way as teaching hospitals were for medical interns. The pre-service teachers were teaching interns.

Elsewhere in the world, in the late 1980s teacher education programs were also evolving as people sought clearer and stronger outcomes from more effective teaching approaches. More consistently around the world, links were being formed between university programs and clinical fieldwork experience. Darling-Hammond and Bransford (2005) note, that particular pedagogies emerged at this time, and that teacher education:

> programs were restructured around theories of professional learning that suggest teachers need to do more than simply implement particular techniques; they need to be able to think pedagogically, reason through dilemmas, investigate problems, and analyze student learning to develop appropriate curriculum for a diverse group of learners. (p. 392)

These historical narratives from Oxford are now nearly forty years old. Certainly the ideas that generated the model are many years older. The Oxford concept that universities provide the educational theory and schools provide the pedagogical practices goes back to 1892. The 1892 Oxford teacher education programs involved a partnership, where teacher trainees undertook three years of university studies and then one year of professional practice (Pring, 2008). In that model the partnership had strong delineating borders.

CONTEMPORARY CHANGES TO MODELS OF TEACHER EDUCATION

Now the roles of universities and schools are blended and they work together throughout the pre-service teachers' educational journey. Another notable difference is the clarity and purpose of the outcomes of the teacher education models. Teacher education models seek to underpin and inform teacher practices with clear articulated links to theory and research.

The MGSE at The University of Melbourne has recently refined its model for teacher education. It has been aligned with the principles that arose first in the Carnegie Corporation (2006) paper, *Teachers for a New Era (TNE)*. This paper suggested various initiatives that held promise for improving the future of teacher education. The paper had several key foci, including teaching as a clinical practice, which also now included formalised partnerships between the institutional site of schools of education and the school sites. This enabled observation of teacher candidates' clinical practice. Partnerships, as noted earlier with regard to the Oxford model, had existed before in many teacher education courses and so many universities had already constructed versions of school-university partnership models. The distinctive elements chosen in the MGSE model were that now three people held specific roles, each actively supporting teacher candidates in their school placements. Structures and accountabilities and, importantly, an articulated role for each person in the program were developed. This group of three people includes the

Mentor Teacher, who is the supervising classroom-based teacher in the classroom of the teacher candidate. The team of three also includes a *Clinical Specialist*. This is an academic role held by academic staff who teach and or coordinate subjects in the MTeach degree in the MGSE. Finally it includes a *Teaching Fellow*, who is a school-based teacher, and who is recognised as a school-based expert. This was an informed choice and it drew on the work of Levine (2006). The synergies with the Oxford model are also evident, in the introduction of a designated role for academics, and the use of a school-based expert, in a partnership structure.

In his 2006 report *Educating School Teachers*, Levine had concluded that on examination, and after a review of 1,000 schools, teachers were still ill prepared to utilise theory and research in their classroom practice. The accountability for this was placed with the teacher training institutions. Teacher training institutions were deemed to be out-dated and unlikely to prepare teachers for a world altered by "economic, demographic, technological and global" changes (Levine, 2006, p. 27). School principals, too, stated that they were unhappy with teacher graduates. They had described them as underprepared to deal with the demands of contemporary school life. Levine (2006) argued that teacher education programs had "not adequately prepared graduates to teach in the new outcome-based, accountability-driven education system that demands all students be raised to the highest knowledge and skill levels in history" (p. 27).

Levine described the most effective teacher preparation courses as those which ensured that they "integrate and balance academic and clinical instruction" with the in-school experiences. The successful school practicum experience, described as a "field" experience, is one which is "sustained, begins early and provides immediate application and connection of theory to real classroom situations" (Levine, 2006, p. 81). He clarified this requirement, saying that "field work should begin in the first few days of teacher preparation and continue to the conclusion" (p. 108). Levine explained that the partnership between the schools and the teacher education program must evolve to establish and sustain a "close connection between the teacher education programme and the schools in which the teachers teach, including ongoing collaboration between the academic and clinical faculties" (p. 81). Judge founded the OIS on these same principles.

The initial participating schools of education, which had been successful as applicants in the Teachers for a New Era (TNE) programs, were funded to establish partnerships and employ specialised teachers to work with their trainee teachers. The Curry School of Education at the University of Virginia implemented their evidence-based clinical teaching teacher education program. It was seen to have established genuine and effective school partnerships in its clinical model of teacher education (Levine, 2006). The grant received also assisted the Curry School to fund further research behind the Classroom Assessment Scoring System (CLASS) and then extend this to encompass the upper levels in the primary school setting (Levine, 2006). The CLASS program supports an understanding about the practices that combine to create and understand effective learning environments.

In the Melbourne Model of teacher education, at MGSE, the clinical teacher is conceived as being one who has the school classroom learner at the centre of their attention. The clinical teacher is one who seeks to be constantly evaluating a student's learning and progress and intervening in specific, targeted ways, that are clearly underpinned by research and theory. The progress and goals for learners are carefully documented. The outcomes, standards and progress are consistently reviewed and re-shaped to ensure that constant challenges and joy are present for the learner. It is this assessment of a classroom learner's progress that is at the centre of the Master of Teaching (MTeach) philosophy.

The knowledge basis for effective classroom practices has continued to grow and is informed by research. Inculcating researched-informed practices into classrooms is now clearly a desire and an expectation of both practising teachers and pre-service teachers. The goals and expectations of teacher education programs are now measured in this succinct, inarguable statement made by Levine's 2006 report that "[t]he measure of their success should be student achievement in their graduate's classrooms" (p. 108).

The focus of teacher education institutions now is clearly on the idea that the:

> available evidence suggests that the main driver of variation in student learning at school is the quality of the teachers. Ten years ago, seminal research based on data from Tennessee showed that if two average eight-year-old students were given different teachers - one of them a high performer, the other a low performer - their performance diverge by more than 50 percentile points within three years. (Barber & Mourshed, 2007, p. 12)

INSTIGATING A REFORMED TEACHER EDUCATION MODEL

In 2008, preceded by two years of deliberating and discussing, reading and researching and the formation of several specialised committees, the MGSE introduced its refined model of teacher education. It has three similarities to key components of the Oxford Internship Scheme (OIS). The first similar component is that the Melbourne graduate model for teacher education utilises renewed school-university partnerships. The partnerships between MSGE and schools have been critical to the success of the new program. The Teaching Fellow, as the teaching school-based staff member of the partnership, has regular contact with the Clinical Specialist, as the academic from the MGSE, and they work together with the teacher candidates.

The success of the structure of the partnership model has enabled clearer lines of communication between the pre-service teachers in the schools, the university academics, and the school-based teaching staff.

> These partnerships play a key role in supporting the clinical premise of the Master of Teaching, which posits that teachers who use a specific form of

> evidence-based, diagnostic, interventionist teaching have a positive effect on student learning outcomes. (McLean Davies, Anderson, Deans, Dinham, Griffin, Kameniar, Page & Reid et al., 2013, p. 97)

The second similarity between the OIS and MGSE models is that both structures have university-based academics in the school setting on a regular basis. These in-school connections occur with all students on at least a fortnightly basis when academics present school-based seminars to teacher candidates in their school group. In addition the university academics visit and observe the classrooms of the teacher candidates and deliberate with them on their teaching practices. The other new element in the MGSE structure is the employment of school-based teachers, called teaching fellows, who regularly visit the pre-service teachers to observe their classroom teaching. The teaching fellows, as expert teachers, seek to visit teacher candidates in schools fortnightly, and are on call for support. These teachers support, monitor and discuss with the teacher candidate their teaching practices.

The third component of similarity between the MGSE and OIS models, is that they both draw upon the medical model of teaching. MGSE has developed and refined clinical teaching in its teacher education program. Clinical teaching, or clinical reasoning (Kriewaldt & Turnidge, 2013), requires the teacher candidate to work with student data, supported by their mentor teacher, to develop "well-reasoned designs for interventions based on their shared understandings" (p. 109). Together they will have drawn on research evidence, rigorously analysed student work samples and planned a suitable intervention for the learner.

The OIS used words like intern and internship in education. The use of the word *clinical* in education is now becoming better understood for its contribution to improved practice. It describes the specific practices of the teacher candidate, who is developing the pedagogical skills required to make a notable difference to learners' progress. As a term, clinical has been used in education since the late 1980s and was used by Goodlad (1990) in *Teachers For Our Nation's Schools* to describe the training of teachers.

The MGSE teacher candidates are supported to become progressively more knowledgeable about evidence-informed approaches for effective planning for teaching and learning. The clinical specialist and teaching fellow work together, in a set cluster of schools called a neighbourhood group; they create a community of practice. They are people sharing a common language, understandings and goals. Together they work closely, in a group of about 30 pre-service teachers, meeting fortnightly for seminars in one school within the cluster of schools. The focus of these seminars is to:

> further embed the links between theory and practice within the programme ... Draw together and provide coherence to the multiple threads of the Master of Teaching stream. The seminar content pays particular attention to how Teacher Candidates are synthesizing and critically reflecting on their work using the Mandatory Victorian Institute of Teaching (VIT) 'Standards for Graduating

> Teachers', which are grouped under the domains of 'Professional Knowledge', 'Professional Practice' and 'Professional Engagement' (VIT, 2009). (McLean Davies et al., 2013, p. 97)

In the MTeach degree, teacher candidates focus on the potential of the student as a learner, not the deficit. This concept was proposed by Griffin, Murray, Care, Thomas and Perri (2010), as they explained:

> that teachers' use of an evidence-based teaching, learning and assessment process, operating within a developmental learning paradigm, will enhance student learning outcomes. Through such an approach to teaching and learning, teachers can manipulate the learning environment and scaffold learning for every student across all developmental levels. *Deficit* approaches to learning tend to focus on the things that people cannot do; the outcome is a 'fix-it' approach. In contrast, *developmental* models build on and scaffold the existing knowledge bases of every student. These models focus on student readiness to learn. (p. 383)

This is a key philosophy of the MGSE program. Teacher candidates are supported to have high expectations for all students as learners. Hattie (2009) explains "effective teachers have high expectations for their students and increase the academic demands on their students" (p. 259).

The concept of the clinical experience for trainee teachers has existed in a refined manner since the late 1980s. In the current clinical education model for teachers, the design has been informed by many theories of learning. It has been sometimes described as a cognitive apprenticeship model. Collins, Brown and Holum (1991) identified the particular features that are necessary when constructing clinical educational experiences. These included the teacher educator, as learner, having clarity about the goals; that they are supported to make their thinking visible; that opportunities are available for practice of new skills; that regular formative feedback is provided; and that work in the classroom aligns with the university coursework.

Collins et al. (1991) use cognitive apprenticeship in a way that resonates with a concept of partnership, where membership in a partnership supports the potential to capitalise on the strengths of each other, and to be working together to choose the best pathways forward. This creates a reciprocal collegiate partnership, and for the teacher candidate supports the development of their professional identity formation and a sense of personal agency:

> Cognitive apprenticeship does not require that the teacher permanently assume the role of the "expert" - in fact, we would imagine that the opposite should happen. Teachers need to encourage students to explore questions teachers cannot answer, to challenge solutions, the "experts" have found-in short, to allow the role of the "expert" and "student" to be transformed. Cognitive apprenticeship encourages the student to become the expert. (p. 16)

Regular attendance by the teacher candidate at the school site or setting supports their capacity to take more responsibility for classroom students' ongoing learning experiences, as well as become more familiar with the broader roles and duties of the classroom practitioner. It also supports developments of partnerships between the teacher candidate and the school-based personnel.

INTRODUCING A NEW MODEL OF TEACHER EDUCATION

Today, the introduction of new models for teacher education, preparation and development need to be well argued, theorised, and informed by research evidence. Such is the case of the newly refined MGSE model of education for pre-service teachers. When the Oxford Internship Scheme was introduced in the mid-1980s, the impetus for the new model arose from Judge's vision, as he saw the potential to provide better support for pre-service teachers from a range of highly able and knowledgeable peers. The addition of school-based university staff who were not required to undertake research, allowed research-based university staff to focus on their research obligations. The MGSE structure has provided support for both the school-based and university staff to now have a less restricted focus on teacher candidates.

The MGSE model has clear theoretical underpinning. The introduction of the clinical teaching model into the MGSE teacher preparation course has ensured that teacher candidates implement evidence-informed teaching approaches. The MGSE model was unique in its partnership structure in Australia when it was first conceived, and as detailed earlier, springs from the recommendations from the work of Levine (2006). The work and thinking of Linda Darling-Hammond has also been influential in helping to frame and shape the thinking and reconstruction of teacher education at the MGSE.

Darling-Hammond and Bransford (2005) suggested that the framework of teacher education programs should enable trainee teachers to "learn *in* and *from* practice" (p. 441). Pedagogical approaches should support reflection and analysis of teaching practices, and contribute in different ways, creating "visions, tools, practices, dispositions, and understandings of new teachers in ways that develop and make habitual the ability to reflect the skills of close analysis" (p. 441). Darling-Hammond and Bransford explain that we do not yet fully understand the interactions between these pedagogies, nor which ones are the most influential, supportive or powerful.

What is not contentious, and is well understood and valued, is that the complex process of preparing teachers takes time and requires supportive partnerships at every level, and at every point of the pre-service teachers' learning journey. Mentor teachers, teaching fellows and clinical specialists work closely together to combine their knowledge and skills to provide effective learning experiences for the teacher candidate.

PRACTICES INFORMED BY RESEARCH AND THEORY

The MGSE MTeach model has been strongly influenced by the concept that if teachers make a significant impact (Barber & Mourshed, 2007; Dinham, 2013; Hattie, 2003), then teachers should have access to the most contemporary research that forms the current body of knowledge about teacher education. It also operates from the perspective that

> [T]here is an on-going need to focus - through evidence - on the nature and impact of our pedagogical practices and the roles that teachers' preparation and professional learning, professional standards, leadership and appraisal and development process can play in improving teaching and learning. (Dinham, 2013, p. 13)

All subjects that make up the Master of Teaching program make explicit, and draw upon, related research and theory. Teacher candidates expect to have evidence that will inform and strengthen their practice choices. No longer can classroom practices be uniform, unaligned to theoretical and/or research bases. Dinham (2013) argues this point strongly, stating that we have "decades of research" and "our accumulated expertise and wisdom in education" (p. 99) that can no longer be disregarded.

STRUCTURAL REASONS FOR A CLINICAL AND PARTNERSHIP MODEL

The MGSE partnership model has sought to overcome the school/university divide to ensure that classroom practices are informed by contemporary theory and research. New subjects have been created to support the model. Prior subjects from previous teaching degrees were re-examined and debated in committee meetings. They were then either removed or redeveloped to better reflect and support the new MTeach model, which reflected the specific focus of the MGSE teacher education model.

THE CLINICAL MODEL IN TEACHER EDUCATION PREPARATION PROGRAMS

A key focus of the MTeach model is the emphasis on clinical teaching practices. This has arisen in response to the recognition that teachers can make a difference.

Hattie's (2009) meta-analysis of effect sizes has provided teacher preparation education programs with clearer indicators of the likely impact on learners of classroom-based practices. This has enabled more specific and targeted strategies to be implemented, which supports more effective planning for learning. MGSE academics have structured their subjects to encompass these approaches, in particular, using the work of Griffin et al. (2010) to personalise the learning experience of students, utilising as evidence, what students write, make, do and say, to inform an intervention.

HOW THE MTEACH HAS BEEN STRUCTURED ACROSS THE STREAMS

The Master of Teaching model is offered to early childhood, primary and secondary teachers in training. Across these three streams are found similar references to the same core body of knowledge, research and theory, and a focus on developing similar skill sets of pedagogical practices.

The MGSE pre-service teacher education program provides its graduates with a Master of Teaching (200 points), or a post-graduate degree if they leave with 150 points. The Master of Teaching is available to those who wish to qualify in any one of three areas, as early childhood, primary or secondary educators.

There also exists a shared structure for the practicum experiences offered in each of the three streams. Each stream shares the same common overarching goals. So, there is the same balance between the time spent in the university setting and the school, pre-school or childcare centre. Each week, throughout the semesters, all MTeach teacher candidates spend two days in a school or early childhood (EC) setting, working alongside educators, and then spend three days participating in the university-based learning experiences. They encounter blocks of teaching, varying from one to three weeks throughout the semesters.

The strength of the partnership with the school and or EC setting is that it provides moderation, feedback and multiple dialogical opportunities for all educators and the teacher candidate to better plan for, and implement learning experiences.

The partnership relationships extend beyond a classroom and the university, and create partnership opportunities for the teacher candidate with other school-based staff, students and parents. Many schools have established Professional Learning Teams (PLTs) that come together "to investigate and extend their knowledge of strategies" (Griffin et al., 2010, p. 387) to respond to specific learners' needs. PLTs draw on teacher experiences and knowledge of the learner, as well as what the research literature has to offer. The regular presence of the teacher candidate in the school ensures they can now participate in the fuller life of the school or setting, often also being able to contribute to school musicals, incursions or excursions, school camps or other special events.

At the heart of these school-based experiences is the development of the knowledge and skills required to progress each student. This is the focus of the placement experience and the key element of the practices that the MTeach has embedded throughout the degree. Teacher candidates expect to be supported to make more informed choices about their practices from their university-based knowledge and the complementary school-based knowledge. Teacher candidates consult with experienced teachers; their teaching fellow and clinical specialist, linking to a comprehensive range of researched strategies to effectively scaffold the learning for students. Teacher candidates' classroom practices are informed by research-based decisions that are explicitly linked and aligned to learning theory and established researched approaches. Teacher candidates are formally supported to articulate and

discuss their practices, to further their repertoire of skills and knowledge and to draw on their local community of skilled practitioners. Darling-Hammond (2000) and Collins et al. (1991) have explained the multiple benefits of trainee teachers working in partnership teams with the school-based staff, stating that in these settings, assumptions about teaching and learning can be challenged, refined and enhanced.

MASTER OF TEACHING: EARLY CHILDHOOD

International recognition of the significance of the contribution of high quality education for the very young child continues to be verified by the research literature. The *Victorian Early Years Learning and Development Framework (VEYLDF)* evidence paper makes a researched case for partnerships with professionals (Flottman, McKernan & Tayler, 2011). There are eight key practice principles privileged, under the three categories of collaborative, effective and reflective, and these closely align with the Victorian P-12 Principles of Learning and Teaching, (Department of Education and Early Childhood Development, 2009).

The development of the MTeach model aligns with the VEYLDF and the values and beliefs of experienced practitioners in early childhood settings. Informed and aligned with the outcomes of the research, Flottman et al. (2011) draw on the research that highlights the importance of collaborations for learning. Flottman et al. (2011) state that partnerships are more than just beneficial; they are also a professional responsibility, "Working in partnerships requires professional commitment and respect for one another's roles, experience and expertise, and is the responsibility of all early childhood professionals" (p. 4). The partnership component of the MTeach has strong synergies with the aspirations of the VEYLDF.

The Early Childhood (EC) approach of the MTeach model has been underpinned by two key approaches. The first is the observational instrument, Classroom Assessment Scoring System (CLASS) (Levine, 2006), developed at the University of Virginia, by Robert Pianta. CLASS has provided a validated system for coding and measuring interactions between the child and their teacher using three domains that then are subdivided into 11 teaching dimensions. This system has supported EC teacher candidates in their efforts to target and be knowledgeable about their practices and the quality of their interactions.

The EC teacher candidates are supported in this approach by their teaching fellows and clinical specialists who are registered practitioners with a deep practical understanding of CLASS and its theory and language for describing classroom practice. In addition to CLASS, the EC teacher candidates also utilise the Abecedarian Approach (Sparling, Dragomir, Ramey, & Florescu, 2005). This is a validated system of enrichment strategies teaching and learning in EC settings. It is has four foci 1) learning games 2) conversational reading 3) language priority and 4) enriched care giving.

The EC teacher candidates also participate in a clinical praxis examination. This will be explained in more detail in the section below, in the description of the primary program. The EC teacher candidates also prepare and present in a "ready-to-teach" exhibition.

MASTER OF TEACHING: PRIMARY EDUCATION

The MTeach Primary program has much in common with the EC version, certainly with the same strong emphasis on partnerships within and between the school setting and with the university staff. It has the same structure as the EC program and the Secondary MTeach program, and all utilise a school-based teaching fellow and a university-sourced clinical specialist. The primary teacher candidates have a two-day per week school-based practicum, which runs throughout the entire semester.

Teacher candidates have the support of their classroom-based teacher, called the mentor teacher. The term mentor teacher, again, is a label carefully chosen to reflect the role and expectations of this person. The title of mentor teacher implies that the person in this role acts as a mentor and coach. This aligns well with the partnership concept, which the title classroom supervisor did not contain. Mentor teacher implies a relationship more suited to the cognitive apprenticeship model of Collins et al. (1991) where teacher candidates can question and challenge and question their own assumptions and understandings.

Note that each of the streams has included the clinical praxis examination (CPE). It originated in the secondary stream in 2010 as a result of teacher candidates' needs identified by the teaching fellows and the clinical specialists. It has been reviewed and modified each year since its introduction. It is an oral examination, where the teacher candidate presents to a panel of their peers and their teaching fellow and clinical specialists. The teacher candidate explains to the panel the reasons for their pedagogical practice choices, referenced through the research and learning theory literature, and demonstrated in their evidence.

The CPE is conducted in every semester now, supporting teacher candidates to reflect upon and discuss the effectiveness of their teaching approaches, in different areas of the curriculum, and the course. The CPE draws together knowledge from three or more subjects in the MTeach course. The focus of the CPE morphs and changes as a teacher candidate progresses through the degree. It reflects progressive changes in their thinking as their experience grows and they encounter the content of different subjects. The introduction of the CPE structure has created stronger links between educational research, theory and practice. It underpins and strengthens teacher candidates' capacity to competently reflect on and review their teaching in terms of that most important measure of a teacher education program: the progression of the school students' learning.

Teacher candidates constantly negotiate their teaching and its progress with their learners, with their teaching fellow, mentor teacher and clinical specialist. The CPE provides an opportunity to share this, and learn with and from other teacher

candidates. The CPE arises from classroom-based teaching experiences. These focus on moving a learner(s) forward towards their learning goals, in clearly articulated and informed ways. In the CPE presentation, the teacher candidate publicly discusses and shares the processes they undertook in their effort to intervene successfully in a student's learning journey. Teacher candidates articulate the relevant learning theory, reference how they used the related research, point to the match between their diagnosis of a student's learning needs and theory and research, providing reasons for their chosen pedagogical intervention and accompanying practices.

At the conclusion of a CPE the teacher candidate focuses on their assessment of student work, and then using data, discusses their choice of pedagogical practices and strategies, and often shows how they have moved a learner successfully forward.

MASTER OF TEACHING: SECONDARY

Unlike the MTeach primary, where teacher candidates undergo a full-time, four-semester, two-year course, the secondary candidates take three semesters in a year. Secondary MTeach candidates finish with a post-graduate Diploma of Teaching. If they seek a Masters qualification, they must undertake a fourth semester of study, within five years.

McLean Davies (2012) explains the success of the Master of Teaching Secondary program, through a research study:

> Observational and other data from 2010 indicated an increased capacity in candidates to speak about their practice in an informed and masterly way (Scott, Kleinhenz, Weldon, Reid & Dinham, 2010, p 4). Many Teacher Candidates also indicated an enhancement in their diagnostic capabilities and the development of the practice of planning to the point at which students are next ready to learn. In 2011, research was conducted into the efficacy of the Clinical Praxis Exam. The data from this research revealed that more than 70% of respondents to a voluntary survey indicated that after the experience of the CPE, they felt equipped to intervene in the learning experiences of students. (p. 100)

REFINING OF THE ROLES AND STRUCTURES

The MTeach model has increased the opportunities for both academic and practicum based conversations that can occur between teacher candidate and clinical specialist. These discussions are now much more likely to occur in this model than in the previous model. In the MTeach model both teacher candidate and clinical specialist are in regular contact and this has supported professional relationships that develop a better understanding of the expectations of the university and the practicum.

The clinical specialist presents four seminars throughout each semester. Seminars introduce some key ideas about the MTeach philosophy of teacher education that include knowing your students, and utilising evidence when planning for teaching.

The seminars are conducted in school settings and open to all teaching staff. The seminars provide time for teacher candidates to discuss and consider the implications of contemporary practices, using and linking data, and matching this to a student's readiness to learn (Griffin et al., 2010). Between seminars, teacher candidates gather data from their classrooms and teaching. They liaise with mentor teachers to collate the necessary information. They share and discuss their data in seminar sessions with other teacher candidates, providing opportunities to reflect on the implications of their ideas on their teaching, and student learning. Teacher candidates compile reflections designed to support more informed thinking, which is then assessed and feedback provided by teaching fellows.

The MTeach is notable for this backbone of authentic partnerships roles. Genuine partnerships can be recognised as a key element in the MGSE model. There are a number of different partnerships that involve both university and school-based people. These partnerships revolve around the roles and relationships between teaching fellows, clinical specialists, mentor teachers and teacher candidates. Partnerships are supported through the need for regular interactions. These partnership interactions result in collaborations focused on enacting the MTeach visions through fortnightly seminars and the Clinical Practice Exam (CPE). One of the key strengths of the MGSE model has been the outstanding effectiveness of this partnership structure for teacher candidates, who build learning relationships with a wide range of educators.

THEORETICAL LENSES FOR VIEWING THE MELBOURNE MODEL OF TEACHER EDUCATION

The MTeach model is recognisable as theoretically informed through three lenses; the epistemological, the ontological and the agential. Here they are used as a framework to explore the contributions of the degree on the professional and personal identity formation of the graduate teacher.

The Epistemological Basis for Teaching and Learning

In this chapter epistemological refers to the ways of knowing. The ways of knowing in a teacher education degree includes the pre-service teacher considering the theory and the research basis of teacher education, which informs their professional practice. In the MTeach degree the pre-service teachers are learners, are seeking to understand what are effective practices, and learning to ask "what is the evidence that these are the most effective practices at this moment?" This knowledge and understanding contributes to the professional identity and formation of a new teacher.

In the MTeach model the candidates use pedagogical approaches, aiming for the highest standards for each learner. They learn how to question and calculate performance outcomes for their real significance for each learner (Hattie, 2003). They set clear success criteria for their learners, and inform and share these with their learners. MTeach candidates develop a degree of expertise in curriculum

content, effective pedagogies and ways of assessing students that are underpinned by research. Their expertise supports them in progressing their learners.

The Ontological Basis for Teaching and Learning

The development of a personal identity that reflects the changing role of the teacher has been considered and embedded into the MTeach model of education. A range of strategic experiences informs the professional and personal identity of the MTeach candidate. One of the key elements supporting this focus has been the Clinical Praxis Exam (CPE).

The CPE is a self-reflective, self-evaluative experience that acts like a research project. It helps to make sense of the ontology of the classroom environment to the teacher candidate, and the value of sound pedagogical practices.

The personal identity of the teachers has the potential to be powerfully enabled by participating in the CPE. The teacher candidate's professional identify moves towards that of the data-informed clinical interventionist practitioner.

An Agentic View of the Teacher Candidate

The teacher candidate develops professional ways of knowing about being an educator (epistemology) and develops their personal identity and ways of being (ontology), and an understanding of their agency in effectively enhancing their learners' progress. The development of the MTeach graduate's sense of agency is critical if the MGSE model is to spread quality teaching past the single graduate, to the profession at large. New graduates will hopefully be positioned as agents of change, and be supported to effectively work with others, as effective classroom teachers, and life long learners (Redman, 2013).

As a result of undertaking the MTeach program the new graduate should come to understand about themselves and their potential contribution to education, at the classroom level, school site and the field of education.

On employment, new graduates may be influenced by existing site practices (Schatzki, 2000) as they seek to become members of a community of practice, when engaging with established social-cultural practices (Reckwitz, 2012) through an awareness of their everyday lived world (von Ueküll, 1982). Within the complexity of the school setting, the new graduate has to enact their professional identity and make choices that reflect their professional beliefs and values. The MTeach model seeks to ensure their graduates enact their professional and personal identities, and also that they act as agents of change.

REFERENCES

Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems come out on top.* McKinsey&Company. Retrieved from http://mckinseyonsociety.com/how-the-worlds-best-performing-schools-come-out-on-top/

Benton, P. (1990). *The Oxford internship scheme: Integration and partnership in initial teacher education*, London: Calouste Gulbenkian Foundation.
Brighouse, T. (2008). Putting professional development centre stage, *Oxford Review of Education*, *34*(3), 313–323.
Carnegie Foundation. (2006). *Teachers for a new era: Transforming teacher education.* New York:
Carnegie Corporation of New York.
Retrieved from http://carnegie.org/fileadmin/Media/Publications/PDF/Carnegie.pdf
Collins, A., Brown, J. S., & Holum, A. (1991). Cognitive apprenticeship: Making thinking visible. *American Educator*, *6*(11), 38–46.
Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives, 8*(1), 1–44.
Darling-Hammond, L., & Bransford, J. (2005). *Preparing teachers for a changing world, what teachers should learn and be able to do*. San Francisco: Jossey-Bass.
Department of Education and Early Childhood Development. (2009). *PoLT online professional learning resource.* Retrieved from http://www.education.vic.gov.au/studentlearning/teachingprinciples/onlineresource/default.htm
Dinham, S. (2006). Teaching and teacher education: Some observations, reflections and possible solutions. *ED Ventures, 2*, 3–20.
Dinham, S. (2013). The quality teacher movement in Australia encounters difficult terrain: A personal perspective. *The Australian Journal of Education, 57*(2), 91–106.
Flottman, R., McKernan, A., & Tayler, C. (2011). *Victorian early years and development, evidence paper: Practice principle 2: Partnerships with professionals*. Melbourne, Vic.: Department of Education and Early Childhood.
Goodlad, J. L. (1990). Teachers for our nations schools. San Francisco: Jossey-Bass Inc.
Griffin, P., Murray, L. Care, E., Thomas, A., & Perri. P. (2010). Developmental assessment: Lifting literacy through professional learning teams, Assessment in Education: Principles, Policy & Practice, 17(4), 383–397.
Hattie, J. (2003, October). *Teachers make a difference: What is the research evidence?* Paper presented at ACER Research Conference. Melbourne.
Hattie, J. (2009). *Visible learning synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.
Hayes, D., Mills, M., Christie, P., & Lingard, B. (2006). *Teachers and schools making a difference,* Sydney: Allen and Unwin.
Kriewaldt, J., & Turnidge, D. (2013). Conceptualising an approach to clinical reasoning in the education profession. *Australian Journal of Teacher Education, 38*(6), 103–115.
Levine, A. (2006). *Educating school teachers*. Washington DC: The Education Schools Project.
McLean Davies, L., Anderson, M., Deans, J., Dinham, S., Griffin, P., Kameniar, B., Page, J., Reid, C., Rickards, F., Tayler, C., & Tyler, D. (2013). Masterly preparation: Embedding clinical practice in a graduate pre-service teacher education programme. *Journal of Education for Teaching: International research and pedagogy, 39*(1), 93–106.
Marzano, R. J., & Toth, M. D. (2013). *Teacher Evaluation that makes a difference: A new model for teacher growth and student achievement*. Alexandria, VA: ASCD.
Phillips, D. (2008). Making a difference: Harry Judge, teacher education, the university, and the schools, *Oxford Review of Education, 34*(3)*,* 271–274.
Pring, R. (2008). Teacher education at Oxford University: James is alive but living in Karachi, *Oxford Review of Education, 34(3),* 325–333.
Reckwitz, A. (2012). Affective spaces: A praxeological outlook. *Rethinking History: The Journal of Theory and Practice, 16*(2), 241–258.
Redman, C. (2013). Agentive roles, rights and duties in a technological era. In R. Harré, & F. Moghadamn (Eds.), *The psychology of friendship and enmity: Relationships in love, work, politics, and war* (pp. 109–128). Santa Barbra, CA: ABC-CLIO, LLC.
Sanders, W., Wright, W., & Horn, S. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education*, *11*(1), 57–67.

Schatzki, T. R. (2000). The social bearing of nature. *Inquiry, 43*(1), 21–37.
Sparling, J., Dragomir, C., Ramey, S., & Florescu, L. (2005). An educational intervention improves developmental progress of young children in a Romanian orphanage. *Infant Mental Health Journal, 26*(2), 127–142.
von Ueküll, J. (1982). The theory of meaning. *Semiotica, 42*(1), 25–82. doi 10.1515/semi.1982.42.1.25

AFFILIATION

Dr Christine Redman
Melbourne Graduate School of Education
The University of Melbourne

ACKNOWLEDGMENTS

The author wishes to acknowledge the contributions of the following people who played vital roles in the early development of the Master of Teaching program: Professors Field Rickards, Christine Ure and Kaye Stacey for their insightful developmental work in course design and Professor Stephen Dinham for his helpful comments that helped to support the preparation of this chapter.

GREG NEAL & BILL ECKERSLEY

2. IMMERSING PRE-SERVICE TEACHERS IN SITE-BASED TEACHER SCHOOL-UNIVERSITY PARTNERSHIPS

This paper describes a teaching initiative where the traditional school-university relationship is significantly challenged. It involves one university working with a cluster of schools in a low socio-economic status (SES) community of a metropolitan city, where large cohorts of pre-service teachers are immersed in primary and secondary schools, with the express intention of improving the integration of practice and theory. The outcomes of this intensive approach for pre-service teachers, classroom mentors, university colleagues, and most importantly, the students will be discussed. The site-based partnership is providing authentic learning and teaching opportunities for pre-service teachers where core university education units are delivered on-site. This practice-theory pedagogical undertaking is facilitated by a praxis-inquiry approach and extends the learning beyond the traditional practicum.

BACKGROUND AND OBJECTIVES

"Internationally, there is unequivocal evidence that the quality of teaching is the most significant in-school factor affecting student learning outcomes" (Australian Institute of School Leadership [AITSL], 2012, p. 2). If Australia is serious about improving student learning outcomes, it is apparent that we must improve the quality of teachers and teaching. As such, teacher education programs play a significant role in the early stages of selecting, educating and developing future teachers to be competent and effective educators of twenty-first century learning and teaching.

The time pre-service teachers work with expert teachers in schools remains at the forefront of teacher education programs to ensure they are well prepared to enter the teaching profession as competent practitioners. Over the past decade national and state parliamentary inquiries into teacher education have highlighted concerns about the quality of teacher graduates. In particular, the practicum or professional experience came under scrutiny from parliamentary inquiries including the *Top of the Class* report/inquiry into teacher education (House of Representatives, 2007) and the *Step Up, Step In, Step Out* report/inquiry into the suitability of pre-service teacher training in Victoria (Parliament of Victoria, 2005). Specific issues, such as inadequate funding for evidence-based research in teacher education and a lack of investment and funding in building school-university partnerships, were seen as

Jones & Ryan (Eds.), Successful Teacher Education, 31–48.

major challenges. Supporting these reports was a more recent Australian Learning and Teaching Council (ALTC) report that indicated "Research on what makes the most effective teacher education programs remains disappointingly sketchy" (Ure, 2009, p. 47).

Historically, changes in teacher education in Australia have not occurred as a result of Commonwealth or State inquiries or reports. Price (1989) highlighted that despite extensive scrutiny by government during the period 1978-1994, little change occurred as a direct result of these reports. The challenge of today is how to bring about changes to current practice in initial teacher education that will ensure the quality of tomorrow's educators. Price (1987) previously considered that closer cooperation between schools and universities was an imperative.

> Closing the gaps then is a major challenge; unless the two worlds of training institutions and schools come closer together there will always be the potential, and often the reality, of conflict between those two worlds, and the likelihood for pre-service teacher education programs to graduate, in the main, teachers with utilitarian perspectives dominated by the status quo in schools. (p. 33)

This chapter discusses one school cluster model that has been developed around a strong school-university partnership involving four primary schools, one multi-campus secondary college and one university. This learning community of teachers, principals, pre-service teachers and university staff has led to cultural and pedagogical change across the six institutions.

Some International Perspectives

Traditional views about teacher education have been engrained in the language used to define the school-based component: the practicum or field experience or professional experience and training. The theory-practice divide has prevailed in traditional teacher education programs that involve both campus and field-based/school-based approaches. In the United States of America (USA), "prospective teachers are supposed to learn theories at the university and then go to schools to practice or apply what they learned on campus" (Zeichner, 2010, p. 90). Zeichner argued that there was a disjuncture between what school and university staff shared about teaching and learning with the pre-service teachers. Le Cornu and Ewing (2008) provided a meta-analysis of the traditional practicum experiences during the 1970s and 1980s. Teaching practice was when "student teachers were at college or university, they learnt 'the theory' and when they were in schools, they 'practised teaching'" (Le Cornu & Ewing, 2008, p. 1801). The focus was placed firmly on pre-service teachers mastering skills, techniques and methods of teaching.

Considerable research in pre-service teacher education has focused on school-university partnerships. In the late 1980s, Professional Development Schools (PDS) rose to prominence in the USA and attracted a national profile via the Holmes Group

report (1990) *Tomorrow's Schools*. The report highlighted the PDS model rationale as being: "the culmination of a school for the development of novice professionals, for continuing development of experienced professionals and for the research and development of the teaching professional" (Holmes, 1990, p. 1).

These PDS schools were specially selected schools that were typically engaged in restructuring (i.e. engaged in changing organisational and governance structures, focussing on learning and teaching and rethinking teacher work). They were identified and supported to facilitate pre-service teacher learning, due mainly to the fact that many other existing schools did not offer suitable opportunities for learning. Abdal-Haqq (1998) argued:

> Because existing schools provide the settings for field experiences and [pre-service] teaching, the prevailing school culture not only fails to promote student learning, it also fails to nourish development of expertise that pre-service and novice teachers need to provide enabling and empowering learning experiences for children (Abdal-Haqq 1991). In essence, today's schools cannot adequately prepare tomorrow's teachers. (p. 4)

As these PDS schools became more prominent, the characteristics and nomenclature used to describe them began to change: e.g., partner schools; professional development centres; and centres for learning and teaching. Collaboration was a distinctive element in all the PDS partnerships that typically involved a cluster of schools and one university. Sosin and Parham (1998) defined the PDS model as one that "views the school as a learning community ... and the central idea is that teacher learning and development supports student learning" (p. 1). They also supported the argument that the collaborative elements within a PDS model stimulated innovative and transformative culture in schools.

> The PDS idea is designed to be transformative: that is PDSs require change in a school's mission as well as change in the ways schools are operated, designed to implement a particular interaction between theory and practice expressed as praxis. The concept of a PDS school where teaching and learning are subjects of both inquiry and practice embodies this idea of praxis. (Sosin & Parham, 1998, p. 3)

During the mid 1980s, there was strong support for the PDS model from key reform advocates including the Carnegie Forum, Goodlad and the Holmes Group:

> Because PDSs would be designed and implemented by school-college [university] partnerships, they were envisioned as institutional settings that would be both models of best P-12 practice and optimum sites for clinical preparation of novice teachers. In addition, they were to be schools where new knowledge and organisational structures could be generated, tested and refined. The practices that emerged from these schools could then be disseminated to the larger education community. (Addal-Haqq, 1998, p. 2)

Initial Teacher Training (ITT): United Kingdom (UK)

In the United Kingdom, the primacy of schools in pre-service teacher education became the dominant model during the 2000s. The House of Commons Children, Schools and Families Committee (2010) report titled: *Training of teachers: Fourth Report of Session 2009-2010: Volume 1,* recommended that the "Department and the Training and Development Agency for Schools explore the potential for increasing the number of school-centred initial teacher training places" (p. 25). The report argued that this model had been successful in supporting schools, in attracting quality entrants to the profession and providing (in some contexts) optimal learning opportunities. Despite support for this model, the same report noted that school-centred and employment based initial teacher training had failed to prepare teachers to manage theoretical and critical concepts needed for professional practice: "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" (p. 26).

This concern about the dominant role schools in the UK were beginning to play in initial teacher education was challenged much earlier than the House of Commons report. Eckersley, Walta and McLean (2000) wrote:

> Professor Eric Bolton, from the University of London's Institute of Education argues that strengthening partnerships between schools and higher education institutions is important but expresses concern at the increasing role that schools are playing in initial teacher training. His comments are in response to the British move to locate teacher education largely in schools with teachers and teacher educators sharing responsibility for delivery of content (McIntyre, Hagger, and Burns, 1994). In addressing the 'Directions: Education and Training for 15-24 Year Olds' Conference in Sydney, he warned that increasing the schools role could in fact have a detrimental impact on the quality of teaching training in the United Kingdom. He argued that an effective teacher education system is one that gives higher education 60 per cent responsibility for initial teacher training and 40 per cent to schools. (p. 2)

The Teaching Australia report: *Effective and Sustainable University-school Partnerships: Beyond the Determined Efforts by Inspired Individuals* (Kruger, Davies, Eckersley, Newell & Cherednichenko, 2009) provided important insights into "...effective and sustainable university-school partnerships as part of pre-service teacher preparation programs" (p. 5). The report (2009) stated that partnerships are:

> A social practice achieved through and characterised by trust, mutuality and reciprocity among pre-service teachers, teachers and other school colleagues and teacher educators.... Trust: the commitment and expertise that each of the main

> stakeholders - pre-service teachers, teachers and teacher educators - brings to the partnership in the expectation that it will provide them with the benefits each seeks. Mutuality: the extent to which the stakeholders recognise that working together does lead to the benefits each esteems; Reciprocity: each stakeholder recognises and values what the others bring to the partnership. (p. 8)

The report emphasised the argument that successful university-school partnerships provide the opportunities to bring key participants together around "personalised and localised interests in learning and school student learning in particular" (p. 8). Effective partnerships focus on learning that can lead to participants altering their relationship practices and as a result constructing new enabling structures within and across the schools and the university. The report argued that for these partnerships to be effective the following structures need to be put into place: a) participants need to contribute both personal and professional resources (e.g., passion, commitment, and professional understanding and expertise); b) the development of a shared language that supports communication across the schools and university, and c) institutional resources that are evident in these partnerships (e.g., pre-service teachers' course requirements provide incentives for them to become engaged in the partnership and that schools and their teachers commit to the relationship).

Recent partnerships research facilitated by Rossner and Commins (2012) investigated "enduring partnerships" within the context of initial teacher education and the AITSL program standard (5.1): *Providers have established enduring school partnerships to deliver their programs, particularly the professional experience component.* Their research refers to a Teaching Agency continuum (Day, 2012) that provides an overview of initial teacher education and more recent university-school partnerships that focused on enhancing pre-service teacher learning and development. The continuum documented initial partnerships where the involvement of schools was limited to access to a class for pre-service teacher education. Development of the partnership model continued to evolve into: school-based programs with strong university links; to school-university partnerships that appointed school-based staff and more recently, university staff teaching in and with school staff in the schools. Through this period, partnerships evolved with more evidence of shared focus, collaboration and engagement by the key partners (Rossner & Commins, 2012). It is this collaborative teaching in schools of pre-service teachers by university and school staff that is a feature of the site-based model of teacher education that will be discussed later in this chapter.

Rossner and Commins' (2012) research complemented the Teaching Australia report when it identified shared and individual learning as fundamental elements of a collaborative and enduring partnership. In addition, they highlighted the importance of impact on student achievement; the preparation of pre-service teachers; the ongoing professional development and learning of teachers; the instructional quality of universities, and the collaborative decision making of partners. The researchers also highlighted the need to address equity within these partnerships to not only meet

national accreditation standards but "enhance the quality of all graduate teachers [and] school student potential" (Rossner & Commins, 2012, p. 4).

School Centres For Teaching Excellence

Since the Teaching Australia report, the Victorian Department of Education and Early Childhood Development (DEECD) has (during the period 2011-2013) made a significant investment in seven School Centres for Teaching Excellence (SCTE) to support innovative school-university partnerships that are actively engaged in enhancing pre-service teacher development. These centres have focused on addressing the lack of transfer between theory, pedagogical content knowledge and teachers' practice (Korthagen, Loughran & Russell, 2006) and raising teaching standards. They have also aimed to:

– improve initial teacher education and the capacity of pre-service teachers to enter the profession
– immerse pre-service teachers in school environments exhibiting leading professional practice, enabling them to better integrate theory with practice
– increase the capacity in schools to provide effective practicum to pre-service teachers
– improve the practice of current teachers
– demonstrate, develop and share high quality teaching practice
– increase research capacity of teachers and schools

(Department of Education and Early Childhood Development, 2013)

These SCTEs have been established across metropolitan and rural Victoria. The Centres comprise a cluster of schools, one or more universities and one or more DEECD regions. Sixty-five schools, six universities and approximately 1000 pre-service teachers have participated in the initiative, which has led to a unique set of perspectives and increased knowledge of pre-service teacher education. The seven Centre partnerships are located in different parts of the state of Victoria:

– Bendigo Cluster, Loddon Mallee Region, La Trobe University
– Point Cook Cluster, Western Metropolitan Region, Victoria University
– Northern Bay College Cluster, Barwon South-Western Region, Deakin University
– Koonung Cluster, Eastern Metropolitan Region, The University of Melbourne
– Hume Central Cluster, Northern Metropolitan Region, Victoria University
– Country Education Cluster, Hume and Grampians Region, University of Ballarat, The University of Melbourne and La Trobe University
– Gippsland Cluster, Gippsland Region, Monash University

Victoria University has been engaged in two of the SCTE clusters at Point Cook and Hume and in both clusters promoted a site-based partnership that involves the immersion of large numbers of pre-service teachers into schools for part of their teacher education.

Nomenclature

Before discussing the key elements of the site-based partnerships approach, it is important to recognise that if academics and school colleagues are to develop a greater understanding and commitment to pre-service teacher education reforms then there is a need for a common understanding of the language or nomenclature to be used in school-university partnerships.

One strategy that has been used to improve this understanding and commitment involved facilitating professional development for mentor teachers about school-university partnerships, the proposed reforms and the relevant nomenclature to be used: for example, pre-service teachers replaced student teachers; teacher education replaced teacher training; professional practice replaced practicum/field experience and mentors/mentor teachers replaced supervisors (Eckersley, Walta, Walker, Ferris, Davis, Smith, Newton, Gilchrist & Blythe, 2002).

Recently, other universities have highlighted their innovative approaches in enhancing pre-service teacher education by using their new nomenclature: the School-Community Integrated Learning (SCIL) Pathway (Hudson & Hudson, 2013) at Queensland University of Technology has been clearly defined to ensure common understanding. During the 1980s in the USA, clinical supervisory models became prevalent with university academics conducting assessments of pre-service teachers in schools. Initially there was clinical curriculum (Turney, Eltis, Towler & Wright, 1985) that then led to terms such as clinical experience (Grossman, 2010); and clinical teaching (Melbourne Graduate School of Education, 2013). Increasingly the term *clinical* is being used to describe a range of approaches to pre-service teacher education, hence the need again to clearly define the nomenclature.

Site-Based Partnerships

Research (Eckersley, Davies, Arnold, Edwards, Hooley, Williams & Taylor, 2011) has shown that the site-based model allows pre-service teachers more authentic opportunities to develop theoretical and practical expertise and to readily make connections between practice and theory. This essential connection embedded in the Victoria University's pre-service education program is based upon a praxis-inquiry approach where the aim "is to encourage pre-service teachers to be critically inquiring and socially active practitioners" (Kruger & Cherednichenko, 2006, p. 2). Praxis-inquiry is about practical understanding. It is a practice-theory approach through which pre-service teachers describe and generate explanations of practice. This involves learning about teaching from their immersion in school practice. Praxis-inquiry is a valuable approach in assisting pre-service teachers to confront and solve problems encountered during teaching and to facilitate the understanding and ability to assess student learning.

During their teaching course, pre-service teachers undertake this praxis-inquiry (linking theory and practice) approach with a focus on developing an understanding

about the nature of teaching and learning in authentic ways (Elmer, 2002). Opportunities exist for pre-service teachers to engage in planning, implementing and evaluating activities to facilitate student learning across various subject domains. The immersion of the pre-service teachers in a school is designed to encourage real time teaching and learning experiences; to share and collaborate teaching ideas and approaches; to use oral and written reflective thinking about teaching and learning experiences and to promote self-reflections as key elements of an action-learning process. Victoria University is committed to encouraging its pre-service teachers to: "construct their own meaning from experience and to set about changing circumstances to authorise and admit all practitioners as co-constructors of their own destinies" (Arnold, Edwards, Hooley & Williams, 2011, p. 65).

The application of site-based teaching experience encourages and supports the notion of extending the role of mentor teachers working with pre-service teachers to include additional experiences. For example, by participating in the professional learning teams that are established as a part of the site-based approach, mentor teachers are able to access professional learning and thus grow and develop as teachers. In this particular site-based model, the Hume cluster consists of five schools (one multi-campus secondary college, four primary schools) in the northern region of Melbourne, Victoria, and can be characterised as:

- Locating 15-25 pre-service teachers in each school for two days a week for the academic year (plus teaching blocks: i.e., consecutive days that vary according to the year level of the teacher education course). Collectively the cluster has approximately 100 pre-service teachers allocated across the five schools each year
- Two teacher education units of study are delivered at the school by a university staff member
- Professional learning teams of pre-service teachers (and teachers in some cases) are involved (typically one day/week) in Applied Curriculum Projects (defined/managed at the school) that focus on enhancing school student learning (e.g., after school homework clubs, lunch-time sporting activities, literacy support programs, gifted and talented extension groups, and garden clubs).
- The Hume cluster is managed by a reference group consisting of principals (or nominee), local DEECD staff and university personnel.

Pre-service teachers spend a second day at their school each week participating in two units of study. The units are facilitated by a university staff member who engages pre-service teachers in focused learning and visits in school classes for real time teaching and learning moments. The praxis-inquiry approach (Cherednichenko & Kruger, 2002; Hooley, 2013) is used by the pre-service teachers to support their linking of practice with theory. In this site-based cluster there is an emphasis on using the praxis-inquiry model of reflective practice— practice described, practice explained, practice theorised and practice changed—and for dialogic inquiry about practice, i.e. as *praxis* (Cherednichenko & Kruger, 2002). This praxis-inquiry

model employs observations, classroom experiences, professional discussions and reference to research to enable pre-service teachers to reflect and link practice to theory.

Pre-service teachers observe, listen and engage in learning and teaching with their mentors and students. Returning to their unit of study, the pre-service teachers share their observations and experiences and socially construct their learning, knowledge and skills via the praxis-inquiry process. Learning circles are also used as a teaching strategy to support reflection and learning. The site-based situation is not designed to simply deliver university classes on a school site. It is about a genuine collaboration to improve practice while better understanding teaching-learning theory. Collaborating with teachers in school/site-based partnerships is vital in enhancing pre-service teachers' skills and knowledge development.

As a community of schools there is an increasing emphasis on the use of teams or groups in the construction of new knowledge as a way to question and justify pedagogical approaches appropriate to the twenty-first century learner (Neal, Mullins, Reynolds & Angle, 2013). The emphasis is no longer placed on the sole mentor or university lecturer as being the font of all knowledge. There are opportunities for the shared exchange of new ideas, to view and experience the interpretation of various teaching approaches, and to engage in the professional dialogue between multiple staff and pre-service teachers to link theory and practice about effective pedagogy. This provides unique opportunities for the pre-service teachers to develop professional relationships with school students, mentor teachers and other staff.

The site-based experience for the university lecturer provides opportunities to create real-time teaching and learning. Classroom observations, teaching small groups, using teacher expertise, all with immediate opportunity for the pre-service teachers to reflect on practice-theory, does impact favorably on their learning and teaching. It enables the lecturer, the pre-service teachers (and teachers in some cases) to link practice and theory (and research) in more meaningful and engaging ways.

Mentor teachers in these site-based schools contribute to pre-service teachers' education with a particular focus on learning and teaching practices and school operations. They play a critical role in creating the enhanced partnership with the pre-service teachers and their school students. In this site-based model, mentor teachers build longer-term relationships with pre-service teachers concerning pedagogy, student learning and curriculum. This school-university collaboration introduces the pre-service teachers to the education profession and facilitates their learning to meet graduating standards as outlined by governing bodies such as the Victorian Institute of Teaching [VIT] (2012) and AITSL (2012).

METHODOLOGY

As part of this cluster initiative, mentor teachers, principals, university staff and pre-service teachers engaged in collaborative research that captured conversation and

shared professional discourse to understand its impact on their learning and that of the school students. The descriptive evidence was captured through semi-structured interviews, formal meetings and pre-service teacher course evaluations. The research team used a Collaborative Practitioner Research (CPR) model (Cherednichenko & Davies, 2001) that facilitated the collection and analysis of data from teachers, pre-service teachers, principals and teacher educators. The collaborative, democratic and participatory practices and the commitment to generating shared understandings and practical knowledge of use and relevance to all participants placed this study firmly in the Action Research tradition (Reason & Bradbury, 2001).

The following questions framed the research process:

- What has been your experience in the relationship/program?
- How has the university-school relationship impacted on learning, authentic inquiry, extended education networks and has it changed learning and life outcomes for participants?
- How has the relationship impacted on school and university curriculum and organisation?
- What can/should we do to strengthen and improve the partnership model/ experience for the various partcipants e.g., pre-service teachers, mentors, and university staff?
- How can the different relationships be improved?
- What are the perceived advantages and disadvantages of this model compared to other teacher education programs?

RESEARCH OUTCOMES

Praxis is practical understanding. Praxis-inquiry seeks to start from a practitioner's experiences to impart a democratic basis to learning about teaching. It is designed to challenge the pre-service teacher to take responsibility for generating personal theoretical perspectives on which to build morally sustainable and effective practice. This process enables pre-service teachers to be involved in linking their practice, their school-based experiences, to the university theoretical discussions and undertakings.

Pre-service teachers appreciate that being engaged in site-based learning provides the genuine context for reflective learning (linking theory and practice) as a regular positive experience. The site-based approach supports theorising of teacher practice in context. Two pre-service teachers explained how the site-based experience provides the impetus for theorising practice:

> [L]ike we're in the classrooms and then something happens we can come back here [to their tutorial space with the lecturer] and talk about it, how one teacher did it one way and have group discussions about what we've just seen in the classroom.

> If we had questions that we weren't too sure about, like if [lecturer's name] brought up a certain topic or [different lecturer's name] bought up a topic we could either, at lunch time or recess, go directly back to our mentors and just get clarification on their thoughts of it as well. So there was that cross-referencing, an immediate [sic], it wasn't forgotten about or didn't have to wait a couple of weeks to get somebody else's opinion. That was very beneficial. And it wasn't just one teacher that you spoke to, because we built a rapport with most of the teachers here, you could get four or five opinions literally within the space of ten minutes.

A site-based experience can provide authentic and relevant learning experiences for pre-service teachers. The significance of immediate reflections from classroom observations and general in-school experiences enables the students to theorise and reflect as soon as possible after the event. Tutorials at universities often raise issues that are not contextually relevant to the pre-service teachers and cannot be immediately reviewed in classrooms. It is important that what is discussed in site-based tutorials can be enacted soon thereafter to ensure the theory-practice understanding is an integral part of the learning experience. The significance and value of the site-based placement is enhanced by the regularity and duration of the year-long experience. Another pre-service teacher provided an insight:

> Having the continuity of being here week after week has enabled us to see what curriculum they were covering, what had already been covered and therefore we knew where to aim our lessons and what levels to aim at. We could see the children, the way that they grow and learn by seeing them week after week. We knew how far they'd come, where they were up to, what they'd like to see in a lesson, how they learn best.

Successful teaching, however, involves much more than the transmission of curriculum content and skills. As identified by the just quoted pre-service teacher, successful teaching over time requires an awareness of the individual learner's abilities aligned to clear learning objectives with purposeful learning tasks. Other pre-service teachers highlighted the opportunities to develop relationships and understanding of the students they were working with:

> You learn so much more about their [school students'] behaviours, their attitudes, their expectations than you would if you just had a two or three week block. That learning is a two way street, not just them learning from us, it's us learning from them. I've sought their feedback a lot of times on a lot of different issues.

> Because we've been here two days [every week], we all know the kids in our class... it's not just a couple of kids names that we remember, it's all of them. We also get to know their learning styles, what works with these kids, what doesn't.

One pre-service teacher's reflection demonstrated a level of maturity when considering what type of teacher she could be:

> I've mainly learnt to be flexible. If something doesn't go according to plan then you have to change it. Also, to figure out what type of teacher I'd like to be in terms of authoritative in the classroom and to not put students down. Yeah I've learnt a lot in terms of teaching.

Hickling-Hudson (2004) believes that most teacher education courses do not sufficiently prepare teachers to practise *inclusive* education. According to Hackett (2003), teachers need to develop a "strong cultural identity [so as to be] responsible for teaching the whole child by teaching values, skills, knowledge for school success and participation in society, linking classroom teaching to out-of-school personal experiences and community situations" (p. 329). The students in these schools live in a community that is considered to be of low SES; is culturally and linguistically diverse (CALD) and typically has low social and economic capital. For many of the pre-service teachers, working in this environment provides them with a real life initiation about diversity:

> I really learnt how to engage with people of different ethnic backgrounds. All the other placements I've done and other experiences teaching it's all been pretty much just white Australians but this was with different ethnic backgrounds which made it a lot better.

> I think because this school is in a lower socio-economic community, I've learnt to deal with students in that area, catering for their different needs.

The sustainability of a site-based partnership such as Hume is significantly influenced by the levels of principal and teacher satisfaction with respect to the partnership adding value to their students' learning. Locating a large portion of the university's teacher education program in a school brings extra commitments and inconveniences associated with it that must be managed and considered worthwhile across the whole school community. Therefore, building good working relationships between the school and the university is critical to ensuring the sustainability of the program. One principal summed up his expectations of the program:

> The sustainability of the program hinges very much on the relationship and partnership between the individual school and the university. It's about how that relationship and partnership works and it's about a whole range of things, in terms of consultation, around communication, investing in each other's business and each other's venture. I think that's massive. How invested are we in you at the moment? How invested in you are us?

The pre-service teachers acquire a sense in these site-based placements that they can learn to become effective teachers in their own right, while also demonstrating their effectiveness to work as members of teaching teams. The teacher mentors in

the cluster were generally quite willing to actively engage in the program and there were many positive comments to demonstrate how effective relationships assisted to make the pre-service teachers feel part of the school environment. For example, pre-service teachers spoke positively about the mentor support that made their experiences valued and worthwhile:

> He was really good, he was really helpful. All of the 3/4 teachers were, because it's like a connected classroom kind of thing, it's a very open kind of space, so they all work together. It's just great. They always acknowledge when you're walking around, it's an amazing experience.

A pre-service teacher located at the secondary school described his sense of belonging to the school:

> I now feel comfortable going to anybody here and saying I've got a problem with this, can you help me. And I know that everybody here would and I think I speak for everybody [in a focus group] that they feel the same – it's been that really nice sense of community that's come out of it which I've never had before at placements.

Like any practicum, the quality of the relationships between school mentors and pre-service teachers remains vital to ensuring the pre-service teachers have every opportunity to experience success. Lai (2005) describes this in terms of three dimensions – *relational* (i.e. the relationship between mentors and mentees); *developmental* (i.e. how mentors and mentees develop personally and professionally whilst aiming towards particular goals); and *contextual* (i.e. focusing on the cultural and situational features of the mentoring setting). Lai notes that it is these three components that create and impact upon a mentoring relationship.

Working in a cluster of schools with large numbers of mentors and pre-service teachers will typically create additional relationship challenges. Having significant extra adults located on-site means there are many more personalities involved in the schools; there are more management issues, and thus potentially more opportunities for conflict. While every effort is made to avoid such problems, relational, developmental and contextual issues do arise that can impact on a mentor and pre-service teacher and/or in some cases impact on the school-university relationship. Effective communication is vital to achieving successful learning experiences. One pre-service teacher summed up her experience:

> I'm really grateful for this experience of being here for the whole year, having an awesome mentor and having good relationships with her and the kids. You can see what you would be doing in a whole year as a teacher, experience how teachers are like and preparing lesson plans. Not many people understand how lesson plans are structured. It's a lot of work, a lot of input, a lot of resources and a lot of feedback that you have to discuss with your fellow classmates or your teachers. It was a really good experience.

Establishing site-based school-university partnerships requires the commitment and support of principals, school staff, university personnel and pre-service teachers. Consideration of the capacity of each participating school's infrastructure to accommodate the pre-service teachers in terms of a learning space, parking space and staff room space is essential. There needs to be a shared understanding of the intentions and expectations of stakeholders. Importantly, it was the principals who were particularly pleased with the site-based initiative. One principal highlighted the significance of the program for his staff:

> I'm a huge believer that all teachers need to build their profession and all teachers have the capability to be a mentor, it's just scaffolding their understanding and learning so they're effective mentors. That was one of the strengths of having all the teachers involved.

Another principal highlighted the value for the pre-service teachers:

> Having two pre-service teachers with each classroom teacher enabled them to form a triad so that when they were giving feedback, it was teacher to pre-service teacher, pre-service teacher to pre-service teacher, and pre-service teacher back to teacher. I'm a huge believer in that through reflection you can improve your practice.

There was a general consensus from all participants that the site-based partnership with its extended placement created many new learning and teaching moments. One mentor teacher reflected on the learning opportunities for the pre-service teachers:

> It allows them to really have some insight into how schools operate and I think that is one of the biggest values of the program. They participate, they're doing yard duty, playing sports, getting involved in other activities like concerts, sporting afternoons, excursions and all of those things that they actually become part of the school and that experience is invaluable. They have a reasonable idea of what a school is about and what's expected of them as teachers.

Site-based lecturers also commented on the value of the program for the pre-service teachers and were able to describe significant strengths in being on-site that pre-service students may not experience in more traditional type practicum:

> Being on site is also allowing us to examine the operation of the school, the curriculum delivered across and between grades, the curriculum differences between different teachers, the pedagogy variations across the school. It allows discussion of the professional development of different teachers and their varied attitudes to different programs and initiatives. It is a single authentic setting yet still contains significant variations.

CONCLUSION

This chapter reported on a case where pre-service teachers were immersed in a site-based experience that provided a genuine context for reflective learning (linking practice and theory). This experience supported theorising of teacher practice in context and is in sharp contrast to previous research by Tryggvason (2009) who reported that teacher education often has difficulties incorporating theory into practice, and that the effects of teacher education on the prior beliefs and views on teaching and learning of pre-service teachers have been weak.

Pre-service teachers in the Hume Cluster reported how they *actively* observed, listened and engaged in learning and teaching with their mentors, university lecturers and students. During their site-based units of study, the pre-service teachers *professionally engaged* with their peers and lecturer, reflecting on their observations and experiences and socially constructing their learning, knowledge and skills via the praxis-inquiry process. Learning circles were often used as a teaching method to reflect and develop links between practice and theory. The site-based context is not designed to simply deliver university classes on a school site. It is about a genuine collaboration to improve practice while better understanding teaching-learning theory. Collaborating with teachers in school/site-based partnerships is vital in enhancing pre-service teachers' skills and knowledge development.

Within the Hume cluster as a community of schools, there is an increasing emphasis on the use of teams or groups in the construction of new knowledge as a way to question and justify pedagogical approaches appropriate to the twenty-first century learner. There are opportunities for the shared exchange of new ideas, to view and experience the interpretation of various teaching approaches, and to engage in the professional dialogue between multiple staff and pre-service teachers about the practice and theory of effective pedagogies.

It was reported that explicit links were made by the pre-service teachers about both their own practice and the practice they observed in schools with pedagogical theory. This was evident when the pre-service teachers experienced real time learning and teaching, where frequent opportunities for engagement, sharing and exchange of information, opinions and reflective practices created new understandings for both the pre-service teacher and the mentor teachers. Importantly, the school students were beneficiaries of the influx of large numbers of pre-service teachers, and learning opportunities were enhanced as a direct result of the site-based model. One principal made specific comment about the value the pre-service teachers offered in developing students' confidence in participating in adult conversations that led to building aspirations about tertiary education possibilities.

The application of an action research component within the site-based partnership added value to the participants' learning experiences and contributed to the development of a reflexive praxis culture. These led to pre-service teachers, teachers and teacher educators challenging their own pedagogies and developing and extending positive working relationships across each school and the cluster. The site-

based partnership provided many operational and logistical challenges including the accommodation of a large number of pre-service teachers, mentoring arrangements, and balancing teacher and university staff workloads. However, individual schools remained positive about the program and in collaboration with university staff and pre-service teachers, employed problem solving strategies to resolve issues as they arose. Further research is envisaged to support the sustainability and scale of strong and enduring school-university partnerships that can offer successful learning outcomes for all participants.

REFERENCES

Abdal-Haqq, I. (1991). *Professional development schools and education reform: Concepts and concerns.* (ERIC Digest 91–2). Washington, DC: ERIC Clearinghouse on Teaching and Teacher Education. Retrieved from ERIC database. (ED335357)

Abdal-Haqq, I. (1998). *Professional development schools: Weighing the evidence.* Corwin Press, California.

Arnold, J., Edwards, T., Hooley N., & Williams, J. (2011). Site-based teacher education for enhanced community knowledge and culture: Creating the conditions for 'philosophical project knowledge'. *Australian Educational Researcher, 40*, 61–75.

Australian Institute for teaching and school leadership [AITSL]. (2012). *Australian teacher performance and development framework.* Australian Government: Melbourne. Retrieved from http://www.aitsl.edu.au/verve/_resources/Australian_Teacher_Performance_and_Development_Framework.pdf

Cherednichenko, B., & Davies, A. (2001). *Collaborative practices: From description to theory*. Paper presented at the Australian association for research in education international education research conference. Fremantle, Western Australia.

Cherednichenko, B., & Kruger, T. (2002). *Those who can, do. Teacher education as an act of personal and institutional reflexivity.* Paper presented at the Australian Association for Research in Education Brisbane, Australia.

Cope, B., & Kalantzis, M. (2009). Multiliteracies: New literacies, new learning. Pedagogies: An International Journal, 4(3), 164–195.

Day, M. (2012). *Latest developments in school-led initial teacher training in England.* Paper presented at the National Forum on Initial Teacher Education (May) Melbourne, Australia.

Department of Education and Early Childhood Development. (2011). *School centres for teaching excellence.* Retrieved from http://www.education.vic.gov.au/about/programs/partnerships/Pages/partnernationalsteach.aspx#link7

Eckersley, B., Walta, C., & McLean, H. (2000). *Field experience: A professional partnership.* Paper presented at Australian Association of Research in Education Annual Conference, Sydney, N.S.W., Australia.

Eckersley, B., Walta, C., Walker, K., Ferris, J., Davis, B., Smith, P., Newton, H., Gilchrist, J., & Blythe, I. (2002). Professional practice: Learning in the workplace. In J. Clarke, (Ed.), *Partners in learning: Voices in the field* (pp. 81–86). Sydney: Australian Catholic University.

Eckersley, B., Davies M., Arnold, J., Edwards, T., Hooley, N., Williams, J., & Taylor, S. (2011). *Vision unlimited: Inspiring participant knowledge in schools*. Victoria University, Melbourne, Australia.

Elmer, R. (2002). Learning from a shift of context? Student teachers on non-school placements. *European Journal of Teacher Education*, *25*(2/3), 239–250.

Grossman, P. (2010). *Learning to practice: The design of clinical experience in teacher preparation*. Washington: AACTE/NEA.

Hackett, T. (2003). Teaching them through who they are. In G. Gay (Ed.), *Becoming multicultual educators: Personal journey toward professional agency* (pp. 315–340). San Francisco: Jossey-Bass.

Hickling-Hudson, A. R. (2004). Educating teachers for cultural diversity and social justice. In G. Hernes, & M. Martin (Eds.), *Planning for diversity: Education in multi-ethnic and multicultural societies* (pp. 270–307). Paris: International Institute for Education Planning (UNESCO).

Holmes, G. (1990). *Tomorrow's schools: Principles for the design of professional development schools*. East Lansig, Holmes Group.

Hooley, N. (2013). Exposing the intricacies of pre-service teacher education: Incorporating the insights of Freire and Bourdieu. *Review of Education, 1*(2), 1–34.

House of Commons: *Children, school and families committee (2010). Training of teachers: Fourth report of session. 2009–10 Volume 1* (Report No. HC 275-I). London: The Stationery Office Limited. Retrieved from http://www.publications.parliament.uk/pa/cm/cmchilsch.htm

House of Representatives Standing Committee on Education and Vocational Training. (2007). *Top of the class. Report on the inquiry into teacher education*. [Electronic version]. Retrieved from http:/www.aph.gov.au/house/committee/evt/teachereduc/report/front.pdf

Hudson, S., & Hudson, P. (2013). Re-structuring preservice teacher education: Introducing the school-community integrated learning (SCIL) pathway. *Journal of Education and Learning, 2*(1), 9–19. doi: 10.5539/jel.v2n1p9

Korthagen, F. A. J., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education, 22*, 1020–1041.

Kruger, T., & Cherednichenko, B. (2006). Social justice and teacher education: Re-defining the curriculum. *International Journal of Learning, 12*(7), 321–332.

Kruger, T., Davies, A., Eckersley, B., Newell, F., & Cherednichenko, B. (2009). *Effective and sustainable university-school partnerships: Beyond determined efforts by inspired individuals.* Teaching Australia, Canberra.

Lai, E. (2005). *Mentoring for in-service teachers in a distance teacher education programme: Views of mentors, mentees and university teachers.* Paper presented at the Australian Association for Research in Education International Education Research Conference, Parramatta, Australia.

Le Cornu, R., & Ewing, R. (2008). Reconceptualising professional experiences in pre-service teacher education ... reconstructing the past to embrace the future. *Teaching and Teacher Education, 24*, 1799–1812.

Melbourne University Graduate School of Education. (2013). *Focusing on the learner: Charting a way forward for Australian education. Retrieved from* http://education.unimelb.edu.au/__data/assets/pdf_file/0018/804510/Green_4_0_web.pdf

Neal, G., Mullins. T., Reynolds. A., & Angle. M. (2013). Global collaboration in teacher education: A case study. *Creative Education*, *4*(9), 533–539.

Parliament of Victoria, Education and Training Committee. (2005). *Step up, step in, step out. Report on the suitability of pre-service teacher training in Victoria*. Melbourne: Victorian Government Printer.

Price, D. A. (1987). The practicum and its supervision. *Australian Teacher Education in Review.* Waurn Ponds: South Pacific Association for Teacher Education.

Price, D. (1989). The practicum: A recent review of the literature. *South Pacific Journal of Teacher Education, 17*(2), 13–26.

Reason, P., & Bradbury, H. (Eds.). (2001). *Handbook of action research: Participative inquiry and practice*. Thousand Oaks, CA: Sage.

Rossner, P., & Commins, D. (2012). *Defining 'enduring' partnerships: Can a well-worn path be an effective, sustainable and mutually beneficial relationship?* Brisbane: Queensland College of Teachers.

Sosin, A., & Parham, A. (1998). *An urban public school and university collaboration: What makes a PDS?* Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA. Retrieved from ERIC database. (ED420734)

Those who can, do. Teacher education as an act of personal and institutional reflexivity. Paper presented at the Australian association for research in education Brisbane, Australia.

Tryggvason, M. (2009). Why is Finnish education successful? Some goals Finnish teacher educators have for their teaching, *European Journal of Teacher Education, 32*(4), 369–382.

Turney, C., Eltis, K., Towler, J., & Wright, R. (1985). *A new basis for teacher education: The practicum curriculum.* Sydney, Sydmac Academic.

Ure, C. (2009). *Practicum partnerships: Exploring models of practicum organisation in teacher education for a standards-based profession.* Parkville, Vic: University of Melbourne. Retrieved from http://www.altc.edu.au/project-practicum-partnerships-exploring-melbourne-2009

Victorian Institute of Teaching. (2012). *Professional standards: The standards of professional practice*. Retrieved from http://www.vit.vic.edu.au/standardsandlearning/Pages/professional-standards

Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college-and university-based teacher education. *Journal of Teacher Education*, *61*(1–2), 89–99.

AFFILIATION

Greg Neal & Bill Eckersley
College of Education
Victoria University

ACKNOWLEDGEMENT

Dr Celine Chu
Research Officer: School of Education,
Victoria University

JOSEPHINE RYAN

3. LINKING RURAL AND REGIONAL COMMUNITIES INTO TEACHER EDUCATION

INTRODUCTION

Rural Teacher Education

Internationally, and in Australia, preparation to teach in rural areas has been one widely recognised weakness of contemporary teacher education (Altbach, Reisberg & Rumbley, 2009; Kline, White & Locke, 2013; Lyons, Choi & McPhan, 2009). The term *rural,* often broadly used to denote a range of areas away from cities, is defined in Australian government statistics in terms of distance to be travelled to urban services (Baxter & Gray, 2011). *Regional* is another term used in Australia to mean locations away from large urban centres, sometimes including small cities and surrounding farming or less populated areas. Statistically, too, *regional* is defined in terms of distance to services and is contrasted with *remote* where the distance to services is even further (Baxter & Gray, 2011). This failure to prepare teachers for rural/regional teaching is part of a web of factors such as socioeconomic circumstances, limited educational choice and difficulty in attracting and retaining teachers, all of which contribute to educational disadvantage in rural and regional areas (Department of Education, Employment and Workplace Relations [DEEWR], 2010; Hardré, 2009).

The paucity of higher education provision outside cities due to the high cost of offering courses to small, scattered cohorts has been cited as a key reason for the limitations of teacher education for rural schools (DEEWR, 2008; Hardré, 2009). Those rural students wanting to enter a teacher education program must live away from home or undertake a largely online program (Altbach et al., 2009; Parliament of Victoria, 2005). This issue is exacerbated when these students are completing the practicum, also called student teaching, teaching rounds, school placement among other terms, which is the period of time, usually completed in a number of uninterrupted weeks, when students undertake teaching under the supervision of a qualified teacher and are assessed on their performance. These practicum periods are often completed in schools at considerable distance from their university. This situation puts pressure on the close links between universities and schools that are important for a successful teacher course (House of Representatives, 2007). These factors were the experience of the designers of the innovative program to be described in this chapter.

In 2007, following loss of population and socioeconomic change in its traditional rural constituency, a secondary teacher preparation course based in the small regional

Jones & Ryan (Eds.), Successful Teacher Education, 49–64.

campus of large university was reduced to seven students. Lecturers, faced with the demise of the course, created a new model that they felt would better meet the needs of twenty-first century rural and regional students. The Graduate Diploma in Education Rural and Regional Partnership model, a mixed mode teacher education program that combines intensive on-campus instruction with placement in a rural or regional school and online learning, has been operating at Australian Catholic University's (ACU) Ballarat campus since 2008. This chapter situates the design in contemporary scholarship on teacher education, showing how its key features aim to address contemporary challenges in teacher education, and analyses the course's successes and limitations. The analysis suggests directions for teacher education that may be applicable beyond the rural context.

THE RESEARCH CONTEXT

Theory practice nexus in teacher education

The perennial unsolved issue for designers of teacher education programs has been the need to bring together the theoretical work about teaching that takes place during courses at university and the practical work done in schools. While teacher educators challenge the dichotomy between theory and practice (Hargreaves, 2006; Young, 2006; Zeichner, Payne & Brayko, 2012), teacher education programs have frequently been labeled as overly theoretical (Hargreaves, 2006; Parliament of Victoria, 2005). The issue has been highly contentious internationally with courses such as Teach for America/Australia, and similar courses in the UK, questioning the need for any kind of university-based preparation for teaching (Darling-Hammond, 2006b). While significant evidence has been presented that those who undertake a teaching preparation course are better prepared than those who have none (Darling-Hammond, 2006b), there is also a recognition that in many teacher education programs pre-service teachers are uneasily placed trying to meet demands from both university and school of which neither lecturers nor teachers are fully aware (Darling-Hammond, 2006a; Zeichner, Payne & Brayko, 2012). The frequently asked question is "What course structure can most effectively assist pre-service teachers to bridge that gap?"

Evidence about what constitutes a high-quality teacher education program is contested (Cochran-Smith & Fries, 2005; Nuttall, Murray, Seddon & Mitchell, 2006). In a meta-analysis of studies of teacher education programs, Zeichner & Conklin (2010) argue that evaluations of teacher education programs have been limited by attention to more superficial structural features and a preoccupation with comparison between supposedly dichotomous programs (traditional/alternative; professional development school/not) without analysing the ways in which particular programs are enacted and elaborated. However, their analysis does support the frequently argued view that links between the academic and fieldwork aspects are critical features of any effective program (Allen, 2011; Darling-Hammond, 2006a;

House of Representatives, 2007; Parliament of Victoria, 2005; Zeichner & Conklin, 2010). The issue of how universities and schools can achieve this integration has been long debated. Darling-Hammond's (2005) analysis of a number of university-school partnerships outlines key factors that underpin success, including mutual self-interest and commitment, shared decision-making and communication. An Australian study (Allen, Howells & Radford, 2013) found a similar range of factors was significant in a successful partnership and puts stress on the significance of alignment of purpose and communication because, despite having considerable resources to support it, a partnership can be compromised by weak understanding between the partners. As noted above, strong university and school links are features of teacher education programs that are difficult in the rural and regional context. Here the physical distances between university and school are frequently considerable and pre-service teachers undertake practicum in scattered locations limiting contact from university personnel (Hardré, 2009; House of Representatives, 2007).

Information and Communication Technology (ICT)

Governments and universities have seen the use of ICT as potentially addressing the difficulties of providing educational opportunities for rural areas by providing cost-effective links between universities and individuals studying in distant locations (Altbach, Reisberg & Rumbley, 2009; DEEWR, 2008). Moreover, it has been noted that online approaches to education are no longer about communication over long distances but provision of educational opportunities which are flexible, allowing access to those who may be balancing such demands as work and family with education (Saba, 2005). There has been a rich and extensive investigation into the advantages and limitations of online learning with one key finding being that online learning is no universal panacea for cash strapped institutions because knowledge of, and therefore education in, quality online pedagogy is essential (Altbach, Reisberg & Rumbley, 2009; Bangert, 2004). Online learning, while not differing in its fundamentals from good teaching in other fields (Bangert, 2004) has its own pedagogical practice and this is not always an intrinsic component of a teacher's expertise. In fact, Altbach et al. (2009) state that "in most parts of the world there has been a profound and pervasive disconnect between employing new ICTs and truly leveraging them to enhance quality, particularly in terms of teaching and learning" (p. 129). Without this commitment to effective ICT teaching pedagogy, ICT will not reap benefits in terms of student learning (Bangert, 2004). In spite of these risks and potential costs with regard to training, innovative technologies hold the promise of breaking down barriers of time and space and lowering costs; and they enable collaboration and creativity in teaching and learning (Altbach et al., 2009). One major focus in teacher education has been the potential of online technology to provide a platform for the reflective practice in which the expert teaching professional engages (Loughran, 2006; Schon, 1983). As has been found in other fields, for teacher educators to develop meaningful inquiry in the online

setting, careful planning of the digital platform is required (Swan, Richardson, Ice, Garrison, Cleveland-Innes & Arbaugh, 2008).

A MULTIMODAL TEACHER EDUCATION COURSE FOR RURAL AND REGIONAL STUDENTS

The Rural and Regional Partnership Model 2008-2013

The one-year secondary teaching course the Graduate Diploma in Education Rural and Regional Partnership model (GDEDRR) has been designed with three basic elements:

– a one-week on-campus intensive instruction component at the start of each semester;
– two days per week *placement* in a rural or regional school which is integrated with the online instruction of the academic components of the course;
– a block of four or five weeks assessed *practicum* experience.

There can be a number of terms employed for what can be the same or similar aspects of teacher education courses. For example, placement is a general term that can cover a range of school-based activities for which pre-service teachers are placed in schools. In relation to the GDEDRR, the placement is the time spent becoming familiar with schools, doing observation in classrooms and giving assistance to teachers. It is to be distinguished from the practicum period in which pre-service teachers' practice teaching is formally supervised and assessed.

The multimodal design of the GDEDRR was the result of purposeful planning to select features that would better address the needs of the rural and regional students who had been deserting the traditional face-to-face on-campus course. For course planners a key element was that the model allowed most participants to complete their secondary teaching qualifications while living in their home contexts, thus increasing the likelihood of later taking up teaching positions in these areas (Lyons, Cooksey, Panizzon, Parnell & Pegg, 2006). As the 2008 marketing flyer that was circulated in rural schools and libraries put it "Would you like to be a secondary school teacher? Do you have an undergraduate degree? Would you like to study from your home town?"

In an environment where all manner of programs can be offered in fully online mode (Altbach et al., 2009) and where designers know that travel to the campus would be a major undertaking for pre-service teachers, the choice to include an intensive component in the course was also undertaken purposely. Apart from the attractions of the pre-service teachers being able to meet course participants face-to-face, designers were conscious that fully online learning was seen as an inferior approach to teacher education (Parliament of Victoria, 2005). Moreover, it was believed that initial opportunities for pre-service teachers to create social links with each other would support the subsequent online learning, which was the thread that bound the various components of the course together. While proponents of online learning do not see face-to-face encounters as essential to learning, the need to

create social communities is included in online learning models (Salmon, 2003). The intensive component, therefore, was seen as a means of establishing relationships at the beginning of the year of study and introducing key concepts in the course. It is followed by the 10-week semester of online study and concurrent two-day per week in-schools placement, and finally, the assessed practicum of four to five weeks' full time supervised and assessed teaching. The online component includes information, activities, assessment and readings and is designed to take advantage of the on-going placement in a rural or regional school. The integration of the academic with the placement component aims to give pre-service teachers day-to-day experience of the educational issues raised in their academic study. As noted, a key feature of an effective teacher education program is the link between educational theory and practice (Zeichner & Conklin, 2010). Furthermore, the two-day per week placement assists pre-service teachers to discover more about schools and students before they are engaged in the more high stakes period when they are assessed on their teaching work. Some release from the stress of assessment during placement has been seen as encouraging greater "risk taking so that strong personal learning might be experienced" (Loughran, 2006, p. 161).

For the designers of the course, online communication enables pre-service teachers on placement to feel less socially isolated through being in touch with distant peers and lecturers. There is considerable evidence that teacher education programs need to pay attention to pre-service teachers' emotional identities as well as their professional identities as they develop as teachers (Rodgers & Scott, 2010). In addition to the social aspect, the online space also provides a platform in which lecturers can encourage the practices of reflection that are seen as integral to effective teacher education (Loughran, 2006). The evidence that mixed-mode courses are more successful than fully face-to-face or online is, in part, based on the fact that online components can allow greater levels of interaction and reflection among students (Means et al., 2010; Szabo & Schwartz, 2011). An online discussion platform allows students to reflect on reading and experience in their own time and this practice can enhance learning (Szabo & Schwartz, 2011). Through the on-going online communication in the multimodal GDEDRR course, the teaching team aimed to take advantage of both the collaborative and the reflective possibilities of the online space.

METHODOLOGY

For the course designers, evaluation of the GDEDRR in its successive iterations from 2008 to 2013 has been critical to improving their own teaching practice but also to contributing to the worldwide investigation of effective teacher education and of mixed-mode learning. As noted, research into what counts as evidence of high quality teacher education is highly contested and commentators argue that teacher education researchers need to be clear about their assumptions and sources of evidence (Cochran-Smith & Fries, 2005, 2010; Nuttall, Murray, Seddon & Mitchell

2006; Zeichner & Conklin, 2010). In this research context there is a need for both rich case studies and large-scale surveys (Cochran-Smith & Fries, 2010) and this study fits into the former category.

The evaluation of the GDEDRR was designed to include the perceptions of all the stakeholders: the pre-service teachers, the school-based teacher mentors with whom the university lecturers were in partnership, as well the lecturers themselves. Data collection took the form of enrolment data, evidence on students' employment subsequent to the course, semi-structured interviews and written questionnaires. In 2008 pre-service teachers were interviewed by phone using open-ended questions such as "What is your opinion of the intensive component/online/school-based of the course, its benefits and drawbacks?" Interviewees were also asked to make "suggestions for change/improvement" about each aspect of the course. The written questionnaires also included questions about each component and asked for suggestions for improvement. A mixed-method approach enables quantitative data that lends itself to statistical analysis and context-free generalisations (Weirsma, 2009), as well as the value-laden (Denzin & Lincoln, 2005) richness of qualitative data that seeks an understanding of experience in context (Richards, 2009). The most extensive evaluation of the perceptions of participants took place after the first year of the course in 2008. At this stage, six out of the nine pre-service teachers in the course were interviewed and twelve teachers, at least one from every school where pre-service teachers were placed. Lecturers involved in teaching the course were also interviewed. Thereafter perception data involved interviews with pre-service teachers and teacher mentors in 2010 and pre-service teacher questionnaires in 2012 and 2013 (see Table 1). Data analysis in this study included aggregates of enrolment data to demonstrate the number of student enrolments, their locations and rural and regional employment trends upon graduating (see Table 2). Analytical induction was utilised to identify key themes emerging from interview data and questionnaires. A summary of the evaluation activity follows.

Table 1. Overview of data collection

2008	*2009*	*2010*	*2011*	*2012*	*2013*
Enrolment and employment data PST interviews (6) Lecturer interviews (6) Teacher mentor interviews (12)	Enrolment and employment data	Enrolment and employment data Teacher mentor interviews (4) PST interviews (4) Lecturer reports (2)	Enrolment and employment data	Enrolment and employment data PST questionnaires (6)	PST questionnaires (10)

NOTE: PST = pre-service teacher

FINDINGS

Addressing Rural and Regional Needs

Overall, the evidence (Table 2) in terms of new enrolments indicates that the course has been perceived as an attractive alternative to that previously offered. This is suggested by the cessation of the previously experienced decline in enrolments; enrolments rose over the years until 2013 when the university took no new enrolments. The marketing efforts had highlighted the advantages of the course for people in rural and regional areas and the majority of new enrolments were from these areas. There was also a group of enrollees who were not from Australian rural or regional areas but rather individuals without teaching qualifications employed by rural and regional schools because a qualified teacher could not be found. Their on-going employment was conditional on concurrent enrolment in a teacher education program. For the employing principals in these rural or regional schools the design of the course, without the necessity of on-going campus attendance, allowed them to address staff shortages they were experiencing. As well as assisting schools in this way, there was also a high rate of employment in the placement schools among graduates suggesting, as has been found elsewhere (Lyons, Cooksey, Panizzon, Parnell & Pegg, 2006), that the rural and regional placements associated with the course allow schools in these areas to attract qualified staff, as had been one goal in establishing the rural-oriented course.

Note: The number of graduates was not the same as the number of new students enrolled each year due to a number of students enrolling in a part-time program that took two years to complete.

Table 2. Number of commencing students, graduates and localities 2008-2012

Year	*No. of new student enrolments*	*No. of students from rural/regional locations*	*No. of students from metropolitan locations*	*No. of graduates*	*No. of graduates gaining employment in placement or other rural/regional school*
2008	9	9 (100%)	0	3	2 (67%)
2009	11	10 (91%)	1 (9%)	6	2 (33%)
2010	20	17 (85%)	3 (15%)	17	13 (76%)
2011	17	12 (71%)	5 (29%)	18	14 (78%)
2012	29	25 (87%)	4 (13%)	13	6 (46%)*
2013	1	13 (92%)	1 (8%)	N/A	N/A

**data incomplete*

Stakeholder Evaluations of the Course

1. On-campus intensive. All the pre-service teachers interviewed in 2008 saw the on-campus intensive as very useful for their learning. Comments such as "It was certainly helpful to me to meet lecturers, other students (some of which I kept in touch with) and some of the admin staff. Even moving around the campus made me feel more connected to the course I was undertaking" (PST interview, 2008) were made about the first intensive. Criticisms were about there being too much information in a short time, with four of the six students interviewed suggesting that they might have had a little more time together, saying something similar to one pre-service teacher's comment of "Maybe a follow up intensive day or couple of days mid-semester to be able to see lecturers and other students for help with anything we were struggling with relating to assignments, Blackboard or experience in the schools" (PST interview, 2008).

The universal approbation was echoed in 2012 when a pre-service teacher described it as "integral" to learning in the course (PST questionnaire, 2012). Another said it was "very important to get to know them [lecturers] personally" and "very important to be able to ask questions and clarify what you do not understand" (PST questionnaire, 2012). Making personal connections and being able to ask questions about assessments were keys to what pre-service teachers appreciated about the intensives. There was no proposal in the pre-service teachers' ideas that the on-campus component should be reduced or abolished in spite of the fact that many of the GDEDRR pre-service teachers had to travel a long way to reach the campus. Pre-service teachers' positive evaluation of face-to-face instruction offers a student perspective on the current trend towards wholly online delivery of courses in higher education (Altbach, Reisberg & Rumbley, 2009). It seemed that, as other researchers advocate (Zeichner & Conklin, 2010), pre-service teachers appreciated efforts to create a sense of shared identity among participants.

2. School placement and concurrent online instruction. The pre-service teachers expressed their support for the fact that their course commenced with a two-day per week school placement (one day for part-time students) leading up to the block teaching round when they were to be assessed. For them being "involved in the curriculum and being treated as a junior member of staff was great" (PST interview, 2008). One pre-service teacher said that, "The school experience has been vital in being able to practise and develop teaching skills, observing different methods of teaching and subject matter" (PST interview, 2008). The weekly placement was a chance to observe and begin to understand the school context and watch "different teachers and their teaching styles/techniques/tools" (PST interview, 2008). It helped the pre-service teachers to feel "more prepared; less nervous" (PST questionnaire, 2012) about their supervised teaching block. Less positively, there were some comments by pre-service teachers that their teacher mentors limited their placement by not allowing them to get sufficiently involved in responsible teaching work. In

these instances it seemed that the teacher mentors had not taken note of the university material related to the placement, which urged teachers to give pre-service teachers a hands-on rather just an observational role in the classroom. One pre-service teacher felt that "both school and student [pre-service teacher] were not sure of what was required. It would be better if the [university] clearly outlined the expectations and requirements and rationale/purpose" (PST interview, 2008). This comment highlights the findings of a multi-site analysis of university-school partnerships (Darling-Hammond, 2005) which argued that communication between the partners is critical to their success. Chapter 6 of this volume looks at communication challenges in more detail.

This lack of coherence between the different parts of the course has been a perennial issue in teacher education programs, and in the case of the GDEDRR lecturers also noted the difficulty of communicating effectively with pre-service teachers about the purpose of the school placement. "Some students seemed to see being in the school as just a context to finish their assignments – did not see they could assist teachers" (Lecturer interview, 2008). But the lecturers also saw it as a rich opportunity to "help students [to] bridge the gap between theory and practice— particularly if we build a lot of read, look, reflect, discuss into the online components to ensure strong links between theory and practice are established" (Lecturer interview, 2008). The teacher mentors, too, could see that it was very beneficial for pre-service teachers to experience the daily challenges of the school context throughout their teaching preparation year; to "learn the rhythm of the school, the stresses of the school and to see that real stuff, changing plans to whatever is happening on that day, the cycles, interviews, reporting" (Teacher mentor interview, 2008) rather than only in short bursts of a few weeks during block practicum. Given the potential isolation of the placement, there was a need for pre-service teachers to feel they could contact the university lecturers though email or phone when they found themselves "stuck". One said "I just remember being in a panic quite a few times and calling you from [placement] about things. I thought that because I could get on to the Uni [*sic*] all the time, somebody who could talk me through what the matter was; that was fantastic" (PST interview, 2010). Not all pre-service teachers felt this invitation was open to them. One told a story of her fellow pre-service teacher who had come up against what she felt were insoluble problems during her placement and did not communicate her need. The teller of this story felt it was the lecturer's job to take the initiative to invite pre-service teachers to share their experience rather than wait for the pre-service teacher to ask for help.

The online interface between individual pre-service teachers, their lecturers and each other aimed to make this communication easier as well as provide rich academic material on the study of teaching, with lecturers of each subject creating sites containing readings, activities, podcasts, online lectures and discussions. When the course started in 2008 some lecturers and pre-service teachers found teaching and learning in the online space somewhat challenging. Pre-service teachers reported that it was not always clear how to navigate in the online sites. One said "I was

certainly lucky to live with a teenager who could connect me" (PST interview, 2008). Another commented, "I know that many students had trouble sending and receiving Blackboard material but in the end it seemed to work out. If this could be simplified that would be helpful. It does feel intimidating at the start" (PST interview, 2008). It was recognised by pre-service teachers that some lecturers' online pedagogy was "not very good at times, for some subjects it works well and others not at all" (PST Interview, 2008). In 2013, pre-service teachers were quite comfortable with online learning and were more inclined to say the system was "clunky" than that they found it difficult, however, there was still a comment about not all lecturers being "computer literate" (PST questionnaire, 2013).

A central question for lecturers of the various teacher education subjects (method subjects and more general education courses) in setting up their online teaching spaces was the degree to which social and emotional support would be the primary purpose of the online communication or whether the focus would be more on reflective learning. In terms of what pre-service teachers might value, they commented on the value of being connected for support with peers. "It [online communication] actually set me up to feel more confident in that there were other people going through what I was doing ... I found that very supportive" (PST interview, 2010). One pre-service teacher explained the way she consciously used the online discussion board to seek moral support during a stressful time in her teaching.

> I posted something which reflected my low mood because I thought this is not just me … This is not a secret. This is something about my professional life ... I got very nice and supportive responses from other students. (PST interview, 2010)

But for lecturers, as well as establishing a forum for this kind of emotional communication to reduce isolation (Parsons & Stephenson, 2005), lecturers also wanted online discussion to engage students in critical reflection on readings and the placement components of the course. Pre-service teachers, too, acknowledged the way these discussions "were another tool to help get your thinking in line with both real teaching requirements and your reflections on the topics under investigation" (PST interview, 2008). Pre-service teachers also commented on the benefits of sharing ideas and resources: "One of the girls talked about power teaching and I'd never heard of that before" (PST interview, 2010). Another spoke of his experience "when the power went off [in his classroom] and they couldn't use the technology, I went onto my iphone [*sic*] and I could look up some activities that R. had actually posted onto the [university] website" (PST interview 2010). In these professional discussions the lecturers' participation was seen as offering the voice of "experience … some possible answers to problems" (PST interview, 2010). There were pre-service teachers who saw the requirement to communicate and reflect online as a burden in an already busy teaching life. One pre-service teacher said "chatting over lunch in the staff room at my own school was easier and I prefer face to face [*sic*] communication" (PST questionnaire, 2012). However, these were in the minority in the study.

3. Practicum. The teacher education challenges of how to reduce isolation for pre-service teachers while on placement in schools and to enhance learning during this time were intensified during the four- or five-week block assessed teaching practicum (when pre-service teachers were in schools full time for a number of weeks under the supervision of an experienced teacher). However, as noted, one useful aspect of the GDEDRR model is the fact that pre-service teachers spend one or two days per week at their practicum school before this assessed teaching begins. Another distinctive feature of the course is the way it aims to enhance this school-based experience through the use of online communication and learning during practicum. As during the two-day per week placement, lecturers found that maintaining a line of basic communication was enabled through digital means. Given that contemporary education faculty budgets have worked to preclude visiting pre-service teachers placed in widely spread rural and regional locations (House of Representatives, 2007) it was a major bonus for lecturers to be able to engage with pre-service teachers in a virtual space. The lecturers established a practicum site in which pre-service teachers across all method areas participated for the duration of the practicum. This took the place of other discussion boards in which pre-service teachers participated. The site was also used to post information about the practicum such as assessment guidelines and forms. It was where the lecturers sought to enhance pre-service teacher learning through engagement in online discussions. However, lecturers were always concerned about adding to responsibilities and pressure that pre-service teachers were experiencing during their practicum by asking them to participate in online discussions.

In the evaluations pre-service teachers did comment that sometimes "timelines while on rounds was [*sic*] a bit difficult, with everything that you had to do" (PST questionnaire, 2013). However, instances where pre-service teachers suggested that the forums were not valuable have been rare over the duration of the program. Of the ten pre-service teachers who responded to the 2013 questionnaire, all appeared to find the practicum discussion forum useful, making comments such as "it expands on my experiences" (PST questionnaire, 2013) or "It gave me different perspectives to reflect on" (PST questionnaire, 2013). In terms of the online pedagogical question about whether the emphasis should be on providing a forum for students to recount their experiences and receive support or whether it should be on critical reflection of practices, various approaches have been implemented in the history of the GDEDRR; an unstructured blog format; an issue-based discussion; and a space to share resources were three of the approaches taken. Overall, lecturers tried to encompass all of these opportunities. The prompts for discussion were deliberately broad, allowing students to recount experiences and reflect on them. For example, in 2009 during the first week of practicum the topic was "Briefly highlight ONE issue/ incident you have experienced this week in relation to classroom management OR a teaching and learning approach you used. Was it an effective/ineffective approach? What do you think made it effective/ineffective? Everyone should then comment on what could be done to enhance/improve a situation like this next time and provide

evidence that supports these improvement ideas." Chapter 9 analyses the online discussions in detail. Course evaluations confirmed that both aspects are important. As one pre-service teacher put it, the online discussions were important "to vent, see/identify problems coming or happening" (PST questionnaire, 2012).

The teacher mentors agreed that online communication while on placement could be a valuable source of support and learning for the pre-service teachers. "It has to be a good thing ... thinking back to my own student teacher days ... the more support you had, basically, the better" (Teacher mentor interview, 2008). The teacher mentors could also see that online communication between pre-service teachers could be a way of accessing new teaching ideas. One question asked of both the teacher mentors and the pre-service teachers was whether it would be beneficial to have the teacher mentors participate in the online discussion sites established. Almost all the teacher mentors interviewed were clear that this was not something they would want. They saw themselves as having enough to do in their supervision role with pre-service teachers without extending it to the online space. As well as being reluctant to add to their already busy lives, some mentors also saw a pedagogical advantage to not participating in the discussions in that the digital space might be a place for pre-service teachers to sort out school challenges, which may include their teacher mentor. "If they're stuck in a situation where they feel that they might be with a teacher who is not supportive or, you know, doing some things that they're not sure about, that's just a platform for them to talk about that" (Teacher mentor interview, 2011). Lecturers also thought that while there would be learning opportunities in having the mentors participate in the discussions, the fact that teacher mentors were the primary assessors of the pre-service teachers' practicum performance meant that their presence in the discussion forums might undermine the support that pre-service teachers receive from the communication.

DISCUSSION AND IMPLICATIONS OF THE STUDY

The success and limitations of the course according to various measures and points of view have been outlined in this chapter. Evidence has been in two forms:

1. Enrolment growth and number of pre-service teachers who took up positions in rural or regional schools following the course.
2. The perceptions of its various groups of participants.

Analysis of the findings about the GDEDRR, aligned with those of other studies, points to significant areas of clarity about how we can create high quality teacher education programs for rural and regional pre-service teachers in the contemporary metro-centric era.

The first is that the multimodal course's success in reversing both declining enrolment and the recruitment to rural and regional schools suggests that a course with strong rural and regional links is effective in extending the often limited educational options of those in these areas. The course adds evidence to that of other

studies which argue that encouraging rural people to study and complete practicum close to home assists with providing a pool of potential employees in the rural areas (e.g. Kline, White & Lock, 2013; Lyons, Cooksey, Panizzon, Parnell & Pegg, 2006).

The second implication of the study is that evaluation of the course highlights the value for pre-service teachers of their course being embedded in an ongoing placement so that they are able to experience teaching from early in their course before they must be assessed on their teaching performance during practicum. It is revealing, however, that even with this advantageous arrangement in place, there were complaints by pre-service teachers that there was a lack of a shared understanding of the placement between the university and the school. It is clear from the literature, too, that weak goal alignment and poor communication between the partners in a teacher education partnership can be damaging and the pre-service teachers are the ones caught in the middle (Allen, Howells & Radford, 2013; Zeichner, Payne & Brayko, 2012). In the case of the GDEDRR it seemed that the use of online communication between the lecturers and the pre-service teachers on placement did assist in maintaining communication so that *most* felt connected. The fact that the teacher mentors preferred not to participate in this communication was helpful in giving pre-service teachers what they most wanted: a place to air their challenges, including those with their mentors, and receive emotional and professional support. On the other hand, it could be said that the fact that teacher mentors felt too busy to undertake more in-depth online communication with pre-service teachers and their lecturers points to the resourcing challenges involved in establishing more extensive partnerships between universities and schools in teacher education (Allen, Howells & Radford, 2013; Darling-Hammond, 2005; House of Representatives, 2007). While in the case of the GDEDRR it was advantageous to exclude mentors from the online forums, in a better-resourced teacher education context it would be desirable to have teacher mentors, lecturers and pre-service teachers in three-way communication as well as allowing pre-service teachers an emotional outlet in some other space. As noted, funding issues are critical in working with pre-service teachers and schools in a rural context because numbers are small and distances large.

Analysis of the GDEDRR provides evidence that the use of online communication to augment or replace face-to-face communication is a major way that universities can offer educational opportunities to small and widely distributed cohorts of students in a cost-effective way. The GDEDRR, as a mixed mode course with an on-campus component as well as online instruction, retained some of the advantages of more traditional face-to-face courses while still providing the required flexibility. A further advantage of mixed-mode teacher education courses lies in the regular contact with schools and the consequent opportunities to bridge theory-practice gaps and better prepare pre-service teachers for the assessed teaching practicum experience. However, to take full advantage of these opportunities, lecturing staff need to be more familiar with how to teach in an online environment. This presents a potential cost to universities that may not otherwise have been anticipated. It is also evident from the experience of the GDEDRR that the desired partnership between

teacher mentors and university lecturers to support the education of the pre-service teachers is one that requires commitment. Finding ways to make links with teachers, including rural and regional teachers in a cost constrained environment is the subject of Chapter 6 "Communication in the practicum: fostering relationships between universities and schools." The GGEDRR was designed to address particular rural and regional educational challenges. Its multimodal structure, enhanced through online communication, enables links between the often-separated worlds of universities and schools. In doing this, the model offers much that might be useful for teacher education in rural and regional areas as well as urban centres.

REFERENCES

Allen, J. (2011). Stakeholders' perspectives of the nature and role of assessment during practicum. *Teaching and Teacher Education, 27*, 742–750.

Allen, J., Howells, K., & Radford, R. (2013). A 'partnership in teaching excellence'. Ways in which one school-university partnership has fostered teacher development. *Asia Pacific Journal of Teacher Education, 41*(1), 99–110.

Altbach, P., Reisberg, L., & Rumbley, L. (2009). *Trends in global higher education: Tracking an academic revolution*. A Report prepared for the UNESCO 2009 World Conference of Higher Education. Paris: United Nations Educational, Scientific and Cultural Organization.

Baxter, J., & Gray, M. (2011). *Families in regional, rural and remote Australia*. Fact sheet. Melbourne: Australian Institute of Family studies. Retrieved from http://www.aifs.gov.au/institute/pubs/factssheets/2011/fs201103.html#a1

Bangert, A. (2004). The seven principles of good practice: A framework for evaluating on-line teaching. *The Internet and Higher Education, 7*(3), 217–232.

Cochran-Smith, M., & Fries, K. (2005). Researching teacher education in changing times: Politics and paradigms. In M. Cochran-Smith, & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 69–109). American Educational Research Association publication. Mahwah, NJ: Lawrence Erlbaum.

Cochran-Smith, M., & Fries, K (2010). Research on teacher education. Changing times. Changing paradigms. In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre, & K. Demers, (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (pp. 1050–1093). New York: Taylor and Francis.

Darling-Hammond, L. (Ed.) (2005). *Professional development schools. Schools for developing a profession*. New York: Teachers College Press.

Darling-Hammond, L. (2006a). Constructing 21st century teacher education. *Journal of Teacher Education, 57*(3), 300–314.

Darling Hammond, L. (2006b). Reforming teacher preparation and licensing: debating the evidence. In D. Hartley, & M. Whitehead, (Eds.), *Teacher education. Major themes in education. Globalisation, standards and teacher education* (Vol. 5, pp. 95–124). London: Routledge.

Darling-Hammond, L. (2010). The case for university-based teacher education. In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre, & K. Demers, (Eds.), *Handbook of research on teacher education: Enduring questions in changing contexts* (pp. 333–346). New York: Taylor and Francis.

Denzin, N., & Lincoln, Y. (2005). *The Sage handbook of qualitative research* (3rd ed.). Thousand Oaks: Sage Publications.

Department of Education, Employment and Workplace Relations [DEEWR]. (2010). *Regional participation: The role of socioeconomic status and access*. [Electronic version] Retrieved from http://www.deewr.gov.au/HigherEducation/Programs/Equity/Documents/RegionalParticipation_report.pdf

Department of Education, Employment and Workplace Relations [DEEWR]. (2008). *Review of Australian higher education.* [Electronic version] Retrieved from http://www.deewr.gov.au/HigherEducation/Review/Pages/ReviewofAustralianHigherEducationReport.aspx

Hardré, P. (2009). Nurturing the rural teaching experience. Lessons from the United States. In T. Lyons, J. Choi, & G. McPhan, (Eds.), *Proceedings of the International Symposium for Innovation in Rural Education: Improving equity in rural education* (pp. 1–10). UNE: Armidale, N.S.W. Australia. [Electronic version] Retrieved from http://www.une.edu.au/simerr/ISFIRE/pages/ISFIRE_proceedings.pdf

Hargreaves, A. (2006). Towards a social geography of teacher education. In D. Hartley, & M. Whitehead, (Eds.), *Teacher Education. Major themes in Education. Vol. 5 Globalisation, Standards and teacher education* (pp. 227–254). London: Routledge.

House of Representatives Standing Committee on Education and Vocational Training. (2007). *Top of the class. Report on the inquiry into teacher education*. [Electronic version]. Retrieved from http:/www.aph.gov.au/house/committee/evt/teachereduc/report/front.pdf

Kline, J., White, S., & Lock, G. (2013). The rural practicum: Preparing a quality teacher workforce for rural and regional Australia. *Journal of Research in Rural Education, 28*(3), 1–13.

Lyons, T., Choi, J., & McPhan, G. (Eds.). (2009). *Proceedings of the International Symposium for Innovation in Rural Education: Improving equity in rural education*. UNE: Armidale, N.S.W. Australia. [Electronic version]. Retrieved from http://www.une.edu.au/simerr/ISFIRE/pages/ISFIRE_proceedings.pdf

Lyons, T., Cooksey, R., Panizzon, D., Parnell, A., & Pegg, J. (2006). *Science, ICT and mathematics education in rural and regional Australia. The SiMERR national survey*. National Centre of Science, ICT and Mathematics Education for Rural and Regional Australia. University of New England. Retrieved from www.dest.gov.au and www.simerr.une.edu.au

Loughran, J. (2006). *Developing a pedagogy of teacher education: Understanding teaching and learning about teaching*. New York: Routledge.

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2010). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies*. Washington DC: US Department of Planning, Evaluation and Policy Development.

Nuttall, J., Murray, S., Seddon, T., & Mitchell, J. (2006). Teacher education in Australia: Charting new directions. *Asia-Pacific Journal of Teacher Education, 34*(3), 321–332.

Parsons, M., & Stephenson, M. (2005). Developing reflective practice in student teachers: collaboration and critical partnerships. *Teachers and Teaching: Theory and Practice, 11*(1), 95–116.

Parliament of Victoria, Education and Training Committee. (2005). *Step up, step in, step out. Report on the suitability of pre-service teacher training in Victoria*. Melbourne: Victorian Government Printer.

Richards, L. (2009). *Handling qualitative data: A practical guide* (2nd ed.). London: Sage publications.

Rodgers, C., & Scott, K. (2010). The development of the personal self and professional identity in learning to teach. In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre, & K. Demers, (Eds.), *Handbook of Research on Teacher Education: Enduring Questions in Changing Contexts* (pp. 1050–1093). New York: Taylor and Francis.

Saba, F. (2005). Critical issues in distance education: A report from the United States. *Distance Education, 26*(2), 255–272.

Salmon, G. (2003). *E-moderating: The key to teaching and learning online* (2nd ed.). Oxon: Routledge Falmer.

Schon, D. (1983). *The reflective practitioner*. San Fransisco: Jossey-Bass.

Swan, K., Richardson, J., Ice, P., Garrison, R., Cleveland-Innes, M., & Arbaugh, J. (2008). Validating a measurement tool of presence in online communities of inquiry. *e-mentor, 2*(24). Retrieved from http://www.e-mentor.edu.pl/artykul_v2.php?numer=24&id=543

Szabo, Z., & Schwartz, J. (2011). Learning methods for teacher education: the use of online discussions to improve critical thinking, *Technology, Pedagogy and Education, 20*(1), 79–94.

Wiersma, W. (2009). *Research methods in education* (9th ed.). Needham Heights: Allyn and Bacon.

Young, M. (2006). Rethinking teacher education for a global future: Lessons from the English. In D. Hartley & M. Whitehead. (Eds.), *Teacher Education. Major themes in Education. Globalisation, Standards and teacher education* (Vol. 5, pp. 213–227). London: Routledge.

Zeichner, K. (2002). Beyond traditional structures of student teaching. *Teacher Education Quarterly*, Spring, 59–64.

Zeichner, K., & Conklin, H. (2010). Teacher education programs as sites for teacher preparation. In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre, & K. Demers, (Eds.), *Handbook of Research on Teacher Education: Enduring Questions in Changing Contexts* (pp. 269–289). New York: Taylor and Francis.

Zeichner, K., Payne, K., & Brayko, K. (2012). *Democratizing teacher education through practice-based methods. Teaching and mediated field experience in schools and communities*. Issue Paper. University of Washington-Seattle Center for the Study of Teacher Learning in Practice. Retrieved from http://ccte.org/wp-content/pdfs-conferences/ccte-conf-2012-fall-zeichner-democratizing-knowledge.pdf

AFFILIATION

Josephine Ryan
Australian Catholic University

CAROLINE J. WALTA & ALAN S. MCLEAN

4. STRUCTURING AN ONLINE PRE-SERVICE EDUCATION PROGRAM

The Journey to Developing a Successful Blended Learning Model

INTRODUCTION

This chapter contains a detailed account of the development and implementation of an innovative structure for a teacher education program. The Graduate Diploma in Education Middle Years at La Trobe University's Shepparton campus involved a collaborative learning environment accessed in blended learning mode, structured around a number of teaching and learning spaces, with the majority of time spent in a virtual environment. It was designed to enable a sense of community and connectedness as part of the total experience of the course. The chapter commences with an overview of the rationale for the setting up of the program. While describing the program in terms of its construction, implementation and outcomes achieved, the chapter highlights theoretical ideas which underpin the design of the curriculum, the use of technology and the role of assessment as *assessment for learning* (Department of Education and Early Childhood Development, 2013). It will be demonstrated that although part of the motivation for the establishment of the program was associated with marketing factors, the actual design and implementation were driven by theories about learning and teaching. There is also acknowledgement of the role and nature of practicum partnerships between schools and universities. The chapter highlights the important role of reflection on learning as a practice embedded within curriculum design for both learners and curriculum designers. The focus is to document the process of development and implementation of a teacher education program that is accessible and interactive.

OVERVIEW

The Graduate Diploma in Education Middle Years[1] is currently a one-year post-graduate teaching diploma offered in blended learning mode by La Trobe University's Shepparton campus. Shepparton is a regional[2] city in the state of Victoria, Australia. By definition, blended learning involves at least 75% of the experience being accessed online (Allen & Seaman, 2003) which enables pre-service teachers to access the program at a distance from the campus. The program provides Victorian teacher accreditation and attracts pre-service teachers from all states of Australia

Jones & Ryan (Eds.), Successful Teacher Education, 65–81.

and internationally. Pre-service teachers who have completed a minimum of an undergraduate university degree can gain accreditation to teach across all sectors of school education in Victoria (P-12). From a marketing perspective the blended mode of delivery increasingly reflects student preference for ways of participating in the learning program while maintaining lifestyle, work and family commitments. Pre-service teachers entering this program are aware that over the year, five weeks will be spent in activities in intensive face-to-face mode on campus with the remainder of their academic studies (excluding the nine weeks of practicum) managed in an online environment. One of the attractions for applicants is that the middle years focus has enabled a minimum entry requirement of one undergraduate subject major, although successful completion of the program enables pre-service teachers with a suitable undergraduate degree to be registered, on completion, to teach the years of compulsory schooling in Australia, which varies by state from age six to 15-17 years. The success of the program is reflected in the continuing strength of applications for entry into the program with a 200% increase in first choice applicants when compared with the previous program.

In 2008, the Graduate Diploma in Education Middle Years replaced a one-year face-to-face, post-graduate program that pre-service teachers undertook to gain primary (generally the first seven years of schooling) registration. The latter program of study required pre-service teachers to be resident in the area or to relocate for the duration of the program. This was an increasing barrier to enrolments as the catchment area for pre-service teachers was the sparse population of rural and regional Victoria. Another issue was that a face-to-face program required regular attendance at set times and anecdotal evidence indicated that, increasingly, postgraduate pre-service teachers needed to work and/or care for families. The faculty needed to address the financial problem created by poor student enrolments in this program in order to continue to sponsor education on the regional campus. This, together with the issue of access and equity, contributed significantly to the decision to provide a more accessible program structured around hybrid/blended learning (Allen & Seaman, 2003).

The move from primary to middle years as a focus for the curriculum was based on the identified market niche for middle years' specialists in regions where there was evidence of the emergence of schools with substructures associated with the early, middle and senior years of schooling. However, with middle years being a relatively unusual school structure in Australia, and given that the course focused on both primary and secondary sectors, it evolved that registration in Victoria enabled graduates of this program to teach across the primary and secondary sectors in all states of Australia. The task of developing a course based around a blended learning structure with a focus on middle years research was taken on by a small group of university employees, both academic and technical, in association with the teacher accrediting body of the State of Victoria, the Victorian Institute of Teaching. Practices adopted in the program were aligned with the seven fundamental principles for teacher education programs outlined by Korthagen, Loughran and Russell (2006). These

are, in summary, opportunities for shared participation and interaction, opportunities for reflection, opportunities for collaboration, opportunities to receive and respond to feedback; to learn about and through technologies; engagement with authentic curriculum; to be knowledge creators; and to form communities of learners.

As it was developed, the program also reflected the concept of constructive alignment (Biggs & Tang, 2009). This concept highlights the importance of learning design which reflects a consistency between curriculum taught, teaching approaches and the choice of learning environment and assessment procedures adopted, to ensure that articulated learning outcomes have been reached. Assumptions of a constructivist pedagogical approach, with its focus on the learner creating meaning through participation make learning activities the central focus of curriculum design. Furthermore, Biggs and Tang (2009) highlight the distinction between deep and surface learning related to the quality of tasks in relation to the levels of thinking required. They identify a continuum of tasks likely to move from surface learning to deep learning that commences with activities involving memorisation and moves through to activities involving application and reflection, mirroring Bloom's Taxonomy of thinking skills (Bloom, 1956). Accordingly, this approach suggests that learning is supported by establishing clearly stated learning outcomes, the development of linked, quality learning activities and assessment items which directly measure the achievement of stated learning outcomes.

THEORETICAL UNDERPINNINGS AND PROGRAM STRUCTURE

The course structure reflects a philosophy of teaching and learning which is informed by social constructivist views of learning. Social constructivist learning theory, which had its foundations in the writings of the Russian psychologist Vygotsky (1986), brought to prominence the theory that language is the means by which thought is constructed. Vygotsky's concept of a zone of proximal development gave prominence to the idea that learning is a process, which can be scaffolded by interaction with others. Hardman (2008) points to the value of sharing, comparing, contrasting and arguing from different perspectives in the process of creating meaning. In the course this is reflected in an effort to ensure that pre-service teachers in the program have opportunities to communicate with each other, share conversations, question and reflect. Hardman (2008, p. 9) notes the extension of Vygotsky's learning theory into practices associated with the guided co-construction of knowledge. Language is used to engage with others in joint intellectual activities through which pre-service teachers develop thinking skills. Piaget's work (Piaget, 1928; Piaget & Inhelder, 1958) was also foundational for constructivist theories about how learning occurs. While focusing on a more developmental approach, Piaget's concepts of assimilation and accommodation support the notion of interaction and the role of others in scaffolding for learning. The work of Bruner (1960) reiterates theories of learning through active engagement with others and scaffolding of learning tasks. Later, Schon (1987) highlighted the importance of reflection on learning as a tool

for the development of knowledge and understanding. This theoretical base informs an approach which describes an ideal learning community environment which is student-centred, based on constructivist notions of learning, collaborative, valuing reflection and metacognition and structured to enable deep learning (Biggs & Tang, 2009). These features are demonstrated through the course structure. Online modules give access to sources of data and then direct pre-service teachers to share a range of reflective responses in both open and closed online spaces. In online tutorials, facilitated by the online platform Blackboard Collaborate, pre-service teachers are asked to respond to a range of stimulus material presented through articles or podcasting. In small group discussions they share responses, often linking theory with practice through reference to their in-school practicum experiences. Student-accessed material is also encouraged in these shared discussions.

Cognitive learning theory supports the notion that skills are acquired through modelling, imitation and repetition, and actions demanding significant chunks of memory require repetition and the use of mnemonics. Concepts are acquired through access and reflection on a broad range of experience while conceptual understandings require a broader range of experience and reflection (Woolfolk & Margetts, 2013). When developing the program, decisions were made about the best tools to facilitate the type of learning in focus. As indicated already, online and flexible offerings of programs have become a very attractive option for many pre-service teachers. This preference for online study options challenges educators to adapt online tools to facilitate better learning.

Accordingly, since 2008, the program has been taught using a combination of face-to-face intensive workshops and various e-learning technologies. At the time of commencement, tools available for course delivery through the university were the learning management system (LMS), Blackboard and the virtual classroom Elluminate. Blackboard supported the structuring of learning modules containing reading material, links to online articles and books, videos, and web addresses. It also supported journals that allowed for interaction between pre-service teachers and pre-service teachers and staff; the public and private posting of text, such as assignment work; and (to a lesser extent) multimodal responses. Elluminate supported synchronous discussions accompanied by slides, web-searches and document sharing.

There is ample evidence to suggest the positive outcomes of learning in a socially interactive environment (Hiltz & Wellman, 1997; Vygotsky, 1986). Despite residual opposition to the notion of virtual environments as places for the co-construction of knowledge, research has come to support the notion that communities of connected students can occur in virtual environments when courses are well structured and supported. Rovai (2002) and Yukawa, Kawano, Suzuki, Suriyon and Fukumura (2008) make the case for a re-definition of a community from one of temporal space to one of joint purpose in a virtual environment. The advantages of this type of community include ease of access for participants from a wide geographical location to interact with each other; the power of shared interests to draw together people

who would normally not form collaborative groups due to social, economic, gender or age related factors; the convenience of asynchronous interaction and the sense of equality of participation experienced by participants in a computer mediated environment. Negative reactions to learning in virtual environments have included poor student retention in courses characterised by this approach. Rovai (2002) demonstrates that motivation and satisfaction are positive features of well-structured virtual environments.

The decision as to whether to require pre-service teachers to attend on campus classes and for how long has been the subject of continuous debate on the part of course organisers, based on research about learning and student need. Research demonstrates that pre-service teachers operate more effectively in online environments if they have had opportunities to meet and build relationships (King, 2002). After consideration of the course material and prospective student opinion on face-to-face requirements, the total on campus component was eventually settled at five weeks, in three blocks. During that time pre-service teachers are required to re-locate to the region and attend class in person. The rationale for this structure was that the initial ten days were for pre-service teachers to meet, participate in workshops, which were judged to be less easily facilitated on-line, and to be instructed on the technological skills needed to access and participate in the program. Mid-way through the program a further two weeks would enable peer assessment, participation in other workshops not readily facilitated online, or ones managed by guest speakers who preferred face-to-face delivery. At the conclusion of the program a final five days were introduced to allow pre-service teachers the opportunity to share their experiences in a face-to-face environment, participate in group assessment of assignments and experience presentations by representatives of the Victorian Institute of Teaching (VIT) pertaining to job applications, the legal responsibilities of teachers and applying for registration.

In the second half of 2009, funding enabled the purchase of iPods and a server to support greater integration of mobile learning to complement the affordances of the other technologies. The funding supported every student in the program having access to an iPod Touch for that year. Increasingly, pre-service teachers have owned their own mobile devices including mobile phones, iPads, and other mobile tablets. This reflects the trends in schools where school students are increasingly given access to iPads and notebooks to access, process and communicate their learning. A Mac Os X Server was also procured as part of the funding and used in 2010 and 2011 as a repository for student-initiated and sourced multimedia. In association with the server, the podcasting provided pre-service teachers with opportunities to consider the potential for use of handheld technologies for achieving learning outcomes. It was also a flexible platform for generating, sourcing and accessing immediate and current audio and multimedia material relevant to learning about teaching. Staff involved with the program used Podcast Capture to generate and place podcast material onto the server and were then able to download this material to their iPods through an RSS feed or work directly from the server on their computers. This was a means of

accessing and contributing to student exposure to current information and opinion exchange, which supplemented the set material of the learning modules. Pre-service teachers were then able to engage with current material through short podcasts and video clips, both sourced and generated to stimulate discussion in weekly tutorials. Building on the Ipod initiative, in 2012 and 2013, with the increasing uptake of personally owned hand-held devices, and widespread use of social media such as Facebook and YouTube, a range of platforms have been used by lecturers and pre-service teachers to upload and share dynamic learning material for discussion during student weekly tutorials.

The structure of the program has been consistently maintained with yearly reviews of the set material. In 2013, student experience within the program has been as follows: pre-service teachers who accept a place in the program are enrolled in eight subjects over two semesters with a total of 120 credit points. Material associated with these subjects is variously accessed through a combination of intensive workshops, school practicum observations, assessment tasks and engagement with online material in a series of learning modules. In early February, the start of the academic year, pre-service teachers receive a letter containing information about online enrolment, how to log into the university website, access the LMS and post a personal introduction. Information on the technical process of logging into Blackboard Collaborate (previously Elluminate) for an online tutorial is also given, preparing pre-service teachers with technical help before they participate in the first online group tutorial discussion. Once pre-service teachers have accessed the LMS shell they can then link into some preliminary reading and access the course handbook, which contains information about the entire program including all assessment tasks.

Two weeks later pre-service teachers attend a ten-day intensive on campus, for which many are required to find temporary accommodation. Information to support this is supplied in the initial letter. The first intensive consists of workshops related to Issues A and Methods A; technological assistance with online course participation; workshops associated with lesson planning, observing and participating in the school-based practicum; and the subject entitled School-Based Middle Years Project. Supporting literacy and numeracy remains a major focus throughout the course and this is reflected in material embedded in each of these subjects. During the first intensive pre-service teachers also participate in workshops associated with all primary school discipline areas: English and Mathematics, Science, Health and Physical Education, and the Arts. Upon completion of the intensive, pre-service teachers return home until July during which time they complete online modules associated with first semester subjects; two weeks of observation in both a primary and a secondary school; several assessment items associated with first semester subjects—all posted online; and a four-week primary practicum.

In July, pre-service teachers return for another two-week intensive which involves workshops associated with subjects Issues B, Methods B and Contexts of Education, some group presentations, and information about course material for Semester 2. Workshops associated with secondary methods are held and attended by

all pre-service teachers. They then return home where they commence online course material associated with all subjects as well as undertake a five-week secondary practicum. Pre-service teachers return to the campus for five days in late September where they participate in a group presentation and workshops associated with the profession of teaching and seeking employment. There are then two final assessment tasks (a Philosophy of Education essay and a portfolio task) to submit to complete the program by the end of October.

In 2010, a system of online tutors was introduced to ensure that within the virtual environment pre-service teachers received individual attention and monitoring from a designated university staff member. Pre-service teachers are divided into groups, which are aligned where possible with their area of residence, to enable face-to-face collaboration where pre-service teachers would like to facilitate this. This also enables tutors to visit multiple pre-service teachers on practicum where they are located in the same area. Tutors are responsible for monitoring student progress, assisting with work related matters, correcting some of the work tasks, visiting pre-service teachers in schools and facilitating online collaboration sessions. The tutoring and grouping initiative has been taken to provide a structure for pre-service teachers in the virtual environment to feel connected to administration and support from university personnel.

TECHNOLOGY AND LEARNING

The program design is informed by notions of e-learning and m-learning that place the emphasis on the potential for technology to support learning within a constructivist paradigm.

> In the powerful new learning opportunities that are being facilitated in an entirely new way through the internet we are witness to a new model of education, rather than a new model of learning. (Mayes & Frietas, 2007, p. 14)

This is a common theme in current literature (Beetham & Sharpe, 2007; Biggs & Tang, 2009; Oliver, 1999; Salmon & Edirisingha, 2008; Stephenson, 2001). Other research has documented the effective use of technological tools, especially the collaborative functions of learning management systems, to facilitate communication and interaction between students in programs and courses (Garrison & Kanuka, 2004; King, 2002; Rovai, 2002). More recent research focusing on the use of mobile technology, especially associated with use of podcasting as a feature of program design (Dale & Pymm, 2009; Edirisingha, Salmon & Fothergill, 2006; Lee & Chan, 2007a, 2007b; Lee, McLoughlin & Chan, 2006). The research highlights a shift from focusing on the interactivity of the Web 2.0 tools themselves to an environment where learning is more truly created and shared by all participants.

From its earliest appearance podcasting has been heralded as a potentially cost-effective, readily accessible and motivating tool for learning (Draper, 2007). McGarr (2009) noted that research into podcasting in higher education highlights three

main uses: supplementary, where the material associated with a lecture is provided; complementary, where material which supports or enriches the lecture is provided, and creative, where podcasting is part of knowledge creation and sharing by students. The podcasting in the program was designed to be supplementary and creative rather than led by the technology itself. McGarr (2009) summarised the distinction, one which emphasises the philosophical underpinnings of the program:

> While podcasting has the potential to enhance the students' learning experience, it can also reinforce the worst aspect of the transmission model of learning. For this reason, future use of these technologies should be learner led, rather than technology led…Future uses of the technology should be guided by sound educational goals that aim to improve the students' existing experience, rather than being guided by vague claims of revolutionizing it.
>
> (p. 319)

Research before 2006 tended to focus on the issue of podcasting as a substitute for face-to-face lecturing and the appropriateness or otherwise of this in terms of student rights and student learning (Heilesen, 2010). Later research, informed by the evolution of podcasting from audio to multimedia production with the advent of more sophisticated handheld devices, focused on how podcasting has become part of the overall design of a learning program, utilising its potential to offer a range of learning opportunities such as podcast creation and sharing (Draper & Hitchcock, 2006; Edirisingha, Salmon & Fothergill, 2006; Evans, 2008; Lee et.al., 2006; Lonn & Teasley, 2009; Ragusa, Chan & Crampton, 2009). Podcasting that allows students to co-construct knowledge and to contribute to the learning of the group has been reported in some research (Dale & Pymm, 2009; Frydenberg, 2008; Lee et al., 2006; McGarr, 2009).

The expanding range of Web 2.0 applications after 2010 (podcasts, weblogs, wikis etc.) increased support for learners as active participants, creators of knowledge and seekers of engaging personal experiences (McLoughlin & Lee, 2008). These authors point to the need to:

> expand our vision of pedagogy so that learners become active participants and co-producers rather than passive consumers of content, and learning processes are participatory and social, supportive of personal life goals and needs. (p.10)

A MODEL FOR PROGRAM DESIGN

Garrison (2011, p. 23) proposed the following elements and relationships within a Community of Inquiry (CoI):

According to Garrison's original definitions of the elements of the CoI model, social presence reflects and promotes social interaction that creates a sense of belonging and facilitates collaborative learning. Garrison (2011) argues that social

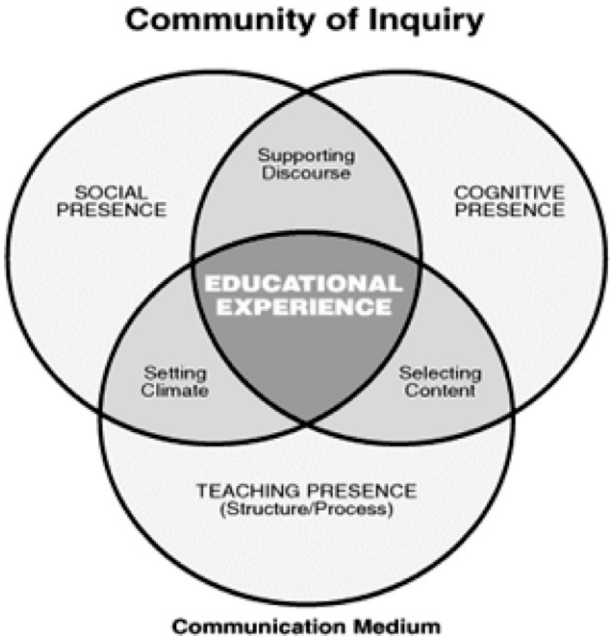

Figure 1. Community of Inquiry model.

presence is an important contributing element in learning and interaction through its three elements of interpersonal communication, open communication and cohesive communication (Garrison, 2011). Cognitive presence is "the intellectual environment that supports sustained critical discourse and higher order knowledge acquisition and application" (p. 42). Teaching presence involves "shaping the appropriate transactional balance and, along with the learners, managing and monitoring the achievement of worthwhile learning outcomes in a timely manner… [It] performs an essential service in identifying relevant societal knowledge, designing experiences that will facilitate reflection and discourse and diagnosing and assessing learning outcomes" (p. 54-55). In an online environment the technology therefore becomes a flexible resource that supports diverse educational activities and various kinds of educative relationships between participants, as indicated.

The table below presents an overview of the nature of participation in the blended learning program of the Graduate Diploma in Middle Years and the allied technology tools in relation to the Garrison Community of Inquiry model. The following table also links the use of elements of a Community of Inquiry to technological tools which support elements of social presence, cognitive presence and teacher presence, all of which are linked to connectedness and learning.

Table 1. Relations between elements of Community of Inquiry and technologies

Elements in the Community of Inquiry	*Online activity*	*Technological Tool/Online learning system*
Social Presence	LMS Discussion spaces for personal wikis	LMS—Moodle, PebblePad
Interpersonal	Practicum blogs—associated with seeking help and sharing experiences	Blackboard Collaborate
Open communication	Blackboard Collaborate—associated with small group use Skype and FaceTime Blackboard Collaborate for tutorial small group discussions	Skype Handheld mobile technology
Cognitive Presence	Assessment tasks	LMS—PebblePad
Facilitating reflection and discourse	Reflective and critical inquiry—associated with selected learning material—use of collaborative spaces in LMS, PebblePad and Facebook	Facebook
Higher Order Thinking	Blackboard Collaborate tutorials	Vimeo, YouTube Blackboard Collaborate
Teacher presence Shaping the learning experience to promote reflection and discourse	Pre-service teachers access learning material from LMS, reflect and contribute through Pebblepad journals, online tutorials, Facebook, Youtube	LMS—Blackboard Collaborate-tutorial discussions handheld technology,
Collaboration with learners to achieve learning outcomes		Facebook, Pebblepad

Further expanding on information contained within the table, activities in the program reflect a focus on collaboration, authentic learning experiences and higher order thinking, especially involving reflection on learning, including:

– Sharing observations of classroom approaches to pedagogies and management through open discussions in the LMS, tutorials, and assignments;
– Building a portfolio of evidence of learning, including links to resources and software using designated software using PebblePad;
– Creating units of work through collaboration and sharing online using the LMS;
– Creating multimedia podcasts, which are available for sharing and which simulate student learning activities associated with learning about literacy using handheld technology;

- Creating multimedia podcasts, which are themselves learning objects, accompanied by audio podcasts about their use in teaching using handheld technology;
- Participation in supportive blogging during practicum using Facebook and PebblePad;
- Evaluation of software for educational use in a shared environment as part of assessment;
- Opportunities to present and discuss components of a developing philosophy of education with lecturers and other colleagues using an interactive online module featuring shared discussion/journal spaces;
- Responding reflectively to online readings and other sourced material in the LMS;
- Engaging in peer-to-peer review of teaching where physical location allows for this;
- Supporting others though tutorial blogs during practicum using both the LMS and Facebook.

In support of our argument that these uses of new technologies do not create a new paradigm of learning, but rather embed principles of good learning, we show below that the practices adopted in the program are aligned with the seven fundamental principles for teacher education programs outlined by Korthagen, Loughran & Russell (2006). In Table 2, teacher education principles (Korthagen et al., 2006, pp. 1025-1036) are matched with the technology in the program that supports them:

ASSESSMENT AS LEARNING

In line with Biggs and Tang (2009) the assessment items by which student learning is measured are constructed to be learning tasks in their own right and reflect the specific learning outcomes of the subjects associated with the task. For example, Issues A is a subject where the learning outcomes state that pre-service teachers will develop and demonstrate an understanding of theories about learning and how they impact on teaching. Accordingly this subject includes sections on the process of learning; teaching and diversity, planning for teaching; student management and discipline and teaching literacy and numeracy. Assessment items for this unit, which are indicative of approaches in other subjects, consist of:

1. Online Journals- reflective responses to module material;
2. Literature Review- which requires research into teaching gifted students, students with special needs and issues in gender and education and reflection on knowledge gained;
3. Observation report- based on field work placement in lower and middle primary for directed observation.

Another subject, School-based Middle Years Project is underpinned by learning outcomes associated with pre-service teachers' individual method area as determined by their undergraduate degree on entry. This is the structure by which pre-service teachers enrolled in this course engage with pedagogical content knowledge (Shulman,

Table 2. Relations between elements of teacher education and technologies

Learning context	*Technology*
Shared participation and interaction	Blackboard Collaborate for tutorials; student blogs; public posting of assessment
Opportunities for reflection	Reflective journals in the LMS; tasks associated with practicum (e.g., reflecting on self-administered audio and student feedback)
Opportunities for collaboration	Joint participation in assessment utilising online technologies for collaboration; use of Blackboard Collaborate for tutorials
Opportunities to receive/respond to feedback/scaffolding learning	Structure of assessment tasks in the LMS; use of designated blogs; public sharing of assessment during workshops and online
Opportunities to learn about and through technologies	Some autonomy associated with assessment, public sharing, community of learners enabled to assist in an online environment
Engagement with authentic curriculum through the structure of the learning modules, podcasting and the nature of assessment items	All assessment tasks are learning activities designed for learning about teaching and modelling approaches for future classroom use (e.g., creating multimedia learning tools, digital stories associated with critical literacy development in schools, evaluating the potential for use of a range of technologies in student learning)
Opportunities to be knowledge creators	Assessment work, which is reflective and critical in its expectation, tutorial discussions stimulated by podcasts, articles and multimedia items
Opportunities to form communities of learners in a virtual environment	Use of virtual tutorial meeting regularly in Blackboard Collaborate, peer review in practicum placement

1987) associated with subject teaching in secondary schools. The teaching contexts for this subject are method workshops during the intensive period, a two-week observation involving tracking a teacher who works in the identified method area and an assignment, which has two parts. The first part is a detailed observation of a number of areas pertaining to teaching in that method area, including relevant curriculum documents, methodological approaches, use of ICT to support learning, catering for individual needs within the subject, and a focus on supporting skills in literacy and numeracy regardless of the method area. The second part is a more analytical response in which the pre-service teachers reflect in an essay on what they have observed in relation to literature on motivation, engagement and the affective domain.

THE ROLE OF PARTNERSHIPS

In recent government reports partnerships between schools and universities to facilitate pre-service teachers on practicum are portrayed as a positive feature of successful teacher education (Department of Education, Employment and Workplace Relations [DEEWR], 2003; House of Representatives, 2007; Ramsey, 2000). Research reveals that individual stakeholders involved in the practicum benefit from good relations between both institutions in terms of quality practicum outcomes (Ewart & Straw, 2005; Schulz, 2005; Zeegers, 2005). The practicum experience, which is obviously the focus of the partnership, must strive to link the theories about teaching and learning with practicum teaching, thereby eliminating the theory/praxis divide (Korthagen et al., 2006).

With the help of a letter of introduction pre-service teachers enrolled in the program organise a two-week observation of early and middle primary years in one school and a further two-week observation program in a secondary context. Pre-service teachers are directed to observe, ask questions and offer assistance while they are guests within the classroom. This is the beginning of a professional partnership which does not involve payment but allows pre-service teachers the opportunity to consider issues of planning, curriculum content, student engagement and management, resources and assessment while engaged with theory through the online and face to face material of the program. While observing the lower and middle primary, pre-service teachers are encouraged to approach the upper primary teacher to establish whether they might complete a four-week practicum in the same school and develop a unit of work in collaboration with the planned school curriculum. The general outcome of this initiative is that pre-service teachers are able to embed school-based planning with assessment for the course, as the unit of work is submitted for assessment. This pattern of observation and teaching in the same institution is repeated for secondary placement and is also accompanied by a unit of work. It has been found that schools react positively to the requirement that pre-service teachers develop a unit of work linked to both the schools' curriculum program and course-based assessment.

Another important feature of the school-based practicum is the development of a teaching portfolio, which is presented for assessment at the completion of the practicum. A range of tasks is included in this portfolio, all of which require a level of reflection on learning. They include a self-reflection of teaching on an audio or video tape, lesson plans and reflections on learning for each lesson, a completed self-evaluation document linked to the development of graduate attributes (Practicum A). Additionally for Practicum B pre-service teachers complete a reflection on a peer review of teaching, asking the question, "What did I learn from the observations of my peer?" and a reflection on a student survey of the efficacy of the pre-service teacher, administered by the pre-service teacher. In terms of pre-service teacher learning, positive outcomes of this initiative reflect the findings of Lee and Choi (2013) and Lu (2009).

A further extension of the partnership is the relationship between university lecturer, school-based mentor and pre-service teacher. Despite the challenges involved (associated with time and travel), all pre-service teachers are visited by a university lecturer (normally their tutor) at least once, preferably during the first practicum, to ensure that pre-service teachers who need support are identified. These visits involve a three-way conversation between teacher mentor, university mentor and pre-service teacher with the goal of consensus. This visit forms another source of feedback for the pre-service teacher, as the school-based mentor is ultimately responsible for their assessment.

As outlined, the program is designed to link theories of learning with practicum application through directed observation and reflection, which are embedded in the learning and assessment context. School-based learning becomes an important context for observing and applying learning associated with course content. Concepts of partnerships associated with recent state and national reports (DEEWR, 2003; House of Representatives, 2007) advocate but do not define the concepts with any clarity. Recent research (Neal, 2010) acknowledges the notion of partnerships as that of a relationship which may vary from being purely administrative, that is schools accept a number of student teachers and are paid by the university, to an integrated partnership where school and university personnel work collaboratively within both environments to support learning. The partnership adapted in this model acknowledges the importance of the school experience as a unique structure for application and reflection on the important links between theory and practice.

CONCLUSION

This chapter describes the development and evolution of an online blended-learning postgraduate program, which accredits pre-service teachers with primary, middle years and secondary qualifications. It shows that though part of the motivation for the establishment of the program was associated with marketing factors, the actual design and implementation were at all times directed and driven by beliefs about learning.

The program development reflects the beliefs of Salmon and Edirisingha (2001) that e-learning is not distinguishable from learning. E-learning exemplifies the use of technology to provide a learning context based on constructivist principles. These include opportunities to build understandings, discuss and reflect on new knowledge and collaborate with communities of learners.

With the on-going development of technological tools enabling collaboration and sharing, a successful learning environment is constantly under review. This is reflected in the move from an initial LMS, which did not support student interaction to the use of blogs, wikis and multimedia repositories such as YouTube and social media such as Facebook. These forms have transformed the interactive potential of the online environment.

Basic principles of design for learning, themselves underpinned by constructivist beliefs about learning, remain the conduit for the structure of the program. Developments in technology, especially where they involve ease of collaboration and online sharing, will continue to be embedded in the program. The course is designed to be dynamic and its aim is to teach *about* while teaching *with*, the most relevant and recent technological tools.

NOTES

[1] In Australia middle years is generally considered to encompass years five to eight of schooling.

[2] In Australia regional refers to both distance from major cities and population. Regional cities are small (less than 100, 000).

REFERENCES

Allen, I. E., & Seaman, J. (2003). *Sizing the opportunity: The quality and extent of online education in the United States, 2002 and 2003*. Needham, MA: Sloan Consortium. Retrieved from http://www.sloanconsortium.org/resources/sizing_opportunity.pdf

Beetham, H., & Sharpe, R. (Eds.). (2007). *Rethinking pedagogy for a digital age*. London: Routledge.

Biggs, J., & Tang, C. (2009). *Teaching for quality learning at university* (2nd ed.). England: Open University Press.

Bloom, B. (1956). *Taxonomy of educational objectives: Book 1 cognitive domain*. New York: Longman.

Bruner, J. (1960). *The process of education*. Cambridge, M.A: Harvard University Press.

Dale, C., & Pymm, J. (2009). Podogogy: The iPod as a learning technology. *Active Learning in Higher Education 10*(1), 84–96. doi:10.1177/1469787408100197. SAGE

Department of Education and Early Childhood Development. (2013). *Assessment advice*. Retrieved from http://www.education.vic.gov.au/school/teachers/support/pages/advice.aspx

Department of Education, Employment and Workplace Relations [DEEWR]. (2003). *Australia's teachers: Australia's future - Advancing innovation, science, technology and mathematics.* Retrieved from http://www.dest.gov.au/sectors/school_education/policy_initiatives_reviews/reviews/teaching_teacher_education/

Draper, P., & Hitchcock, M. (2006). *Podcasting: Can the eLearning experience inform eResearch in the digital arts?* Paper presented at the CreateWorld 2006 conference, Brisbane. Retrieved from www29.griffith.edu.au/createworld

Draper, P. (2007). *Students doing the driving: How undergraduates use ICT to enhance reflective practice, peer review and collaborative learning.* Paper presented at Music in Australian Tertiary Institutions – Issues for the 21st Century NACTMUS National Conference, Brisbane. Retrieved from http://www29.griffith.edu.au/imersd/draper/publications/research/2007-06%20How%20Undergraduates%20use%20ICT.pdf

Edirisingha, P., Salmon, G., & Fothergill, J. (2006). *Profcasting: a pilot study and a model for integrating podcasts into online learning.* Paper presented at the Fourth EDEN Research Workshop, Spain: Castelldefels. Retrieved from http://www2.le.ac.uk/departments/beyond-distance-research-alliance/projects/impala1/presentations/Berlin/Pilot%20study/view

Evans, C. (2008). The effectiveness of m-learning in the form of podcast revision lectures in higher education. *Computers & Education, 50*(2), 491–498.

Ewart, G., & Straw, S. (2005). A seven month practiucm: Collaborating teachers' response. *Canadian Journal of Education, 28*(1 & 2), 185–202.

Frydenberg, M. (2008). Principles and pedagogy: The two Ps of podcasting in the Information Technology Classroom. *Information Systems Education Journal, 6*(6), 3–11. Retrieved from http://www.isedj.org/6/6/ISEDJ.6%286%29.Frydenberg.pdf

Garrison, D. (2011). *E-learning in the 21st century: A framework for research and practice* (2nd ed.). New York: Routledge.

Garrison, D., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education, 7*(2), 95–105.

Hardman, F. (2008). The guided co-construction of knowledge. In M. Martin-Jones, A. de Mejia, & N. Hornberger (Eds.), *Encyclopaedia of language and education* (pp. 253–264). New York: Springer Publishing.

Heilesen, S.. (2010). What is the academic efficacy of podcasting? *Computers & Education, 55*(3), 1063–1068. doi:10.1016/j.compedu.2010.05.002

Hiltz, S., & Wellman, B. (1997). Asynchronous learning networks as a virtual classroom. *Communications of the ACM, 40*(9), 44–49.

House of Representatives Standing Committee on Education and Vocational Training. (2007). *Top of the class. Report on the inquiry into teacher education*. [Electronic version]. Retrieved from http:/www.aph.gov.au/house/committee/evt/teachereduc/report/front.pdf

King, K. (2002). Identifying success in online teacher education and professional development. *The Internet and Higher Education, 5*(3), 231–246.

Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education, 22*(8), 1020–1041.

Lee, M., & Chan, A. (2007a). Pervasive, lifestyle-integrated mobile learning for distance learners: an analysis and unexpected results from a podcast study. *Open Learning: The Journal of Open and Distance Learning*, *22*(3), 201–218.

Lee, M., & Chan, A. (2007b). Reducing the effects of isolation and promoting inclusivity for distance learners through podcasting. *Turkish Online Journal of Distance Education*, *8*(1), 85–104.

Lee, O., & Choi, E. (2013). Utilising peer coaching to facilitate pre-service physical education teachers' reflection. *The Asia-Pacific Educational Researcher, 2*(2), 147–154.

Lee, M., McLoughlin, C., & Chan, A. (2006). Talk the talk: Learner-generated podcasts as catalysts for knowledge creation. *British Journal of Educational Technology*, *39*(3), 501–521.

Lonn, S., & Teasley, S. (2009). Podcasting in higher education: What are the implications for teaching and learning? *The Internet and Higher Education, 12*(2), 88–92.

Lu, H. (2009). Research on peer coaching in preservice teacher education- A review of literature. *Teaching and Teacher Education, 26*(4), *748–753.*

Mayes, T., & Frietas, S. (2007). Learning and e-learning - The role of theory. In H. Beetham, & R. Sharpe (Eds.), *Rethinking pedagogy for the digital age* (pp. 13–25). London: Routledge.

McGarr, O. (2009). A review of podcasting in higher education - Its influence on the traditional lecture. *Australian Journal of Educational Technology, 25*(3), 309–321.

McLoughlin, C., & Lee, M. (2008). The three P's of pedagogy for the networked society: Personalisation, participation and productivity. *International Journal of Teaching and Learning in Higher Education*, *20*(1), 10–27.

Neal, D. (2010). *Teachers' perceptions of the impact of a university-school partnership on their preservice practicum education* (Unpublished doctoral dissertation). La Trobe University, Bundoora. Retrieved from http://arrow.latrobe.edu.au:8080/vital/access/HandleResolver/1959.9/154671

Oliver, R. (1999). Exploring strategies for online teaching and learning. *Distance Education*, *20*(2), 240–254.

Piaget, J. (1928). *The child's conception of the world.* London: Routledge and Kegan Paul.

Piaget, J., & Inhelder, B. (1958). *The growth of logical thinking from childhood to adolescence*. New York: Basic Books.

Ragusa, A., Chan, A., & Crampton, A. (2009). iPods aren't just for tunes: Exploring podcasting as a socio-cultural technology facilitating student experiences of higher education in rural Australia. *Information, Communication & Society*, *12*(5), 678–690.

Ramsey, G. (2000). *Quality matters. Revitalising teaching: Critical times, critical choices.* Report of the Review of Teacher Education, NSW. Retrieved https://www.det.nsw.edu.au/teachrev/reports/reports.pdf

Rovai, A. (2002). Building a sense of community at a distance. *International Review of Research in Open and Distance Learning, 3*(1), 1–16.

Salmon, G., & Edirisingha, P. (Eds.) (2008). *Podcasting for learning in universities*. England: Open University Press.
Schon, D. (1987). *Educating the reflective practitioner.* San Francisco: Jossey-Bass.
Shulman, L. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1–22.
Schulz, R. (2005). The practicum: More than practice. *Canadian Journal of Education, 28*(1 & 2), 147–167.
Stephenson, J. (Ed.) (2001). *Teaching and learning online pedagogies for the new technologies*. London: Kogan Page.
Yukawa, T., Kawano, K., Suzuki, Y., Suriyon, T., & Fukumura, Y. (2008, June). Implementing a sense of connectedness in e-learning. In J. Luca, & E. Weippl (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2008* (pp. 1198–1207). Chesapeake, VA: AACE. Retrieved from http://www.editlib.org/p/28538
Woolfolk, A., & Margetts, K. (Eds.). (2013). Educational Psychology (3rd ed.). Frenchs Forest, N.S.W.: Pearson Australia.
Vygotsky, L. (1986). *Thought and language*. Cambridge, MA: The MIT Press.
Zeegers, M. (2005). From supervising practica to mentoring professional experience: Possibilties for education students. *Teaching Education, 16*(4), 349–357.

AFFILIATIONS

Caroline Walta & Alan McLean
La Trobe University

LISA HALL

5. A MODEL FOR SMALL, REMOTE, INDIGENOUS COMMUNITIES

INTRODUCTION

This chapter will outline the history of community-based, flexible models of teacher education in remote Indigenous communities in Australia with a view to exploring how and why these models emerged. It will then explore the changing face of teacher education today beyond but including that for Indigenous people, particularly in light of the shifts occurring within education associated with globalisation, nationalised standards, the knowledge economy and the opportunities and obstacles which arise through online learning. Finally, it will explore one recent model of remote Indigenous teacher education in the Northern Territory (NT) that navigated this changing landscape. By unpacking that experience some of the conditions required for such models to be successful will be identified.

PAST TEACHER EDUCATION MODELS FOR REMOTE INDIGENOUS LEARNERS

One of the key ways of ensuring the sustainability of education for Indigenous students in remote communities is to provide a permanent and stable teaching staff. Training local Indigenous people to become teachers has been a key part of creating that stability. National and international educational research with Indigenous communities demonstrates the positive impact of Indigenous or language minority students being taught by members of their own community who intrinsically understand the language, culture and learning styles of the students (Batten, Frigo, Hughes & McNamara, 1998; Bourke, Rigby & Burden, 2000; Buckley, 1996; Christie, 1985; Hickling-Hudson & Ahlquist, 2003; Woods, 1994). The Australian Bureau of Statistics (2009) reported that in 2008 two in five or 40% of Indigenous people in Australian aged 15 years and over spoke at least some words in an Indigenous language. In the Torres Strait the figure was higher where almost three in five or 56% of Torres Strait Islander people spoke, or spoke some words of, an Indigenous language. This compared with two in five or 39% of mainland Aboriginal1 people. These figures increased dramatically when the population of remote areas was explored. In remote areas 73% of the population spoke, or spoke some words of, an Aboriginal or Torres Strait Islander language in comparison to 32% of those living in major cities and 28% of people in regional areas. Around 63% of Indigenous children living in remote areas aged 4-14 years spoke, or spoke some

Jones & Ryan (Eds.), Successful Teacher Education, 83–99.

words of, an Indigenous language in 2008. The specific language environment of remote Indigenous communities in Australia has always required a unique approach to education and teacher education. The NT, along with other remote jurisdictions across Australia, has had a strong history of delivering community-based teacher education programs for remote Indigenous teachers, particularly during the 1980s and 1990s. However, structural changes, changing financial and educational priorities and human resource changes within government departments and institutions have resulted in a shift away from community-based delivery to a more mainstream campus-based delivery of teacher education programs in recent years.

The concept of developing flexible teacher education delivery models to meet the specific needs of remote Indigenous learners dates back to the 1960s. The first evidence of an Australian program specifically designed for training remote Indigenous education workers was in the NT (Ingram, 2004). Training courses for Indigenous school staff in the NT began firstly in 1965 in the form of short courses delivered at Carpentaria College in Darwin and subsequently transferred to the annexe at Kormilda College (Ingram, 2004). It was this program that evolved by 1970 into a two-year training program for paraprofessionals called the Remote Area Teacher Education (RATE) program.

It was during the 1970s that educators began to analyse the benefits of having Aboriginal people on staff in schools, variously called Aboriginal Teacher Aides (Budby & Young, 1976; Cameron 1973; Dyer, 1973; McClay & Bucknall, 1973), and Aboriginal Teacher Assistants (Allen, 1979; More, 1978). The writing in this field comes mostly from the NT, Queensland and South Australia with some writing from New South Wales and in the later stages some focus on remote parts of Western Australia. The main benefits of having Aboriginal teacher aides or assistants in classrooms and schools in remote communities were giving the students access to adults in the school they could relate to, increasing the use of first language in class to improve engagement in learning, facilitating the use of group work in class, lowering truancy and absentee rates, helping non-Indigenous staff better understand the children they were teaching and improving communication between the school and the parents (Cameron, 1973; Dyer, 1973; McClay & Bucknall, 1973; Valadian & Randall, 1980). The introduction of Indigenous staff saw improvements in engagement in the work and life of the school by both students and community members (Dyer, 1973). Soon the need for and development of training programs to help teacher aides and teacher assistants grow into these school roles became obvious (Allen 1979; Budby & Young, 1979; Cameron, 1973; Dyer, 1973; McClay & Bucknall, 1973; Valadian & Randall, 1980).

The year 1973 saw the formal establishment of bilingual schools in the NT (Tandy, 1973). The language being used to announce the bilingual initiative and the educational aims is a fascinating reflection of the attitude of the time.

> One of the most significant Australian government innovations in Aboriginal education has been the introduction this year of bilingual education in certain

> Northern Territory schools…in distinctive Aboriginal communities where an Aboriginal language is the mother tongue of the children….the aim is for these children to commence their schooling in their own language, proceed to the acquisition of literacy skills in that language, then acquire literacy in English and have most of their subsequent schooling in English. The educational aim of such an approach is the development of children who are thoroughly competent in their own language and able to read and write it, who are more proficient in English than they would have been under the previous system and who are better at all their school subjects because their schooling, and their early schooling in particular, has been more interesting, enjoyable and meaningful to them. One would also expect psychological benefits from this recognition of the children's language and culture, and more enthusiastic support from the parents for the schooling their children are offered.
>
> (Tandy, 1973, p. 21)

The significance of this announcement and the bilingual schools movement for Indigenous teacher education was that now remote schools needed local teachers who could teach in and through the first language of the children in their home communities and this gave great impetus and momentum to the training of Indigenous teachers from remote communities. The challenge was how to do this in ways that were contextually appropriate and suited to this unique cohort of trainee teachers.

While estimates of the Indigenous population of Australia are sketchy prior to 1967, by the mid 1970s a clearer picture had emerged. In 1976 the Aboriginal and Torres Strait Islander population was calculated to be 160,915 (Australian Bureau of Statistics, 1979). Despite this, by 1978 there were still only 100 Indigenous teachers in teacher education programs in the whole of Australia (Valadian & Randall, 1980). The following decade saw a large increase in the number of innovative and flexible programs set up across Australia to support Indigenous school staff to pursue teacher education pathways through to becoming qualified classroom teachers. It was during this time that programs such as the Townsville Aboriginal and Islander Teacher Education Program (later RATEP) in Queensland (Loos, 1986), the Aboriginal Teacher Education Program (ATEP) which later became the Anangu Teacher Education Program (AnTEP) in South Australia (Adelaide College of the Arts and Education Aboriginal Studies and Teacher Education Centre, 1981), the Traditional Area Teacher Education (TATE) program in Western Australia (Metcalfe, 1983) and the Remote Area Teacher Education (RATE) program (Kemmis, 1988) which later developed into the D-BATE program (McTaggart, 1987) in the NT, all came into being. These programs retained the staged approach to training that had evolved from earlier models and participants usually went through the course with a cohort of their peers. Much of the delivery was offered onsite in their own communities with lecturers and tutors being located onsite in the community as well, in a delivery mode known as "mixed mode" (Arbon, 1998, p. 17; Bat, 2011, p. 122), which decreased the need for students to have to relocate. This flexible delivery mode

was especially important for teachers from remote communities where family and cultural obligations and geographic isolation all made the traditional campus-based delivery of courses, in urban centres, problematic (Osborne, 1982).

In the NT the flexible teacher education program for Indigenous teachers was known as Remote Area Teacher Education (RATE) and was delivered by Batchelor College, later Batchelor Institute of Indigenous Tertiary Education (BIITE). The main Bachelor College campus was located about 100 km south of Darwin in the township of Batchelor. There were also smaller campuses in Alice Springs, Tennant Creek, Katherine as well as a series of learning annexe buildings located in remote communities across the NT. Under this model "the number of teachers studying at Batchelor College continued to increase" (National Report on Schooling, 1996, p. 198). While many of the teachers who completed their teacher training through the RATE program are still working in NT Department of Education Schools today, the RATE program itself ceased delivery in the late 1990s (Bat, 2011).

Similar models were established in South Australia, with the Anangu Teacher Education Program (AnTEP), and in Queensland, with the Remote Area Teacher Education Program (RATEP). These regions faced the same challenges as the NT when it came to tertiary education, namely geographic isolation, Indigenous language speaking students, cultural and familial obligations and responsibilities, and the need for culturally relevant and contextualised course content. Unlike the RATE model, both AnTep and RATEP continue to the present day. By the end of 2006 AnTEP had a total of 75 graduates from Stage 1 of the course, 35 graduates from Stage 2 and 20 graduates from the final Stage 3 of the course (Osborne & Underwood, 2010). RATEP has also graduated significant numbers of Indigenous teachers. Since the commencement of RATEP in 1990, 151 James Cook University teacher graduates have completed a Bachelor of Education degree via this delivery mode (McGarvie, 1991; Northern Indigenous Schooling Unit, n.d.). The success of the program is attributed to the significant buy in at a number of levels, from the individual students to local communities, to the university and education department sectors. This has made the program more sustainable, although still vulnerable to the reforms and changes occurring within the university and education sectors.

As graduates emerged from these flexible delivery models they faced a number of challenges but also opportunities. Successful completion of teacher education brought with it a reminder of their community's hopes and expectations as to what they could achieve in their own schools (Lanhupuy, 2002). Additionally, the programs themselves came under a great deal of scrutiny and often criticism for things such as the longer time frame that was required for people to complete the course, proficiency in English and their ability to take on all of the roles expected of a classroom teacher by the non-Indigenous run education departments (Adelaide College of the Arts and Education Aboriginal Studies and Teacher Education Centre, 1981; Buckley, 1996; Harris, Odling-Smee & Graham, 1985; Kemmis, 1988; Loos, 1986). These latter questions were being raised only by non-Indigenous researchers and authors. However, in the mid to late 1990s and early 2000s Indigenous teachers

started articulating their experiences of their own learning journeys and their roles as teachers in schools. It was during this time that the *Both Ways* philosophy emerged primarily from the Yirrkala community in Arnhem Land, and then from other remote communities in the NT. This philosophy then became embedded in the values and policies of BIITE as well as in the evaluation of school-based and tertiary education programs. An eloquent example of this is Dr Raymattja Marika's article *Milthun Latju Wana Romgu Yolngu: Valuing Yolngu Knowledge in the Education System*. She says:

> Education means more than just having print literacy in two languages – it means having strong emphasis on Yolngu knowledge as well. In doing this we are trying to get away from the *Three Little Pigs in Gumatj* idea and bring proper cultural knowledge into the school. (Marika, 1999, p. 112)

The books *Aboriginal Pedagogy: Aboriginal Teachers Speak Out* (Bunbury, Hastings, Henry & McTaggart, 1991), and *Strong Voices* (Blitner & Batchelor Institute of Indigenous Tertiary Education, 2000) are examples of publications that brought together groups of teacher education graduates from remote communities to share their views and reflections on Indigenous education and pedagogy. The emergence of fully trained Indigenous teachers was, in this way, supporting the articulation of remote Indigenous ideas about education and schooling and how it happens best for remote Indigenous students.

CONTEMPORARY REMOTE INDIGENOUS TEACHER EDUCATION – NAVIGATING NEW LANDSCAPES

By the first decade of the new century a noticeable shift was taking place. Using the NT as an example Bat (2011) notes that at BIITE while the enrolments were still high, completions were dropping and there was a shift to enrolments coming from interstate instead of from NT community-based programs. Bat (2011) attributes these trends to a number of factors, including a shift away from community-based delivery towards campus-based delivery due to a lack of funding and the difficulty in recruiting staff. A more regulated higher education system at the time forced courses to develop standardised assessment measures such as the Graduate Attributes (Bat, 2011) and adhere to National Standards and Guidelines for Initial Teacher Education (Dyson, 2005). The aim was the increased professionalism of teaching (Aspland, 2006; Dyson, 2005), however this shift also constricted the flexibility and contextual applicability of the teacher education courses designed for working with remote Indigenous teacher education students. The changes have meant a drop in enrolments and completions of these programs (Bat, 2011). More recently university and government systems in the NT have developed fast track programs such as the Remote Indigenous Teacher Education (RITE) program and the Growing Our Own (GOO) and the More Indigenous Teachers (MIT) initiative as ways of trying to stimulate the number of Indigenous teachers being trained. Remote area teacher

education programs in other states such as RATEP program in Queensland (Bethel, 2006) and the AnTEP program in South Australia (Osborne & Underwood, 2010) continue to offer Indigenous teacher education students the option of studying in flexible ways from their home communities, however they are increasingly under threat from the push for courses to be delivered online.

More recent collaborative initiatives at the national level, such as the More Aboriginal and Torres Strait Islander Teacher Initiative (MATSITI), have successfully drawn attention to the recent decline in numbers of successful Indigenous teacher education graduates and the critical national importance of having more trained Indigenous teachers. However, how such initiatives will deal with the rapidly centralising and homogenising forces in higher education at both the state and national level remains to be seen. Scott and Dixon (2008) give a comprehensive overview of the major challenges facing higher education in the post-industrial era. These include the increasing use of technology both in the world of work and as a tool for learning, the increasing pressure from industry and the corporate world for the academy to align to their needs, decreasing government funding for post-schooling education, but also, more positively, renewed emphasis on quality teaching and learning and on meeting student outcomes with more transparency. In order to meet this changing landscape and ensure quality in teacher education a series of national graduate standards have been developed and teacher education programs are now being reaccredited based on their ability to produce teachers who meet these "transparent and rigorous standards" (Australian Institute of Teaching and School Leadership, 2011, p. 3). One of the mechanisms of ensuring quality teacher education programs that meet these national standards has been to focus on the literacy and numeracy abilities of teacher education candidates. In particular program entrants in pre-service teacher education courses will be required to have levels of personal (English) literacy and numeracy in the top 30% of the population (Australian Institute of Teaching and School Leadership, 2013). The emphasis here is on the teacher education candidate's capacity to operate in Standard Australian English and standard numeracy as compared to the rest of the Australian population. There are no such requirements around the contextual aspects of teaching, such as having cultural knowledge and language capacity in the first language of the students they are going to teach, which is particularly important when teaching students from remote Indigenous communities.

Universities and tertiary education providers are also increasingly faced with questions and challenges as to how to adapt their practices to include online learning. Some alarmists are suggesting online learning will spell the end of face-to-face learning, or that universities must demonstrate how they are integrating online learning spaces into their work or face becoming obsolete (Downes, 1998). Other academics are wary of rapid change on the basis that important principles of academic learning are at risk and that faculty may be replaced with cheaper online forms of courses (Kolowich, 2013). However, access to technology remains a challenge for learners in regional and remote locations and any shift to distance

learning models requires students in remote locations to have increased access and support, which is very often not available at a satisfactory level. This cuts students off from knowing about and accessing important university services (Department of Industry, Innovation, Science, Research and Tertiary Education, 2012). So while we should acknowledge the opportunities for flexible and more accessible delivery of higher education that technology brings, it is also important to acknowledge the risks associated with a sudden shift to this new form of learning, especially the risk it holds for students who are more vulnerable because they sit outside the mainstream of educational systems and live in remote locations.

These moves towards nationalised, standardised, and increasingly online learning pose both opportunities and risks for specialised, tailored and flexible courses developed for remote Indigenous teacher education. The pathway into teacher education has often proven a difficult one for remote, Indigenous language speaking adults to pursue. Those who have succeeded have often done so in spite of the system rather than supported by it. In an atmosphere of nationalised, homogenised ideas about what constitutes quality in teaching and teacher education, it is important to consider the impact of such ideas for cohorts of teacher education students who sit outside the mainstream idea of quality teaching.

Forces such as the push towards increased online learning, and structural changes such as the development of National accreditation processes, will always have a more pronounced impact on the programs that cater for learners who are not part of the mainstream. A large part of the success of past teacher education programs catering for teacher education students from remote communities has revolved around fundamental cultural values such as face-to-face learning, relationship and trust building, group work, students training in specific cohorts within their community or geographical region, the involvement of elders, catering for specific language needs, as well as flexible modes of delivery, contextualised programs and a *both-ways of knowing* philosophy (Bat, 2011; Bethel, 2006; Osborne & Underwood, 2010). The question now is how do we create new models of teacher education that cater for remote Indigenous learners? The answer to this question needs to hold onto and continue aspects of past successful programs while also embracing the opportunities offered by new technologies and learning styles linked to this contemporary educational landscape (Lundhal, 2012) with its focus on streamlining, homogenising and nationalising.

THE ITUP MODEL

Between 2008 and 2010 a project in the NT attempted to reinvigorate the community-based model of teacher education through a renewed partnership between the NT Department of Education and Training (NT DET) and BIITE. This partnership enabled a value-added model of teacher education to meet the specific training needs of a group of remote Indigenous teachers working in NT DET schools. These teachers, who had previously achieved a three-year teaching qualification, and were registered

to teach in their home communities, had been left behind when the goalposts of teacher qualification and registration shifted. In the discussion of the late 1990s and early 2000s around teacher professionalism, national standards and accreditation (Aspland, 2006; Dyson, 2005) there was a parallel shift requiring teachers to have a "four-year or longer full-time equivalent higher education qualification" (Australian Institute of Teaching and School Leadership, 2011, p. 12). A cohort of over forty teachers affected by this new regulation were identified and supported to upgrade to a four year qualification by receiving onsite course delivery and academic English support. This program was called the Indigenous Teacher Upgrade Program (ITUP) (Northern Territory Government, 2011).

Introduction, History and Context of the ITUP Program

The Indigenous Teacher Upgrade Program (ITUP) was initiated in 2008 as a result of Federal NT Emergency Response funding (Yu, Duncan & Gray, 2008). Funds were available to support teacher development with the aim of improving literacy outcomes for Indigenous students across the NT. Due to the short term nature of the funding the focus was to be on short-term teacher development projects with achievable outcomes. Originally up to 40 three-year trained Indigenous teachers from across the Territory were identified as potential candidates for the upgrade program. The plan was to enrol them in a fourth year of study over two years, part time, bringing their teaching qualifications up to the four-year Bachelor of Education level. Originally, the course was intended to be delivered and supported by eight Department of Education and Training Teacher Lecturers in consultation with BIITE lecturers who would adapt the course material to suit the necessary flexible delivery model for community-based delivery. However, policy requirements for 2008 resulted in a large proportion of the funds being handed over to BIITE to pay for lecturers, course fees, travel and other associated expenses for the following two years. The Department based Teacher Lecturer positions were reduced from eight to two, and ITUP was developed only in the regions with the highest number of candidates—Central Australia and Arnhem. Funding limitations required students be employed as teachers in Northern Territory Department of Education schools. Initially, 25 Indigenous teachers enrolled in the program. Additionally, included in the Central Australian cohort was a teacher who at the time the program started was not employed by the Department but wanted to complete the upgrade. In addition to a scholarship that was being offered at the time enabling her to study full time over a period of 12-18 months this teacher, being familiar with all of the other teachers in her cohort, was included in the ITUP delivery model and received support from the Central Australian-based lecturing staff. These teachers had all been teaching in their respective schools as three-year trained teachers, some for over a decade. The communities they came from represented some of the most geographically isolated and culturally diverse places in Australia. Up to 14 participants in the Arnhem cohort came from eight separate communities located on both the mainland and islands

around the Arnhem region in the northeast tip of the NT. These communities are primarily accessible via small charter flights out of Darwin. In Central Australia, up to 11 participants came from seven separate communities located in the semi-arid desert around Alice Springs. These communities were accessed by four-wheel drive, predominantly on unsealed roads. The Central Australia communities were located at a distance of between one and a half to five and a half hours drive from Alice Springs.

Implementation and Delivery

The ITUP program primarily used a "reverse block release" model (Department of Industry, Innovation, Science, Research and Tertiary Education, 2012, p. 80) to fund lecturer travel out to communities. The enrolment spread meant that in Central Australia the Teacher Lecturer travelled by car out to six communities to support up to eleven students while an Arnhem Teacher Lecturer based in Darwin travelled by air to eight communities to support up to 14 students. Additionally, BIITE employed the equivalent of two lecturers dedicated specifically to the ITUP program, who did some travelling but were primarily tasked with course provision and assessment. Where possible, Indigenous Tutorial Assistants Scheme (ITAS) Tutors were identified to support ITUP students on a day-to-day basis and provide guidance between lecturer visits. Initially, there was an attempt to delineate the roles of Department and BIITE personnel. The main difference identified was between course delivery and study support. Batchelor lecturers were to be in charge of course delivery with Department Teacher Lecturers supporting work on the ground. The Teacher Lecturers were selected based on their skills in English as a Second or Additional Language (ESL/EAL) in recognition of the fact that studying at a fourth-year level would be more difficult for students because of their language background. Ultimately, this separation of roles became difficult to manage. Roles became interchangeable but understanding and cooperation between personnel was not always guaranteed. At times difficulties also arose because visits from personnel from two different organisations were not always easy to negotiate with school principals. These challenges, while present in both delivery regions, were easier to overcome in some locations than others, but over time with the right personnel in place, the working partnership became very fruitful. Partnership agreements were also negotiated with the individual schools where the teachers were working. School principals signed memorandums of understanding at the beginning of the program, which allocated funding for release time to ensure the schools were able to backfill the time dedicated to study for the participating teachers.

Conditions for Success

ITUP staff from both BIITE and the Education Department met together as a team at numerous points throughout the project, despite the geographical distance between

their working contexts. In April 2010 a strong focus was placed on considering and discussing the students' progress, difficulties and challenges. In particular the team focused on the enrolments and comparative predicted completions. This focus was based on units completed to date and a *reasonable* expectation of completion. It was during this meeting that a number of criteria, termed *conditions for success,* were developed. The criteria were based on an anecdotal discussion of the case management of each student and site and the analysis of themes that appeared to be emerging across the cohort. Each student's progress was then evaluated in the light of whether these conditions were in place or not. The results are contained in Table 1.

The results of this analysis indicated a number of key findings about what made a difference to academic success for remote Indigenous teacher education students.

Concurrent conditions. Those who were judged likely to complete their full upgrade by the end of 2010 (i.e. within the allotted two-year timeframe) had four or more conditions for success in place throughout the program. On average those who had three or fewer conditions for success in place were not able to complete as many units within the allotted two-year time frame and required additional time and support for completion. Students 17, 18, 20 and 21 (Table 1) are clear examples of this. One of the participants in the Arnhem cohort also had five conditions for success in place by the end of the study period, but as some of these were not in place from the beginning, this teacher had to enrol in fewer subjects, which slowed progress.

Time required. Most teachers were able to successfully manage studying one unit per semester while working full time. This happened much more effectively if the teachers were allocated dedicated study release time as part of their teaching load. Those teachers who had a period of study leave during the two years of the program were able to take on more units of study during that time and this made a significant difference to their ability to complete the upgrade within the two years. Student 5 was an exception to this trend in that she had all seven conditions in place but did not complete by the end of 2010. This was due to personal bereavement during her study leave year. This teacher did, however, complete all required units by the middle of 2011 and was able to graduate with her cohort.

Supportive environment. A number of the conditions related to the support the teachers needed around them in order to be successful. In particular, the ability of the Department and BIITE to work together to provide the course and academic support, made a notable difference. In the places where this remained stable across the two years the results were better. The schools where the principal and other staff were supportive of the Indigenous teachers also made a significant difference and the successful completion became a shared celebration for the whole school community. The ongoing day-to-day support of a tutor also made a difference as the teachers had someone they could turn to at their point of need.

Table 1. ITUP - Conditions for Success (A-G)

Name	*Location*	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*Yes(/7)*
Student 1	CA	Y	Y	Y	Y	Y	Y/N	N	5.5
Student 2	CA	Y	Y	N	N	N	N	Y	3
Student 3	CA	Y	Y	N	N	N	N	Y	3
Student 4	CA	Y	Y	Y	Y	Y	Y	Y	7
Student 5	CA	Y	Y	Y	Y	Y	Y	Y	7
Student 6	CA	Y	Y	Y	N	Y	Y	Y	6
Student 7	CA	Y	Y	Y	Y	Y/N	Y/N	Y	6
Student 8	CA	Y	Y	Y	Y	Y	Y/N	Y	6.5
Student 9	CA	Y	Y/N	Y/N	N	Y	N	N	3
Student 10	CA	Y	Y/N	Y	Y	Y	Y/N	Y	6
Student 11	Arnhem	N	Y	Y	N	Y		Y	4
Student 12	Arnhem	N	Y	Y/N	N	Y		Y	3.5
Student 13	Arnhem	N	Y	Y/N	N	Y		Y	3.5
Student 14	Arnhem	N	Y	Y/N	Y	Y		Y	4.5
Student 15	Arnhem	Y	N	Y	N	Y	Y	Y	5
Student 15	Arnhem	Y	N	Y	N	Y	Y	Y	5
Student 16	Arnhem	Y	N	Y	N	Y	Y	Y	5
Student 17	Arnhem	N	N	N	Y	N	N	N	1
Student 18	Arnhem	N	N	N	Y	N	N	N	1
Student 19	Arnhem	N	Y	N	Y	Y	Y	Y	4
Student 20	Arnhem	N	N/Y	N	Y	N	N	Y/N	2
Student 21	Arnhem	N	N	N	N	N	N	N	0

Key for Table 1: Conditions for Success (A-G)
A. Consistent & coordinated support from BIITE and DET
B. Supportive DET school/Principal
C. Dedicated study release time
D. Study leave period
E. Access to technology including lap top roll out
F. Dedicated study space
G. On site ITAS/ITUP tutor

(Hall, Murphy, Poulsen, & Coombe, 2010)

Structural supports. The other category of support that made a difference to success was structural in nature. These were things like having a dedicated study space and having access to technology such as a portable computer and the internet. The

teachers were also provided with Flip cameras that enabled them to compile a great deal of evidence for their portfolio and other assessment tasks using video footage they captured. This proved to be a very successful strategy for Indigenous language speaking students who were often more comfortable producing oral language either before or instead of written language. In the sites where these elements were in place the program participants were far more successful than in places where they were not.

Individual supports. Lastly, some students had additional conditions for success that applied purely to them as individuals and supported their success. These included personal literacy levels, having English as a first language, holding a higher position within the school, dedicated office space and strong team teaching support. This additional support assisted these teachers to complete the required units faster than others.

Having four or more conditions in place per student across the entirety of the program seemed to represent the tipping point for success. While there was no strict recipe for which of the seven these four needed to be, there is a case to be made that successful students needed a combination of temporal, supportive and structural conditions in place.

Challenges

Overall, the program was very successful, however, there were a number of challenges and difficulties along the way, particularly in terms of the course itself. While the NT and BIITE in particular have a strong history of remote community-based delivery of teacher education, the existing course content at the time ITUP was being developed was designed for campus-based block release teaching. This meant that considerable work needed to be done to bring the course into readiness for a different cohort and delivery model in quite a tight time frame. The need to take into account ESL and literacy needs when preparing materials was particularly crucial. This was challenging for all involved and was not completed before the program itself needed to commence.

A large part of the challenge lay in effectively developing a model for in-service remote Indigenous teachers. These teachers were not neophytes. They had been working in schools for many years, some in various roles for over thirty years. They brought with them a raft of experiences and knowledge through which they were able to interpret the theory-based units. The challenge, then, became how to deliver the theory in a way that capitalised on this first-hand knowledge and experience and to enable this different starting point to influence the way that the participants met the assessment criteria.

More than once meeting the unique needs of this group of students was hampered by a lack of flexibility and nimbleness in both the school and university systems. A good example of this was the ineffective and problematic enrolment processes which expected units to be completed and assessed within a semester time frame and struggled when the idea of a portfolio task that lasted the entire two years of the program was introduced. The initial timeline for setting up the program was very

short, largely due to the short-term nature of the program funding. This resulted in insufficient communication between key stakeholders, including some school principals and BIITE Unit co-ordinators, who sat outside the program itself but from whom buy in was still needed for the program to be successful.

Finding tutors was an effective strategy when it worked but finding the right people to fill this role was difficult, particularly in the smaller, more remote places. It was also challenging to reintroduce the participants to the world of study. Many of them had had a long break since their last study activity. Encouraging students to be independent learners when lecturers were not regularly present was a vital part of this process. The program also became a focal point for changing and growing the way participants thought about themselves as teachers, as well as changing and growing the way other staff thought about and regarded Indigenous teachers.

Results of the ITUP Program

While the program started with twenty-five participants the numbers fluctuated from semester to semester. The participants had to navigate a complex set of factors in determining whether they could continue to juggle work, study and life obligations. In 2010, for example, the program participant number had gone down to twenty-one participants and then at other times the number went up again. In its original community-based form, delivery of the ITUP program was funded for a period of two years. However, not all participants completed the required units during this time frame. These participants were offered the opportunity to finish their remaining units but they had to do this via BIITE's regular block release workshop delivery model. Participants had to then negotiate time away from their teaching jobs in order to complete these final units. For this reason the graduation statistics are stretched out over a number of years.

As of the beginning of 2013 the results of the ITUP program are as follows:

Table 2. Graduation numbers from the ITUP program

ITUP participant status end 2013	*Frequency*
Graduated	15
Currently enrolled	3
Withdrew 2009	4
Withdrew 2010	3

These numbers reflect a 60% completion/graduation rate for ITUP participants. In addition to this, three students are currently enrolled and have indicated a desire to complete their upgrade. Assuming these three students do complete there will be a graduation rate of 72%, and hence the attrition rate over the course of the program would have been 28%, which is the lower than has been reported for non-Indigenous students at universities in Australia (Radloff & Coates, 2010).

Analysis of the Overall Success of the ITUP Model

According to the Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People Factsheet on Aboriginal and Torres Strait Islander success:

> In 2010, 40.8% of Aboriginal and Torres Strait Islander students who commenced a bachelor course in 2005 had completed their course, compared to 68.6% of non-Indigenous students. (Department of Industry, Innovation, Science, Research and Tertiary Education, 2012, p. 8)

These Australia-wide figures certainly suggest that the ITUP was a highly successful model for Indigenous Higher Education in general, let alone a form of remote delivery. The completion rate of 60% that the ITUP program achieved is much closer to the comparative non-Indigenous completion rates. It adds weight to the argument that teacher education can be effectively delivered for remote Indigenous students in flexible and culturally appropriate ways without them having to leave their home communities. It seems the ITUP program was able to achieve this success without compromising on important aspects of Indigenous higher education. Some of these are contained in the *Review of Higher Education Access and Outcomes for Aboriginal and Torres Strait Islander People* report (Department of Industry, Innovation, Science, Research and Tertiary Education, 2012). The report authors identified a number of critical factors for higher education for Indigenous students, especially those from remote locations. Some of these include a higher level of lecturer/tutor communication and commitment in order for students to complete their assignments to the best of their ability, collaboration between institutions, pastoral support, quality mixed mode learning, relevance to community needs, access to technology and the creation of learning support networks. There is a strong correlation between the factors mentioned in the Department of Industry, Innovation, Science, Research and Tertiary Education report (2012) and the *Conditions for Success* identified by the ITUP team.

Of note the ITUP program was very good at attending to the following factors:

i. Using a case management approach where the lecturing staff developed a one-to-one relationship with the students throughout their studies and took a holistic approach to the place of their study within the broader family and community obligations.
ii. Employing staff who possessed high levels of cross-cultural competency and skills in academic literacy support. A key aspect of this was ensuring that the staffing stayed consistent throughout the program for the sake of the learning and trust relationships.
iii. Adopting flexible delivery modes largely focused on the lecturer going to the students in their home communities. There were some workshops, but these were negotiated to be run at times that took into consideration both family life and work commitments.

iv. An emphasis on up-skilling the participants in information and communication technologies including use of computers, email, digital cameras for the collection of evidence and some video conferencing.
v. Financial and personal needs being supported through negotiation of release time to support study during work time and the payment of HECS fees by the program, rather than the individual students.

This goes to show that the critical factors identified by the recent review can have successful outcomes when put into practice in flexible programs enacted in remote communities.

CONCLUSION

The approach to Indigenous teacher education illustrated in the ITUP model was innovative and contextually responsive. It built on what has been best and most successful with remote onsite teacher education programs in the past, as well as making use of new and emerging approaches such as the integration of new technologies. Of particular note is the development of temporal, supportive and structural elements that, when used in combination, seem to create a fertile ground in which remote community-based delivery models can be effective. While it happened only for a short period of time, the results generated by the program were demonstrably successful. The learning from this model should be considered in any future development of delivery modes for teacher education programs that serve remote students in Australia.

NOTE

[1] Australia's Indigenous peoples both historically and in the present have also been called Aboriginal peoples.

REFERENCES

Adelaide College of the Arts and Education. Aboriginal Studies and Teacher Education Centre. (1981). *The Anangu Teacher Education Program, ANTEP: A report for information and discussion/ Aboriginal Studies and Teacher Education Centre*. The Centre, Underdale, SA.

Allen, H. (1979). Graduation address: Aboriginal teacher assistants-University of Sydney. (1978). *Aboriginal Child at School*, *7*(1), 30–31.

Arbon, V. (1998). Presence and dialogue: The need for balance in remote tertiary education, *Ngoonjook*, *14,* 16–30.

Aspland, T. (2006). Changing patterns of teacher education in Australia. *Education Research and Perspectives, 33*(2), 140–163.

Australian Bureau of Statisitics (1979). *Year book Australia, No. 63, 1979, Chapter 6 Demography.* Retrieved from http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1301.01979?OpenDocument

Australian Bureau of Statistics. (2009). *National Aboriginal and Torres Strait Islander Survey, 2008,* Retrieved from http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/4714.0Main%20Features52008?opendocument&tabname=Summary&prodno=4714.0&issue=2008&num=&view=

Australian Institute of Teaching and School Leadership. (2011). *AITSL accreditation of initial teacher education programs in Australia standards and procedures* 2011. Retrieved from http://www.

teacherstandards.aitsl.edu.au/static/docs/7%20Accred%20Init%20Teacher%20Ed%20Cover%20Conv%20Aust.pdf

Australian Institute of Teaching and School Leadership. (2013). *AITSL accreditation of initial teacher education programs in Australia - Standard 3: Program entrants year 12 study score results as proxy indicators of personal literacy and numeracy*, July 2013. Retrieved from http://www.aitsl.edu.au/verve/_resources/AITSL_Initial_Teacher_Education_Standard_3_Year_12_study_scores.pdf

Bat, M. (2011). *Learning from the journeys: Quality in Indigenous teacher education in Australia* (Doctoral dissertation). Darwin, Northern Territory. Retrieved from http://espace.cdu.edu.au/view/cdu:13184

Batten, M., Frigo, T., Hughes, P., & McNamara, N. (1998). *Enhancing English literacy skills in Aboriginal and Torres Strait Islander students: A review of the literature and case studies in primary schools*. Melbourne: Australian Council for Educational Research.

Bethel, B. (2006). Critical approaches to inclusion in Indigenous teacher education in Queensland: the case of RATEP, *International Journal of Pedagogies and Learning*, *2*(3), 30–41. doi: 10.5172/ijpl.2.3.30

Blitner, S., & Batchelor Institute of Indigenous Tertiary Education (N.T.). (2000). *Strong voices,* Batchelor. N.T.: Batchelor Institute of Indigenous Tertiary Education.

Bourke, C., Rigby, K., & Burden, J. (2000). *Better practice in school attendance – Improving the school attendance of Indigenous students*, Monash University, Commonwealth Department of Education Training and Youth Affairs, July 2000. Retrieved from http://www.dest.gov.au/archive/schools/publications/2000/Attend_Synth.pdf

Buckley, P. (1996). Controversial and difficult issues in Aboriginal teacher education-Some western educators' views of Aboriginal Teacher Training, *The Australian Journal of Indigenous Education*, *24*(1), 26–33.

Budby, J., & Young, F. (1976). Aboriginal and Islander aides in secondary schools, *Aboriginal Child at School*, *4*(4), 25–31.

Bunbury, R., Hastings, W., Henry, J., & McTaggart, R. (1991). *Aboriginal pedagogy: Aboriginal teachers speak out.* Geelong, Vic: Deakin University Press.

Cameron, C. (1973). Aboriginal teacher aides: Benefits and utilization, *Aboriginal Child at School*, *1*(2), 30–33.

Christie, M. (1985). *Aboriginal perspectives on experience and learning: The role of language in Aboriginal schools*. Geelong, Vic: Deakin University Press.

Department of Industry, Innovation, Science, Research and Tertiary Education. (2012). *Review of higher education access and outcomes for Aboriginal and Torres Strait Islander people: Final report.* Retrieved from www.innovation.gov.au/IHER

Downes, S. (1998). The future of online learning. *Online Journal of Distance Learning Administration*, *1*(3). Retrieved from http://www.westga.edu/~distance/ojdla/fall13/downes13.pdf

Dyer, W. (1973.) Aboriginal adults as classroom assistants. *Aboriginal Child at School*, *1*(1), 26–31.

Dyson, M. (2005). Australian teacher education: Although reviewed to the eyeball is there evidence of significant change and where to now? *Australian Journal of Teacher Education, 30*(1), 37–54. doi:10.14221/ajte.2005v30n1.4

Hall, L., Murphy, J.A., Poulsen, A., & Coombe, C. (2010). *Developing school based teacher education pathways for remote Indigenous teachers in the NT*. Paper presented at the Australian Teacher Educators Conference, Townsville. Retrieved from
http://www.atea.edu.au/index.php?option=com_jdownloads&Itemid=132&view=viewdownload&catid=64&cid=635

Harris, S., Odling-Smee, D., & Graham, B. (1985). Aboriginal teachers and bicultural schooling. *Aboriginal Child at School*, *13*(3), 24–33.

Hickling-Hudson, A., & Ahlquist, R. (2003). Contesting the curriculum in the schooling of Indigenous children in Australia and the United States: From Eurocentrism to culturally powerful pedagogies. *Comparative Education Review. 47*(1), 64–89.

Ingram, J.G. (2004). *Seeking quality and relevance in education: Themes in the development of Batchelor College in the Northern Territory of Australia*, Batchelor Press, Batchelor.

Kemmis, S. (1988). *A study of the Batchelor college remote area teacher education program, 1976–1988: Final report.* Deakin Institute for Studies in Education. Waurn Ponds.
Kolowich, S. (2013). Faculty backlash grows against online partnerships. *The Chronicle of Higher Education – Technology,* May 6 2013. Retrieved from http://eric.ed.gov/?id=EJ1003963
Lanhupuy, W. (2002). Address to the D-BATE graduation, 1987. *Ngoonjook, 22*, 41–43.
Loos, N. (1986). Townsville's Aboriginal and Islander teacher education program, *Aboriginal Child at School*, *14*(3), 46–56.
Lundhal, L. (2012). Educational theory in an era of knowledge capitalism. *Studies in Philosophical Education*, *31*, 215–226. doi:10.1007/s11217-012-9304-9
Marika, R. (1999). Milthun Latju Wana Romgu Yolngu: Valuing Yolngu knowledge in the education system. *Ngoonjook*, *16*, 107–120.
McClay, D. J., & Bucknall, J. R. (1973). Community involvement in Aboriginal schools, *Aboriginal Child at School*, *1*(3), 37–43.
McGarvie, N. (1991). A preliminary report on the establishment of the Remote Area Teacher Education Program (RATEP) at Aboriginal and Torres Strait Islander sites in North Queensland, *Aboriginal Child at School*, *19* (1), 27–31.
McTaggart, R. (1987). Pedagogical principles for Aboriginal teacher education. *Aboriginal Child at School*, *15*(4), 21–33.
Metcalfe, C. (1983). The training of Aboriginal people as teachers in traditional communities linked with a career structure for Aboriginal teachers, *Aboriginal Child at School*, *11*(5), 17–23.
More, A. J. (1978). Report: A solid link in the chain-the Aboriginal teaching assistants' training programme - an evaluation, *Aboriginal Child at School*, *6*(3), 3–31.
National Report on Schooling in Australia. (1996). *Northern Territory.* Retrieved from http://www.curriculum.edu.au/verve/_resources/nt_file.pdf
Northern Territory Government. (2011). *DET annual report 2009–10.* Retrieved from http://www.education.nt.gov.au/about-us/publications/annual-report-200910
Osborne, M. (1982). Remote area Aboriginal assistant teacher and teacher education. *International Journal of Educational Development*, *2*(1), 86–87.
Osborne, S., & Underwood, B. (2010). *AnTEP review (Anangu conversations)*. University of South Australia, Adelaide SA.
Radloff, A., & Coates, H. (2010). *Doing more for learning: Enhancing engagement and outcomes. Australasian Student Engagement Report*. Camberwell: ACER. Retrieved from http://research.acer.edu.au/cgi/viewcontent.cgi?article=1011&context=ausse
Northern Indigenous Schooling Unit. (n.d.). *RATEP – History of RATEP.* Retrieved from http://www.learningplace.com.au/deliver/print.asp?pid=39520
Scott, S., & Dixon, K. (2008). The globalised university: Trends and challenges in teaching and learning. Perth, W.A.: Black Swan Press.
Tandy, J.L. (1973). Australian Government initiatives in Aboriginal education, *Aboriginal Child at School*, *1*(2), 17–22.
Valadian, M., & Randall, A. (1980). Aboriginal and Islander teacher aide in-service program-Report on the QAITAD Project 1977–78, *Aboriginal Child at School*, *8*(2), 22–35.
Woods, D. (1994). Discussion paper on Aboriginal and Torres Strait Islander education. *Curriculum Perspectives*, *14*(4), 26–35.
Yu, P., Duncan, M. E., & Gray, B. (2008). *Report of the NTER review board – October 2008*, Commonwealth of Australia. Retrieved from http://www.nterreview.gov.au/docs/report_nter_review/docs/Report_NTER_Review_October08.pdf

AFFILIATION

Lisa Hall
Batchelor Institute of Indigenous Tertiary Education

SECTION TWO

PRACTICES FOR PROMOTING SUCCESSFUL TEACHER EDUCATION

JOSEPHINE RYAN & MELLITA JONES

6. COMMUNICATION IN THE PRACTICUM: FOSTERING RELATIONSHIPS BETWEEN UNIVERSITIES AND SCHOOLS

INTRODUCTION

In the contemporary teacher education world many commentators see close relationships between schools and universities as critical to quality teacher education (House of Representatives, 2007; Parliament of Victoria, 2005; Zeichner, 2010). Schools and universities must work together, it is argued, because they must support the crucial site of professional learning, the practicum. The practicum, known by a range of other terms including professional experience, field experience, teaching placement, teaching round and internship, is the period of time that teacher education students, or pre-service teachers, develop their planning and teaching capabilities within the school context. It has been seen as a fundamental aspect of a teacher's preparation (Grundy, 2007; Peters, 2011; Zeichner, 2002) where educational theory and practice can be linked (Darling-Hammond, 2006). Teacher education programs have often been criticised for failing to assist pre-service teachers to see the links between the university and the school-based aspects of their courses (House of Representatives, 2007; Parliament of Victoria, 2005). Lecturers at universities and supervising teachers in schools often have a distinct lack of knowledge and understanding of one another's programs, underlying philosophies and principles (Darling-Hammond, 2006; Ure, 2009; Zeichner, 2002). The disconnect requires the pre-service teachers to try to make sense of the theory they experience at university and the experience they have in the classroom with little support from someone who understands what is occurring in each of these environments.

Effective relationships between schools and universities are needed to bridge this gap and ensure that the practicum is a supportive and successful learning experience for pre-service teachers. The project considered in this chapter was an initiative of researchers from two universities who collaborated to improve the practicum experience for pre-service teachers through undertaking and evaluating a range of measures to bridge the communication gap between schools and universities. It also involved an investigation of the points of view of the teacher supervisors on the practicum relationship. The chapter outlines the initiatives undertaken and explicates the findings of an investigation into a range of instruments and their value and potential to improve communication between the university and school partners in the pre-service teacher practicum. The chapter takes the view argued persuasively by Darling-

Jones & Ryan (Eds.), Successful Teacher Education, 103–120.

Hammond (2006) and others (e.g. Loughran, 2006) that teacher education is a process of learning to understand and act in the school context, a reflective process modeled for pre-service teachers by more expert practitioners, whether in the university or school context. For this process to be productive there needs to be rich communication among participants. In the context of current limited budgets the researchers aimed to find useful ways to enrich the communication.

PARTNERSHIPS TO SUPPORT PRE-SERVICE TEACHER PRACTICUM

Many have claimed that schools and universities should form a *partnership* to support the practicum; that is a mutually supportive alliance with shared aims, committed resources and effective communication (e.g. Darling-Hammond, 2005; House of Representatives, 2007; Kruger, Davies, Eckersley, Newell & Cherednichenko, 2009; Parliament of Victoria, 2005; Ure, 2009). These commentators argue that support for the pre-service teacher practicum should be part of a shared school-university enterprise which promotes the learning of all participants, the teacher supervisors and the university lecturers, as well as the future teachers. Analyses of the factors that make for strong university-school partnerships in teacher education have been frequent with a number of key findings repeated across studies as well as important differences in emphasis. One key point of difference among researchers about what constitutes a school-university practicum partnership is how elaborated and transforming for participants they see a partnership needing to be. Some argue for a high unity of purpose among the partners, reached through significant communication and negotiation. Such a partnership has been called a "collaborative partnership" (Kruger et al. 2009, p. 47)**.** Others see the partnership as a more pragmatic union in which the partners agree to work together to provide mandatory practicum experiences for pre-service teachers, what Kruger et al. describe as a "complementary partnership" (p. 47).

Among those who aim for a collaborative partnership in the practicum enterprise is Le Cornu (2012), who argues that there needs to be a commitment to viewing the members of the partnership, the pre-service teacher, the teacher supervisor and the school leadership, as a learning community; a relationship which she sees as developed though the commitment by the university to school visits and meetings, ideally maintaining stable relationships over time. The findings of a comprehensive study of 81 school-university partnerships (Kruger et al., 2009) agreed with Le Cornu that the successful partnerships do have a "focus on the learning for all stakeholders" (p. 10) and that a focus on the learning of school students is a shared goal in these strong partnerships. Kruger et al. also identify the creation of space for relationship building and conversation as indicative of a successful partnership.

Whether as part of a collaborative or complementary partnership, there are beneficial outcomes that partnerships bring to teachers including new ideas for classroom teaching and career development (Robinson & Darling-Hammond, 2005). University staff can also benefit through the opportunities that partnerships provide to keep up-to-date with school issues and curriculum (Batholemew & Sandholtz,

2009). In addition to these benefits, teacher supervisors in schools often report their enjoyment of working with pre-service teachers and feel they are contributing to the profession by engaging in pre-service teacher supervision (Peters, 2011; Ryan, Jones & Walta, 2012). In such conditions, it is argued, pre-service teachers are most likely to develop their knowledge and skills as expert professionals (Darling-Hammond, 2005).

IMPEDIMENTS TO PRACTICUM PARTNERSHIPS

For all the positive impacts identified for partnerships, it is widely argued that the reality falls well short of even a limited view of partnership (Ure, 2009; Zeichner, 2010). In Australia a succession of government reports (e.g. Ramsey, 2000; Parliament of Victoria, 2005; House of Representatives, 2007) have advocated for close university-school links to improve the way teachers are educated but have suggested that the reality falls far short of this goal. It is suggested that teachers and principals generally feel that universities no longer support the practicum sufficiently (Parliament of Victoria, 2005) and that this perceived lack of support has led to a withdrawal of school engagement in teacher education and difficulties for universities in finding quality placements for students (House of Representatives, 2007).

Analyses of the weaknesses in relationships between schools and universities in supporting the practicum have highlighted systemic failures to provide sufficient resources to support the partnerships. Teachers report a lack of incentives, financial or other, for them to work with pre-service teachers (House of Representatives, 2007). Bartholomew and Sandholtz (2009) indicate that teachers identify issues of time, rewards, funding and conflicting schedules as challenges for fostering partnerships with universities. It has also been acknowledged that faculties of education are insufficiently funded to cover school visits during practicum (House of Representatives, 2007; Parliament of Victoria, 2005) and given the increasing research and teaching demands on tenured academics, they too have few incentives to co-ordinate the practicum program thoroughly (Zeichner, 2010). This often sees university faculties employing short-term contract staff, who have little to no engagement in the course overall, to oversee practicum placement (House of Representatives, 2007; Zeichner, 2010). The absence of contact between university staff and teachers also creates a lack of on-going professional dialogue between schools and universities which deprives teachers of opportunities to discuss new educational ideas with those whose job it is to keep abreast of them (House of Representatives, 2007).

Another source of conflict can arise from the tension between the pragmatic approach that schools often take to practicum learning compared to the more theoretical emphasis universities are seeking from a field experience (Bartholemew & Sandholtz, 2009). There is evidence that some teachers go so far as to convey to pre-service teachers that nothing being learned at university is actually applicable once they are in the classroom (Peters, 2011). Teachers also, it is suggested, do

not engage themselves in the goals of the practicum as explicated in university documentation, seeing the material as overly complex and this seems "to predispose them to reject much of the written information they are given" (Ure, 2009, p. 23). These multiple differences in perspectives further undermine the sense of partnership between schools and universities and place additional pressure on the pre-service teacher to meet the expectations of both.

The situation of pre-service teachers caught between partners who may have different conceptions of teacher education and who do not communicate well with one another can be very difficult, especially in relation to assessment. Usually, it is a classroom teacher, here referred to as the teacher supervisor, who is charged with the guidance and assessment of pre-service teachers on practicum, sometimes with a single visit from a university supervisor who may or may not witness the pre-service teacher's teaching (Parliament of Victoria, 2005; Ure, 2009). Pre-service teachers can be unsure of which party to attend to and what is required to achieve satisfactory grades in their practicum (Allen, 2011; Ure, 2009). Given that it is fundamental to pre-service teachers and to the teaching profession that standards for a successful practicum are known and maintained, this lack of shared understanding and communication about assessment is disturbing (Ure, 2009). In general, governments in Australia have not provided funds for major partnership initiatives that might address the difficulties (Parliament of Victoria, 2005; House of Representatives, 2007); although Neal & Eckersley (Chapter 2) do describe one exemplary exception. The absence of significant systemic funding has left the focus of reform on more limited measures such as improved communication.

In the discussion about the path to improved communication between schools and universities there has been much debate about the importance of school visits by university staff during the practicum period (House of Representatives, 2007; Neal, 2010; Ure, 2009). Some commentators argue that visits are fundamental (Le Cornu, 2012); but it has been suggested that teachers are suspicious of the one-off visits, seeing them as tokenistic (Neal, 2010; Parliament of Victoria, 2005). Some suggest that contemporary communication practices such as email, web communication and phone calls need to be added to traditional mail-outs that presently dominate (Neal, 2010; Peters, 2011; Ryan et al., 2012). It is argued that communication also needs to be three-way: involve the pre-service teacher, teacher supervisor and lecturer (Ure, 2009; Kruger et al., 2009). This communication is especially important given the general lack of access supervising teachers have to the preparation and support they need, and to engage in what Zeichner (2010) describes as "a more active and educative conception of mentoring" (p. 90).

COMMUNICATION AS A STRATEGY FOR ENHANCING SCHOOL-UNIVERSITY PARTNERSHIP

The study reported in this chapter sought to evaluate various communication approaches during the practicum to examine their impact on the relationship between

schools and universities. As argued, there is evidence that a lack of meaningful communication is a significant feature of poor university-school relationships. The schools that hosted the practicum placements in the study were in rural and regional areas of Australia, many at a distance from the universities involved, a feature that made personal communication between universities and schools particularly challenging because school visits were expensive and time-consuming. Other communication options included written documentation, phone calls, emails and web-based contact including Skype. As well as this communication focus, in the context of suggestions that teacher supervisors are reluctant to undertake active mentoring of pre-service teachers because they are insufficiently rewarded for it (Ure, 2009; Zeichner, 2010), the study also aimed to discover more about what teacher supervisors wanted from their university partners. In the terms described above, the universities and schools in the project had "complementary partnerships" (Kruger et al., p. 47) in which the university delegated responsibility to the teachers to ensure the pre-service teachers completed their practicum successfully rather than creating more elaborated partnerships where university lecturers were significantly involved in school activities. The researchers were interested to see whether teacher supervisors, and the teacher educators, were satisfied with this relationship.

The context of the study involved the pre-service teacher education programs of two university campuses based in Australian regional (or provincial) centres: Australian Catholic University's Ballarat campus and La Trobe University's Shepparton campus. Both programs were one-year Graduate Diploma in Education courses, the former preparing secondary teachers, and the latter, middle school specialists. The study focused on the practicum aspect of the courses. Seventy-eight pre-service teachers in 64 schools participated in the study along with the teacher supervisors associated with their practicum supervision and four teacher educators. The study was funded by the Australian Learning and Teaching Council (ALTC) and had the overall aim of identifying ways of enhancing school-university partnerships in rural and regional areas.

The project had a qualitative research design and focused on teacher supervisors' sense of the relationship with the university as developed through the forms of communication in which they participated. Richards and Morse (2007) indicate that qualitative research "seeks understanding of data that are complex and can be approached only in context" (p. 47). It is concerned with describing, understanding and interpreting phenomena rather than measuring it for cause and effect (Lichtman, 2006). Denzin and Lincoln (2005) indicate "that qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret, phenomena in terms of the meanings people bring to them" (p. 3). In being interested in teacher supervisors' experience this study fits with this qualitative approach.

Data collection took place during the five-week practicum placement associated with the programs. The communication practices listed below, undertaken during the whole practicum period, were evaluated using a range of instruments. An online survey using Survey Monkey® for all teacher supervisors was the instrument and

was followed by a semi-structured interview for a random selection of 17 teacher supervisors. The survey included closed Likert-scale statements that provided aggregate data on teacher supervisors' level of satisfaction with different modes of communication as well as open questions that probed reasons for their responses. A similar survey instrument was administered with teacher educators. Teacher supervisors were also asked whether they felt there was sufficient recognition/reward for the supervision role and what they believed universities could do to provide better support. Semi-structured interviews enabled a set of guiding questions to provide a general structure for all interviews conducted, but provided the interviewer with some flexibility to vary questions as the situation demanded (Lichtman, 2006). This then enabled individual differences to be explored, making them an appropriate data collection strategy for the current study. Conducted after the survey data was reviewed, the interview also enabled researchers to follow up on any responses of interest that emerged from the survey data. The interviews were audiotaped and transcribed creating transcripts that enabled researchers to share the interpretations.

The communication practices that the research team investigated were:

1. Use of hard copy documents including a practicum guideline booklet that outlined the university requirements, and included sample lesson plan templates and report forms. This material was mailed to the co-ordinator of the practicum in the school who was expected to pass it on to the teacher supervisor. The report form to be used to assess the pre-service teacher's practicum was also enclosed in this package along with the form the school was required to use to invoice the university for the payment associated with supervision.
2. Email contact with teacher supervisors three times during the practicum: at the beginning, midway and end of the practicum period. The initial email was an introduction to the university supervisor. It referred to the written documentation that had been sent to the school and provided electronic forms of these through an attachment. In this email communication, teacher supervisors were encouraged to make contact should any concerns arise and they were invited into a secure teacher supervisor website for further support. The second email, sent approximately mid-way through the practicum, highlighted that the halfway point had been reached and referred to some of the tasks/expectations on pre-service teachers. For example "Hopefully pre-service teachers are starting to take full control of a number of classes per week by now and are successfully using a range of classroom management techniques…." Again in this email teacher supervisors were invited to contact the university about any concerns and were reminded to complete the pre-service teacher's progress report and to discuss this with the pre-service teacher. The final email occurred in the fifth and final week of the practicum reminding the teacher supervisor to complete the final report and give it to the pre-service teacher, conveyed the hope that the practicum had proceeded well, and thanked the teacher supervisor for their time and for the support they provided to the pre-service teacher and to the profession through

their involvement in supervision. As these descriptors highlight, the email communication essentially served an administrative purpose, helping to outline requirements, expectations and manage the practicum. The emails also, however, provided ready access for teacher supervisors to make contact with the relevant university staff.

3. In an effort to further support teacher supervisors, a website was established through the online platform PebblePad. This site contained all of the practicum resources (practicum guidelines, report forms), a set of suggested guidelines for working with a pre-service teacher in the school and some professional learning materials associated with effective mentoring. An interactive discussion space was also provided where teacher supervisors were encouraged to discuss their supervision experiences and respond to the guidelines and mentoring resources. The link to this website along with a secure login was provided in the first email.

In addition to the written documentation, email communications and the teacher supervisor website, a random selection of schools then received either an in-person visit, a Skype meeting, or a phone call some time into the practicum (Table 1). Each university lecturer was in charge of a group of approximately 25 pre-service teachers and each implemented the various supervision approaches. In seeking to enable comparison between the three approaches (visit, Skype or phone call) the researchers aimed to have equal numbers in each category. Table 1 shows the numbers for each form of communication used. However, as will be explained later, in some cases phone calls or Skype communication did not eventuate; hence the variation in numbers in the table.

Data analysis occurred in two parts. Descriptive statistics were applied to survey data associated with responses to Likert scales. This included aggregates of responses to demonstrate trends among teacher supervisor responses. Open responses were subject to analytical coding (Richards, 2009) where responses were categorised into emergent themes. Analytical coding was also applied to interview data. Seventy-four teacher supervisors, who supervised the 76 pre-service teachers in the study, each experienced some of the various communication approaches evaluated. Of the 74 teacher supervisors 24 completed the survey and 17 were interviewed.

Table 1. Forms of communication trialed with different supervisors

Supervisor Set	*Forms of Communication*	*Number*
A	Written Documents and Email Only	30
B	Written Documents, Email and visit	24
C	Written Documents, Email and Skype meeting	10
D	Written Documents, Email and phone call	18

In planning, the researchers used a number of approaches to maximise "trustworthiness" (Shenton, 2004, p. 63) of the data in terms of presenting the views of the teacher supervisors. Aiming for a strong response rate to the survey, completion of the survey by approximately one quarter of supervisors was a reasonable rate of return and established a set of notions that could be interrogated and expanded during interviews. Researchers did not know whether those interviewed also completed a survey.

RESULTS

The results are reported below in two sections addressing 1) the strategies used to enhance communication; and 2) teacher supervisors' responses to how well they felt they were recognised/rewarded and supported for engaging in the supervision role.

Strategies to Enhance Communication

Table 2 is based on the survey data and highlights the level of satisfaction teacher supervisors indicated they felt with regard to the different modes of communication trialed.

Table 2 demonstrates, that overall, teacher supervisors found all forms of communication quite useful as indicated by the 54 (87%) high or very high level of satisfaction they reported with the different forms of communication. This satisfaction was also reflected through the 21 (95.2%) teachers who responded that the information provided enabled ease of contact with appropriate university personnel during the practicum. However, this was not so much the case for the web-based communication where only five (23%) of the teacher supervisors responded to the invitation to access and be involved. Of these, three indicated that it benefited their ability to support the pre-service teacher, with one of these also seeing it as a form of professional learning about mentoring; and two reported that it was of no immediate benefit in terms of their own professional learning or to assist their ability to support the pre-service teacher. Some teacher supervisors indicated reasons they did not access the website indicating that they "didn't have any time to do so" and "I didn't go back after my initial visit...a prompt function …may have encouraged me to visit again" (Supervisor Survey Monkey). Among the forms of communication trialed the website was the least used by the teacher supervisors.

In responding to the open-section of the questionnaire asking what other forms of communication were used, three participants said Skype, two received a school visit, four received a telephone call, ten received emails and two indicated "Other". A number of teachers skipped this question. Some responses were provided in regard to email in particular. One teacher supervisor indicated "Emails are useful as a tool when they are direct and to the point" (Supervisor, Survey Monkey). It is uncertain whether this was indicating that the emails received actually met this standard, but it was certainly something in the minds of the researchers as the email

Table 2. Teacher supervisors' satisfaction with communication modes

Mode	*Frequency of Response*						*Total*
	Very High	*High*	*Neutral*	*Low*	*Very Low*	*No Response*	
Written Documentation	3	16	0	0	0	0	19
Email	12	9	0	0	1	0	21
Other - Skype, visit, email, phone	4	10	1	2	0	5	22
Total	19	35	1	2	1	5	62

content was being drafted. The one "very low" response to the use of emails in the survey linked to the comment that "Not everyone in schools has the opinion that emails are good, or simply ignore them making this communication often one sided and ineffectual" (Supervisor, Survey Monkey). While this can be the case, generally email is accepted as a high use form of communication in schools today. One teacher supervisor commented on the convenience of online copies of documents "The online copy of the report made it easy to complete over a longer time frame and, as appropriate, make adjustments as improvements and/or issues became evident" (Supervisor, Survey Monkey).

An example of where the bulk email approach was not effective emerged in the case of one pre-service teacher who completed their practicum slightly out of phase from the rest of the group. The teacher supervisor of this pre-service teacher commented, "There appeared to be some communication breakdown – I am unsure at which end. Contact via email from [the university] occurred approximately 3 weeks in to the pre-service teacher's practicum" (Supervisor, Survey Monkey). This highlights the need for email to be somewhat individualised so that inappropriate timing of information does not potentially damage relationships.

When teachers commented on the other forms of communication trialed in the study, it emerged that the face-to-face visits that are often espoused as being crucial for developing relationships with schools were not always necessarily valued. One teacher commented that, "I only spent a short time with the lecturer and that was during my pre-service teacher's lesson. It did not allow a decent opportunity to discuss the progress of my student teacher" (Supervisor, Survey Monkey).

Others did feel that it was only through a visit that particular details about the pre-service teacher and their teaching could be appreciated. This was reflected in the response "the university would be able to pick up nuances from what's going on and they can make a judgment about what sort of teacher they're working with so therefore you can give weight to what sort of judgments are being made" (Supervisor interview). Another commented that they were happy to have a visit but that there were alternatives, "Great to have a visit from a university supervisor - not always the case when hosting a pre-service teacher. Web conferencing may assist

to develop relationships between universities, schools and students" (Supervisor, Survey Monkey).

Skype sessions, when successful, were seen as a viable alternative to school visits. "Skype conversation was good...embracing technology...Better than telephone" (Supervisor interview). Another teacher supervisor commented "Skype was an innovation and I was really happy to use that and there's other options besides Skype in terms of Apple programs so Messenger and Facetime...those things work well" (Supervisor interview). However, one teacher who was in a remote school in the Northern Territory in the far north of Australia did indicate that Skype could be problematic saying that it quite often did not work and the phone was more reliable. This highlights the impact bandwidth and/or suitable technology may have in determining the outcome.

Most teachers who received a phone call for supervision were satisfied with this as a form of contact. One teacher did suggest that phone calls could be "too hit and miss" (Supervisor interview). But when they were organised in advance with a set meeting time and a speakerphone to allow for three-way communication, they appeared to work well. This was reflected in the statement "It wasn't a random phone call because we made a time and I told the daily supervisor...to keep me free" (Supervisor interview).

Teachers who received only email communication provided mixed responses to this form of communication. One teacher expressed satisfaction with "I could just email straight back to raise any concerns" (Supervisor interview), but there were also comments that expressed disappointment with email only contact: "A phone call half-way through would have been nice, just to say are they going OK. The emails tend to suggest if you're having problems, contact us, which we weren't so therefore I didn't worry about it" (Supervisor interview). Also some lecturers, hoping to establish a partnership with supervisors to assist pre-service teacher learning, found it limiting, with one lecturer stating in their reflections: "I don't think it is an effective way to talk about the pre-service teachers' progress or performance in the classroom."

When asked about the use of ICT generally, a large proportion of teacher supervisors supported the potential of ICT as a mode of communication and collaboration between schools and universities. This was reflected in the 17 (81%) teachers who agreed and 4 (19%) teachers who strongly agreed to the potential of ICT for collaboration and the 17 (81%) and 3 (14.3%) respectively who agreed or strongly agreed that it had the potential to support pre-service teacher learning. One teacher (4.8%) was undecided.

Overall, it was difficult to distinguish the more and less effective forms of communication with teachers. Most teachers seemed quite accepting of the form of communication trialed, although there was less support for email only contact compared to when an additional form of communication was provided through a pre-arranged phone call, Skype call or visit. One teacher provided a comment that may help explain this general acceptance of any form of communication saying:

> The ideal is to have the option there, all the time...to know the contact details of the person. You should know what their position is and how that is going to help the student teacher and how that's going to be passed on. Just to have that support there, even if you don't use it, is really important. So that could be a phone call, it could be the option of a visit; they all need to be there the whole time. (Supervisor interview)

In regard to the written documentation, most teachers found that it was satisfactory in communicating requirements of the practicum. "It was easy to understand – a quick read and I was right" (Supervisor interview). Some did express a preference for the report form to allow for more feedback: "There probably should have been more room, but I'm glad there wasn't in the end because you're always pushed for time with these matters" (Supervisor interview), but this was contrasted with another's response where it was stated that:

> The actual report is too wordy – I would prefer some tick the box options and a rubric style report so there is less writing as supervising a student teacher is already time consuming as each teaching day is full. (Supervisor interview)

Generally, most teachers expressed satisfaction with the documentation. It was evident that for some, however, the details of the practicum requirements were unlikely to be read in any depth. This was represented through comments like:

> The elements that are important are where the university spells out to me what the expectations are, what is the student expected to do, it's the nuts and bolts stuff of how many hours class time are they supposed to experience, what is expected, what are they expected to get out of the experience and it was that information that is obviously the most pertinent and useful. (Supervisor interview)

Reward and Recognition

In order to investigate issues which might be hindering the development of stronger university-school relationships teacher supervisors were asked whether they thought there was sufficient reward and recognition for engaging in pre-service teacher supervision. Most responded in a manner that implied they had not really considered the role as one that required reward and that engagement in this role was more to do with their own engagement in the profession and sometimes as a form of professional development. For example:

> I don't think it's necessary to have a reward. (Supervisor interview)

> It's something I enjoy doing and that's probably one of my little interest areas – new teachers, mentoring graduate teachers...so I don't class it as something that I want monetary value for. (Supervisor interview)

In fact only three of the seventeen teachers interviewed felt they were insufficiently rewarded, especially in terms of time, and two were unsure. Those who commented on the issue of time expressed disappointment at how little the school allowed for what they saw as important work:

> The school could probably do a bit more in terms of that [recognition] because sometimes it was really hard to catch up with the student teacher because the school doesn't see that you've got a student teacher and don't seem to care so you will try to make plans...to catch up...and I've got an extra or there's this thing on. (Supervisor interview)

Of those who felt unrewarded the following comment expressed the tensions felt:

> I just see it as part of my professional responsibility...but if you have a dud teacher it's the hardest thing in the world …I think we're grossly under-recognised. The pocket money is handy, make no bones about that. Last year I had two student teachers and I managed to buy a new BBQ. Whoohoo! (Supervisor interview)

However, almost universally, even those teacher supervisors who felt under-appreciated by the school and the profession, stated that they found significant professional rewards from the work, both helping the pre-service teachers and in allowing them to reflect on their own teaching:

> It's a happy partnership because it is a two-way street. (Supervisor interview)
> It does help me reflect on my teaching so that is...a vital part of your professional development. (Supervisor interview)

None of the teachers interviewed seemed to think that the university should be providing more recognition or reward. Teachers were also asked whether there needed to be professional learning support for being a teacher supervisor to ensure those who volunteered or were nominated were adequately prepared for such a role. In response to this, one teacher in a rural school at a considerable distance from a major centre said that it was difficult to find useful professional development at her school. She was obliged to travel and it was expensive. One teacher thought it might be useful to have the role count towards registration requirements: "now we've got to keep logs of all professional hours, so it would be really good...for that to be officially checked off on" (Supervisor interview).

There was some interest in more formal professional development of a limited kind: "maybe train up a few people in the school...who are prepared to take on a student teacher" (Supervisor interview) or training for inexperienced supervisors. Teachers recognised that their knowledge of the university program was sometimes tenuous and a number were keen on the idea of some kind of orientation to supervision:

> I think that would be valuable, particularly for supervising teachers that haven't supervised teachers before like I was in this instance. It would be valuable to

> have a training workshop or something where you just go through how you can add the most value to that student teacher's time here." (Supervisor interview)

In exploring the idea of providing some sort of compulsory training that contributed towards a formal qualification, very few responded in favour. One teacher said that they might be interested in completing such a qualification "I think it's a good thing to do...but...once they've done it, they shouldn't have to do it every year" (Supervisor interview). But the majority said no. One teacher felt that "if it [accreditation] becomes compulsory it would cause a lot of resentment and I think you'd get less people willing to supervise" (Supervisor interview). Others said it would take away from other more important activities such as teaching.

DISCUSSION

It has been argued by some commentators (House of Representatives, 2007; Parliament of Victoria, 2005; Ure 2009) that relationships between the partners in the practicum enterprise are seriously fractured. This finding was not supported by the study reported here in that in many ways the teachers who participated in the study expressed satisfaction with the way the practicum was conducted. This is an interesting finding. One explanation may be that researchers received data from teacher supervisors who were most interested in the issues relating to pre-service teacher education given that they chose (in the case of the survey) or agreed (in the case of the interview) to participate. Their views may not be similar to those supervisors who did not respond to the survey or be interviewed, let alone those who were not supervisors.

However, it is also true that teachers opted for a limited view of partnership with universities. They welcomed initiatives which might streamline the process but did not seek a partnership of learners as advocated by some (Kruger et al., 2009; Le Cornu, 2012), but rather a complementary partnership which allowed them to undertake their work with pre-service teachers in an efficient manner.

In relation to documentation it has also been suggested that teachers reject the universities' documentation because of its myriad of confusing terminology (Ure, 2009). Supervisors in the current study appeared untroubled by and quite tolerant of the differences in the language and layout of university practicum documentation, although they did express a preference for documentation which was quick to peruse and easy to negotiate.

The study offered teacher supervisors the options of hard copy, email and website material in terms of the form in which they could receive communication from the universities. Supervisors liked the idea of the website as a backup but preferred documentation in their email and some were glad to receive a hard copy as well. Despite on-going efforts by universities, teachers often lack information about practicum requirements and processes (Parliament of Victoria, 2005; Ure, 2009). Communicating directly with supervisors required asking pre-service teachers to

send their supervisors' email address and this process sometimes took some time to achieve but it was largely seen as effective for administrative communication. Only one of the 24 supervisors said in the survey he/she did not appreciate emails at all. Lecturers did find that some supervisors were slow or did not respond to emails. However, responses to requests for phone calls to schools were not always effective or efficient either so email as a minimum form of contact seems inescapable. Emails were not seen as a preferred option for supervision of pre-service teachers in terms of their progress on practicum but were invaluable for communicating about administrative matters.

Despite the usefulness of these communication measures, the project found that rural and regional teacher supervisors, like those in another study that did not have rural/regional focus (Ure, 2009), were somewhat detached from the teacher education programs in which their pre-service teachers were enrolled. They read documentation sufficiently to find out how to fulfill their role but were not concerned to investigate the overall goals of the programs. They were mostly concerned with receiving clear, straightforward documentation to be provided in a timely and efficient manner, supporting previous research findings (e.g. Peters, 2011).

While some of the supervisors said that the personal contact of a visit was very important to them, this was not the most common response. In some instances visits were not always successful for the supervisors. As in Ure's (2009) analysis and also noted in Neal (2010) even when lecturers did visit, some supervisors found the experience limited. The supervisors thought that the "once-only visit" (p. 147) as Neal describes it, is not sufficient to create a useful working practicum relationship between themselves and the universities. Moreover, a number expressed an understanding of the constraints universities are under in terms of finding the opportunity to visit schools at a distance from the university so were happy to receive contact in another form. Neal suggested that from the point of view of supervisors there was an opportunity for universities to try other modes of contact such as phone and online contact and the current project confirms the value of her recommendation.

There was satisfaction with phone calls from a number of supervisors. In many cases if phone calls were to be successful a speakerphone and a private space were needed to encourage three-way-communication. Where it worked well the lecturer had prearranged the time and had prepared for the discussion. Without this preparation the phone call could be quite limited and not conducive to three-way communication. Lecturers also found that in busy schools phone messages to supervisors did not always reach their destinations.

Skype, where it was successfully undertaken, was praised as opening up various useful possibilities for communication. It is relevant here to discuss lecturers' experience in terms of their "side" of the relationship in that they had an overall view of what took place, for there were more plans for Skype to take place than there were successful contacts made. The lecturer who was most successful was the one who addressed an email to both the supervising teacher and the pre-service teacher,

inviting them to nominate a preferred time for a Skype meeting and specifying in this email that the pre-service teacher take responsibility for arranging the Skype set up. Instructions for first-time users of the software outlining how to download and use Skype were also attached to this email. Pre-service teachers then seemed to take their responsibility seriously. The less successful attempts to establish Skype meetings seemed to be associated with forms of contact that were directed to the pre-service teacher *only,* which were often ignored. Apart from the project team receiving no response when suggesting a Skype supervision session, some reasons given for it not occurring were supervisors saying they were unfamiliar with the technology or a suitable time could not be found.

In retrospect, given that Skype is a relatively untried medium, it may have been better to try it with as many supervisors as possible to better find the conditions in which it is successful rather than setting up a comparison in the study. However, in the cases where it was successful, lecturers and supervisors largely saw Skype as a useful option for making a three-way communication happen at a distance. This remains an area of interest for further research.

It is difficult to sum up which is the best means of contact for supervisors in that all approaches were liked by some and criticised by others. However, it is possible to concur with Neal (2010) that supervisors were critical of cursory approaches to supervision by lecturers. They wanted lecturers to be readily available when they needed them and they did not want to be operating alone.

Reports on pre-service teacher education have argued that teachers see supervision as insufficiently recognised and rewarded (House of Representatives, 2007; Parliament of Victoria, 2005). When this topic was explored with teacher supervisors, most said they did not do it for the monetary reward but saw it as part of their professional life with the rewards being largely intrinsic. This finding fits in well with Ure's (2009) recommendation that pre-service teacher mentoring should be part of the staffing formula for teachers' workloads.

The finding indicating that teacher supervisors were generally positive about their work with pre-service teachers certainly also suggests there may be the possibility of greater teacher engagement in pre-service teacher education programs, as has been proposed (Ure, 2009). However, teachers in the project were wary of any proposal that might significantly increase their workload. In line with this perspective, rather than opting for further professional commitment they preferred the suggestion that their work with pre-service teachers might be counted as part of the required professional development for registration purposes. They were against any idea of compulsory professional development about mentoring pre-service teachers as has been suggested (Recommendation 5.0 in Ure, 2009, p. 86). The professional development support trialed through the website in the form of guidelines for hosting pre-service teachers, and podcasts/readings on mentoring and even the opportunity to engage with other teacher supervisors were all largely ignored.

CONCLUSION

The study reported in this chapter explored a range of communication strategies during the practicum period with the view to improving the support provided to teacher supervisors and thus improve the experience for the pre-service teachers. The evaluation of the various strategies undertaken yielded a range of data that pointed to key elements that can enhance communication with teacher supervisors. Firstly, practicum documents needs to be clear, straightforward and provided in a timely and efficient manner. Efficiency appears to be increased when documentation is provided through a variety of means, both in hardcopy and electronically through email attachments. It is also recommended that where possible, sending documentation directly to the teacher supervisor as well as, or instead of, to the school pre-service teacher coordinator, is beneficial, and that email is a useful tool for achieving this. Furthermore, the use of regular email contact with teacher supervisors throughout the practicum to communicate practicum milestones and to provide opportunities for ongoing communication is supportive and provides an accessible invitation to schools to make contact as required.

A further finding is that *one-off* visits to schools by university staff are neither essential nor necessarily useful as a means of promoting relationships during the practicum; meaningful relationships are cultivated through regular contact that teacher supervisors welcome in a variety of forms (e.g. email, phone, Skype). Further, more extensive research on the value of video-based technology for university involvement in practicum supervision is needed. Whatever the form of university supervision, it was found in this study that meetings between supervising teachers, pre-service teachers and university supervisors need to be three-way communications to enhance the level of support to all participants and thus augment the sense of partnership.

In terms of providing teacher supervisors with appropriate recognition, reward and support, the study found that teachers generally felt rewarded through their participation in supervision, and that extrinsic motivators, excepts for provision of time to manage the supervision effectively, are unnecessary. Recognition of supervision as a professional development activity that is counted towards ongoing registration would be beneficial and contribute to a more formal valuing of teachers' participation in this role. In addition, while universities could offer professional learning for teacher supervisors in order to promote better practicum outcomes, such offerings should be planned so they are viewed as professionally useful to attract teachers rather than be made compulsory.

Overall, the study found that rural and regional supervisors in Victoria held similar views to those in the Deans of Education study (Ure, 2009): they were aware that greater connection with the university programs might develop a coherent approach to pre-service teacher learning but they were not keen to commit to further significant professional activity to create a closer partnership. They tended to support a complementary rather than a collaborative partnership. For those who see the ideal

teacher education as highly engaging collaborative partnerships between schools and universities this presents a challenge.

REFERENCES

Allen, J. (2011). Stakeholders' perspectives of the nature and role of assessment during practicum. *Teaching and Teacher Education, 27*(4), 742–750.

Bartholomew, S., & Sandholtz, J. (2009). Competing views of teaching in a school-university partnership. *Teaching and Teacher Education, 25*(1), 155–165.

Darling-Hammond, L. (Ed.) (2005). *Professional development schools. Schools for developing a profession.* New York: Teachers College Press.

Darling-Hammond, L. (2006). Constructing 21st century teacher education. *Journal of Teacher Education*, *57*(3), 300–314.

Denzin, N., & Lincoln, Y. (2005). *The Sage handbook of qualitative research* (3rd ed.). Thousand Oaks: Sage Publications.

Grundy, S. (2007, April). Solving the practicum conundrum. *iteach,* Issue 01, 3. Retrieved from

House of Representatives (2007). *Top of the class. Report on the inquiry into teacher education*. [Electronic version]. Retrieved from http:/www.aph.gov.au/house/committee/evt/teachereduc/report/front.pdf

Kruger, T., Davies, A., Eckersley, B., Newell, F., & Cherednichenko, B. (2009). *Effective and sustainable university-school partnerships. Beyond determined efforts of inspired individuals*. Canberra: Teaching Australia. Electronic version http://hdl.voced.edu.au/10707/144200

Loughran, J. (2006). *Developing a pedagogy of teacher education: Understanding teaching and learning about teaching*. New York: Routledge.

Le Cornu, R. (2012). School co-ordinators: Leaders of learning in professional experience. *Australian Journal of Teacher Education*, *31*(3), 18–33.

Lichtman, M. (2006). *Qualitative research in education: A user's guide*. Thousand Oaks, Sage Publications.

Neal, D. (2010). *Teachers' perceptions of the impact of a university-school partnership on their preservice practicum education*. Unpublished thesis. La Trobe University, Bundoora. Retrieved from http://arrow.latrobe.edu.au:8080/vital/access/HandleResolver/1959.9/154671

Parliament of Victoria, Education and Training Committee. (2005). *Step up, step in, step out. Report on the suitability of pre-service teacher training in Victoria*. (Melbourne: Victorian Government Printer).

Peters, J. (2011). Sustaining school colleagues' commitments to a long-term professional experience partnership. *Australian Journal of Teacher Education, 36*(5), 1–15.

Ramsey, G. (2000). *Quality matters. Revitalising teaching: critical times, critical choices. Report of the review of teacher education*, New South Wales. [Electronic version] Retrieved from https://www.det.nsw.edu.au/teachrev/reports/

Richards, L. (2009). *Handling qualitative data: A practical guide (2nd ed.)*. London: Sage publications.

Richards, L., & Morse, J. M. (2007). *Readme first for a user's guide to qualitative methods* (2nd ed.). Thousand Oaks, Sage Publications, Inc.

Robinson, S., & Darling-Hammond, L. (2005). Change for collaboration and collaboration for change: transforming teaching through school-university partnerships. In L.Darling-Hammond. *Professional development schools. Schools for developing a profession* (pp. 203–219). New York: Teachers College Press.

Ryan, J., Jones, M., & Walta, C. (2012). Creating a sustainable and supportive practicum for rural and regional areas. *Australian and International Journal of Rural Education, 22*(1), 57–72.

Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research. *Education for Information, 22*, 63–75.

Ure, C. (2009). *Practicum partnerships: exploring models of practicum organisation in teacher education for a standards-based profession*. Parkville, Vic: University of Melbourne. Retrieved from http://www.altc.edu.au/project-practicum-partnerships-exploring-melbourne-2009

Zeichner, K. (2002). Beyond traditional structures of student teaching. *Teacher Education Quarterly,* Spring, 59–64.
Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college-and university-based teacher education. *Journal of Teacher Education, 61*(1–2), 89–99.

AFFILIATION

Dr Josephine Ryan & Dr Mellita Jones
Australian Catholic University

JO-ANNE REID

7. 'PRACTICE': FOREGROUNDING THE STUDY OF TEACHING IN INITIAL TEACHER EDUCATION

INTRODUCTION

Effective teacher education, the focus of this book, is something that can be understood and judged from several different points of view—but even stakeholders with real investment in effective teacher education find it difficult to agree on what effective teacher education actually is. Over the last three decades in Australia, for instance, there have been over 100 reports from state and national inquiries into teacher education (Hartsuyker 2007), yet still the "problem" of teacher education remains a matter of public and government concern (NSWDEC 2013). As preparation for the teaching profession, effective teacher education is often described as a process that makes new teachers *ready* for the classroom:

> Far too often, school principals and experienced teachers, employing authorities, parent representatives and new teachers, and even some school students, reported that new teachers were not 'teacher ready'. Put simply, many new graduates seem to lack practical teaching skills, as opposed to the theoretical foundations required to be an effective teacher. (Parliament of Victoria, 2005)

This chapter argues that recent and well-founded developments in practice theory, and attention to professional practice as a research area (Green, 2009; Grossman, Hammerness & McDonald, 2009; Grossman & McDonald, 2008; Kemmis & Smith, 2008), might usefully resource a focus on the *study of teaching* as a core practice of initial teacher education. I want to make careful distinctions between some of the key concepts discussed in current theories of practice, and problematise taken-for-granted understandings of practice in our everyday talk and writing. The chapter considers the basic ideas needed for an orientation of assessment towards future needs and it discusses the development of a particular form of teacher education practice—Study of Teaching—a co-curricular program involving pre-service teachers working alongside members of the profession, more experienced pre-service teachers, and teacher education academics. The program is designed to provide space and opportunity for university-based pre-service teachers to develop the core practices they will need as beginners in the workplace practice setting of a school or early childhood service. This chapter reflects on the conceptual basis of this approach and identifies key points of focus in creating such an environment for developing practice.

Jones & Ryan (Eds.), Successful Teacher Education, 121–135.

FOREGROUNDING PRACTICE IN TEACHER EDUCATION

Green (2009) claims that "practice is one of the least theorised concepts that circulate in professional discourse" (p. 2), and for initial teacher education this seems particularly true. As teachers and teacher educators, we use the noun practice quite indiscriminately: we shorten it (in an etymologically inappropriate way) to "prac" and take it for granted, and we qualify it with any of a range of adjectives so that teaching practice, classroom practice, professional practice, reflective practice, or best practice are seldom interrogated for what they mean and how they relate to each other—or to the range of other meanings that practice can have. Consider reversing or transposing some of these formulations: practice teaching, for instance is not the same thing as teaching practice, and in its verb form, to practise teaching, is something altogether different from to teach practice. I argue here that *to teach practice* is the work of teacher educators, and that teaching the practice of teaching requires us to consider teaching as both a significant object of study, and an important subject of inquiry. Teacher education should provide the opportunity for pre-service teachers to *study* teaching, in order to prepare them to teach. To conceptualise the work of the pre-service teacher, therefore, as the *study of teaching* in its full sense, is what I have elsewhere (Reid, 2011) claimed can be characterised as a *practice turn* for teacher education.

In *Practice Makes Practice: A Critical Study of Learning to Teach,* Britzman (1991/2003) highlighted the way that much teacher education in the present looks and feels very much like the teacher education of the past. She criticised what she described as "anachronistic and inadequate approaches to teacher education" (Britzman, 1991/2003, p. 45) that echo and repeat "the familiar curricular pattern of orientation courses, subject matter courses, theory courses, observation courses and practice teaching assignments [that are] a conglomeration of precepts and practices inherited from the more limited environment of a former day" (Britzman, 1991/2003, p. 45). In this description she was quoting a critique made in 1935. And twenty years earlier again, John Dewey (1916/1966) wrote that: "nothing has brought pedagogical theory into greater disrepute than the belief that it is identified with handing out to teachers recipes and models to be followed in teaching" (p. 170). And this is a critique that still applies in the Australian context, where a standardised form of teacher education can seen as "locked into a 'grammar' of possibility and intelligibility such that it remains focused on a generic 'one-size fits-all', largely inflexible program, regardless of locational and other differences" (Green & Reid, 2004, p. 258).

Britzman (1991/2003) has also claimed that the practice of initial teacher education is not helped by the existence of a "dominant belief that teachers 'make' themselves" (p. 230). She argues that this is a "cultural myth" that "functions to devalue any meaningful attempt to make relevant teacher education, educational theory, and the social process of acknowledging the values and interests one brings to and constructs because of the educational encounter" (Britzman, 1991/2003, p. 230).

The belief that learning to teach is natural is also challenged by Grossman (1991), and Ball and Forzani (2009), who claim there is nothing natural about teaching, that it is professional, specialised work which involves teachers taking on a particular identity or role position; an over-determined attention to others and to particular forms and structures of thought and information; and that it requires them to do this through forms of interaction that are based on simultaneous communication with more than one other person. As they argue:

> This work is not natural. To listen to and watch others as closely as is required to probe their ideas carefully and to identify key understandings and misunderstandings, for example, requires closer attention to others than most individuals routinely accord to colleagues, friends, or even family members. To provoke discordant thinking or errors in logic and argument intentionally would seem odd if not downright irritating in many situations. And, few adults seek to learn about others' experiences and perspectives as systematically as teachers must. (Ball & Forzani, 2009, p. 499)

As I have noted elsewhere (Pietsch, Mathewson-Mitchell & Reid, 2011), it is what Lortie (1975) called the *apprenticeship of observation* undertaken by school students over time, year after year, as they watch teachers work in classrooms, which is responsible for many of the preconceptions that teachers are *born* rather than made. Unlike pre-service professionals in other fields, such as law or speech therapy, for example, pre-service teachers already know what the everyday practice of teaching looks like, and sounds like, before they enter teacher education. Lortie, like Britzman, saw this as the source of ongoing conservatism in the teaching profession, because this naturalised practice can only really imitate already-existing practices that have been observed, again and again, as a member of a classroom audience. As Lortie (1975) noted, an apprenticeship of observation fails to provide pre-service teachers with access to the teacher's thinking, planning and problem solving behind the scenes. But it does mean that observational knowledge about teaching becomes internalised as "body knowledge" about what teaching is, and what a teacher does, and often emerges, apparently naturally, when new teachers are caught unprepared, anxious or stressed in their workplaces.

The tendency to revert to what we know works, to teach the way we were taught, remains an obstacle for teachers, and often precludes the taking up of pedagogical reforms or innovative teaching approaches, even when these have been taught in their pre-service teacher education. Pedagogical ideas that might look and sound different from the vernacular knowledge that pre-service teachers bring with them into teacher education often are seen as theory—difficult to turn into practice in the classroom because *they have not been practised* in the teacher education experience.

There are several theories of practice that support the idea of a "practice turn" in teacher education (Reid, 2011, p.293). Those that are of most interest and help for thinking about the teaching of teaching are related to how people learn to do the sorts of thing that teaching is—an embodied (Bourdieu, 1977, 2005); situated (Schatzki,

1996; Kemmis, 2009); iterative (Dreyfus & Dreyfus, 2005) practice that works on the mind and the body to constitute and position (Foucault, 1972) teachers as certain sorts of social subjects (Green, 2009). As teacher educators, we must therefore acknowledge that what we do in our practice operates on (and with) the mind *and* the body. It is in essence "a practice producing subjects"—and is "crucially concerned with the initial and continuing formation of 'teaching subjects', or of teachers as knowledgeable and capable educational agents" (Green & Reid, 2008, p. 20). With this as a premise, we must therefore start to work more consciously with the assumption that "practice is always embodied (and situated)—it is what particular people do, in a particular place and time, and it contributes to the formation of their identities as people of a particular kind, and their agency and sense of agency" (Kemmis, 2009, p. 23).

It is this body of practice theory that allows us to see the importance of conceptualising a practice turn in relation to what Aldrich (2006) characterises as three major models of teacher education that have shaped the field historically: the apprenticeship model, the training model, and the model of teacher education as disciplinary study. This connects with Moore's (2004) description of the resulting conceptualisations of the good teacher, where good teachers are seen as being charismatic subjects who were born to teach; competent craftspersons who emerge from good training, or reflective practitioners, who are disciplined and thoughtful in their work. In the USA, Zeichner (2006) describes three different organising views of teaching expertise and teacher education: professionalisation, deregulation, and social justice, which again roughly map on to these ideas. Aligned with this is the conceptualisation of teacher education as facing a series of associated problems in the preparation of teachers: a learning problem, a training problem, and a problem of knowledge, and as Zeichner (2006) argues, these are realised in discourses around who teachers are and what they do—creating policy issues of teacher professionalisation, deregulation and social justice. Hammerness and colleagues (Hammerness et al., 2007) also recognise this history, and see the issues they raise slightly differently, as summarised in Table 1, below.

Rather than arguing for any one of these three ways of conceptualising teacher education as providing the means to answer these issues, a turn to practice recognises and works with them all in their inter-connection and inter-relation.

In thinking about a form of teacher education that might integrate and assist new teachers to work across these views, Korthagen and Kessels (1999) talked about these problems as three levels of experience within a teacher education program that might ensure learners become more fully rounded as professionals. They call these the *Gestalt* level, the *schema* level and the *theory* level, and charge teacher education with ensuring that all three are provided within teacher education curriculum. Such curriculum would be carefully staged, so that pre-service teachers attend to problems of practice before they experience them:

Table 1. Problems for teacher education

	Teacher education faces a problem of learning	*Teacher education faces a problem of training*	*Teacher education faces a problem of knowledge*
Moore (2004)	Good teachers are charismatic individuals	Good teachers are competent craftspersons	Good teachers are reflective practitioners
Aldrich (2006)	Teacher education is viewed as apprenticeship	Teacher education is viewed as training	Teacher education is viewed as discipline
Zeichner (2006)	Teacher education is concerned with professionalisation	Teacher education is concerned with deregulation	Teacher education is concerned with social justice
Hammerness et al. (2007)	Problem of apprenticeship of observation	Problem of enactment	Problem of complexity

> Constructed and guided experiences designed on the basis of an analytical understanding of teaching events are often more instructive than natural settings, because the essential cognitive dimensions are more easily accessible. Such experiences, in turn, provide the cognitive foundation for knowledge construction in more natural environments. Processes used to deliver teacher education content to novices must not only reveal pedagogical problems but also bring out ways of thinking about these problems and provide opportunities for novices actually to practice problem solving. (Carter, 1990, p. 307)

This clearly supports the idea of teaching as an object of study, which, as articulated here by Carter (1990), needs to be carefully designed as teacher education curriculum.

FOREGROUNDING PRACTICE THROUGH THE STUDY OF TEACHING

As Green (2013) conceptualises it, prioritising practice in teacher education means designing the pre-service curriculum in ways that attend to all of these dimensions—with focus on the skills and attitudes for practice as well as the knowledge that is needed for teachers to continue to learn, to perfect their craft over time, and develop their professional expertise.

The work of Dreyfus and Dreyfus (1986, 2005) provides useful insight on the process of learning to teach and learning about the practice of teaching—key concerns for teacher educators, as we consider what our graduates need to know to be able to work in increasingly complex classrooms. Dreyfus and Dreyfus (1986) studied how the body is implicated in the search for expertise, showing how, over time, and with repeated opportunities for practice, developing practitioners gradually move from the highly planned, difficult to "pull off" teaching of their novice experience, to being able to take for granted aspects of their practice that were initially new to

them. Once this happens, and more and more key components of practice become habituated, or located in their body, so that they do not have to think about them, they are able to give thought to other aspects of that practice, address the complexity of each new day in a classroom and integrate their skills, knowledge and ideals or attitudes, to achieve a more fluid and successful experience. As experience provides more and more practice, expertise develops. As Flyvbjerg (2006) explains:

> Phenomenological studies of human learning indicate that for adults there exists a qualitative leap in their learning process from the rule governed use of analytical rationality in beginners to the fluid performance of tacit skills in what Pierre Bourdieu (1977) calls virtuosos and Hubert and Stuart Dreyfus (1986) true human experts.…Common to all experts, however, is that they operate on the basis of intimate knowledge of several thousand concrete cases in their areas of expertise. Context-dependent knowledge and experience are at the very heart of expert activity.
>
> (Flyvbjerg, 2006, p. 391)

Boud (2010) notes that studies focused on the development of expertise such as Dreyfus and Dreyfus (2005) show that formal education and training only enables the development of early stages of expertise and that high-level competence occurs over many years. Similarly, though from a different tradition, Ball and Forzani (2009) recommend the need for teacher education to provide pre-service teachers with the opportunity to carefully study the practice of teaching, claiming that teacher education curriculum "must focus squarely on practice, with an eye to what teaching requires and how professional training can make a demonstrable difference—over sheer experience and common sense—in the quality of instructional practice" (p. 498).

> This means a comprehensive overhaul of the instructional goals that we set for those who seek to enter the teaching profession and of our approach to preparing novices. Whereas many beginners learn to teach on the job…the task of professional education is to prepare people for the specialised work of teaching, improving significantly on what can be learned through experience alone. Doing this effectively in teaching requires dealing squarely with the both unnatural and intricate nature of instructional practice. It means unpacking and specifying practice in detail and designing professional education that will offer novices multiple opportunities to practice the work and to fine-tune their skills. (Ball & Forzani, 2009, p. 498)

It is important, therefore, that initial teacher education produces the sort of teaching subject who has carefully studied teaching in this way, and who is actually therefore more ready for the classroom. As Boud reminds us:

> The dominance of the vocational move in higher education has created unrealistic expectations of 'generic attributes' and 'employability' skills as equipping students for immediate productive employment. Such a view (a) is … at odds with what

> we know about the development of expertise—any educational process can only enable learners to progress through a few stages of development, most occurs through interactions in practice (Dreyfus & Dreyfus, 2005), and (b) implies that possession of a limited range of attributes provides for work-readiness. We need to focus on the self-regulatory skills that underpin all graduate attributes, and on the acquisition and utilisation of knowledge of all kinds. (Boud, 2010, p. 261)

This means that if pre-service teachers are to be ready to continue to learn in the classroom, they need have studied their craft carefully, observing, practising and reflecting on how and why an expert teacher moves, arranges and uses her body in relation to the material elements of her teaching space. They will have studied how, when and why an expert teacher speaks and is silent, says things and listens, comments and responds to learners; how and why she sequences and arranges ideas and activities to assist the learners; and how she connects and interacts in relation to them as individuals and as a group. These are all important lessons to be learned from the study of teaching. While the beginner will not be able to integrate and synthesise her practice as well as the more experienced teacher, what is important is that she knows *how* to study the practice of teaching, as well as the theory and policy that supports and structures education in general. In the next section I describe the way that we are aiming to ensure novice teachers will enter the classroom with the embodied knowledge that will provide a strong foundation for rapid and ongoing professional growth.

TEACHER EDUCATION AND THE STUDY OF TEACHING

In recent years at Charles Sturt University (CSU) we have been attempting to see what happens when initial teacher education curriculum makes a conscious turn towards practice (Pietsch et al., 2011; Reid 2011). A program called Study of Teaching has been a co-curricular offering for first year pre-service teachers first introduced in 2011. It was conceptualised within a larger program, csuPRAC, which places emphasis on Programming, Relationships and Communication as core or essential teaching capacities that, in practice, help to synthesise the knowledge and understanding teachers need to begin a successful classroom career. In response to the Bradley Review of Higher Education in Australia (Bradley, 2008), this intervention was also designed to improve both the quality of student engagement in the on-campus experience and the professional and academic skills of our pre-service teachers. In an environment of national teacher education program standards that might be seen as constraining curriculum and content choices for initial teacher education, the production of a standardised Australian Graduate Teacher (Australian Institute for Teaching and School Leadership [AITSL], 2011) is a priority for the faculty. The Study of Teaching program has operated over three years now in a pre-service Bachelor of Education (Primary) [BEd] program identified as attracting significant numbers of low socioeconomic status students, often the first in their families to undertake university education, and often from rural backgrounds.

Study of Teaching was therefore designed as a means of involving these pre-service teachers in authentic, meaningful activity that would assist both their social and academic engagement in the university setting, as well as serving as an introduction to the profession for which they were preparing. Working from the theoretical basis outlined above, the program provides incoming BEd (Primary) pre-service teachers with an opportunity to practise and develop – before they enter a school or other practice setting—a small set of core teaching skills that we see as useful to them across key learning areas. The implementation of this program, alongside the faculty's focus on enhancing the academic engagement of first year pre-service teachers provided a unique opportunity to support and enhance pre-service teachers' confidence and competence as they entered the classroom. Following Dreyfus and Dreyfus (1986, 2005) we believed that with the core elements of some common teaching practices safely embodied, and learned, they would be better able to begin to refine these in the complexity of classroom teaching. We hoped that if they do not need to think about some very basic aspects of their practice because they already know what it feels like to wait and prompt for an answer during a discussion, they may be more able to attend, in their teaching, to the quality of content knowledge and reflect on issues of social justice and student learning as they work with children. We hoped that all these things would be more easily orchestrated so that they could operate in concert in their professional study Programming, Relationships and Communication.

As noted, Study of Teaching is a co-curricular program. All other lectures and tutorials/workshops operate as normal in the course, and the program requires no changes to the weekly content or schedules of accredited subjects. But in addition to their classes and tutorials, all pre-service teachers have an additional two-hour timetabled Study of Teaching session each week. These sessions have been managed and organised by volunteer staff, and are not included in their teaching workload. These are either academic staff researching the effect of the program on pre-service teacher engagement (Mathewson-Mitchell, Hoare & Reid, 2012), feedback (Daniel, Auhl & Hastings, 2011), or the development of professional identity (Pietsch et al., 2011), or they are teachers and consultants who have offered to share their expertise with newcomers to the profession. In 2013 the volunteers have included final year pre-service teachers about to begin their internship placements, and they have received a certificate of professional service and leadership appropriate to the Graduate Teaching Standards for this work. Sessions are timetabled after school hours so that the classroom teachers working in partnership with the Study of Teaching team can attend. The aim of the sessions is to integrate the opportunity for pre-service teachers to study teaching through the regular, weekly, repeated practice of a core skill such as reading and discussing books and other texts with learners.

This allows the ideas that pre-service teachers have met in their other classes each week to be discussed in relation to the task at hand, so that foundational knowledge (about Piagetian stages of child development, for instance; language acquisition in children; or philosophical and social contexts of education) can be drawn upon and used when de-composing the demonstration model (Grossman et al., 2009)

and then in considering the most appropriate aspects of the lesson for pre-service teachers to practise. In this way, we see the sessions as integrative and connecting the curriculum—countering the fragmentation between Methods and Foundations courses and professional experience opportunities that Grossman et al. (2009) note is characteristic of much teacher education curriculum.

Furthermore, these sessions are marked as important and different from everyday classes because pre-service teachers are asked to dress like a teacher for these sessions. They practise building relationships and communicating clearly by introducing themselves as a pre-service teacher to each other, and to their academic teachers, the school teachers and the principals who attend. They are given feedback on their appearance and interaction sometimes from school-age children, who attend the sessions with parents and caregivers. In the first year of the program a ten-year-old told us that a group of very well-presented young men looked just like his teachers except that "their *hair* is wrong". This led to a critical and reflective discussion that ranged far beyond this issue, as we thought about what is "right" in dress and appearance for teachers. This led to discussion about the conservatism of the profession, racism and homophobia in school settings as workplaces, and the difficulties many new teachers experience "fitting in" with both staffroom and student expectations of them. An academic staff member with tattoos described how she covers them in a school workplace, and a recently-migrated Chinese academic provided a new perspective for us all when she shared how she dresses extremely professionally for her work at the university "in honour and respect for my profession."

THE STUDY OF TEACHING PROCESS

As depicted in Figure 1, the Study of Teaching sessions follow a regular pattern. Drawing on Grossman and McDonald (2008) and Grossman et al.'s (2009) structure for teaching core practices in initial teacher education, we have used the idea of the *demonstration*, *decomposition*, and *approximation* of practice as key points in the process, along with explicit and focused coaching to direct pre-service teachers' attention to the salient features of the practice they are attempting to master.

In its first year on the Bathurst campus[1] of CSU, which is the focus this chapter, Study of Teaching focused on the core practice of reading aloud and leading discussion of text. In the first semester pre-service teachers attended the program for four hours per week over 13 weeks, in addition to other classes. Two hours of this time was spent in a whole group session, while pre-service teachers were timetabled an additional two hours for unsupervised small group preparation time. The program continued in the second semester over an eight-week period around the pre-service teachers' first school placement, with an added focus before the placement on what we saw as a core instructional routine in primary classrooms—the teaching of handwriting. All pre-service teachers watched, analysed, planned and practised three handwriting lessons and had six lessons taught to them to improve their own knowledge and practise the use of the required (NSW Foundation) script before

they entered a school setting. In this semester, two hours each week were spent in the handwriting practice classes, and one hour was spent in small groups continuing to practise reading aloud to pre-schoolers at the Charles Sturt University's on-site childcare centre. A further unsupervised hour was again recommended for small-group preparation and planning time for their handwriting lesson.

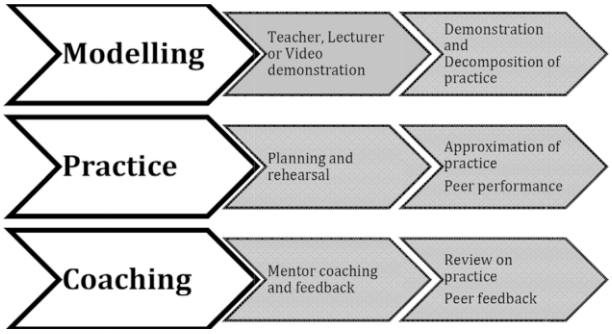

Figure 1. The 'Study of Teaching' process.

Although not the focus of my discussion in this chapter, it is interesting to note that we have progressed to the second and third years of the program in 2012 and 2013, where we have reiterated the original cycle with first year pre-service teachers, and extended the program to the core practice of explanation in mathematics for a group of volunteer second year pre-service teachers who had participated the year before, and who continued in the program for two further semesters. The sessions are organised as follows:

– Each week, in the two-hour Study of Teaching session, pre-service teachers first watch a teacher demonstrate with them as a class, and/or view a video demonstration lesson of, the targeted practice. They engage in a guided reflection with the model teacher and other staff to support their articulation of key aspects of the teacher's practice, focussing on what, how and why she performed each action. They are told about and discuss the teaching objective for the session, and they then select an appropriate resource in a small group, to plan a session that uses the strategies they have identified to reach the same objective. They then practise the reading and discussion as a rehearsal, with each pre-service teacher making a roughly equal contribution to the delivery.
– For the practice performances, three groups combine, and their three practice-led lessons are delivered to a practice class of eight to ten peers, one of whom records the session using a Flip Video camera, which is later transferred to the pre-service teachers' own computers. During this process they receive immediate coaching from a teacher, academic, or final year pre-service teacher mentor, often requiring them to repeat a particular segment, question, gesture, or movement. This is seen

as a coaching activity similar to practice new players have in the cricket nets, or on a golfing practice green, where skills can be repeated and refined without penalty. They then receive immediate peer and mentor feedback on the rehearsal as a whole.
– Each week, between Study of Teaching sessions, pre-service teachers can review the video of their teaching lessons—one in which they participated as learners, and one which they presented in the previous session.

EFFECTS OF STUDYING TEACHING

As reported in Mathewson-Mitchell et al. (2012), we observed many changes in pre-service teachers' embodied practice, as well as their level of knowledge of teaching over the year-long research period of the program's first year. The regular practice of decomposition of examples of practice, the expert coaching, and the giving of feedback to each other two or three times each session meant that pre-service teachers were fairly quickly able to develop a meta-language for practice and to identify particular aspects of practice to look for, attend to and notice. Through their own approximations in the context of group work, they were able to rehearse, and in this form of performance experience, the bodily dimensions of practice. Repeated opportunities allowed them to take note, try again, improve, refine and ultimately become more comfortable with the practice of being a teacher. The process of observation, reflection and feedback further enhanced this understanding, while the use of videotaping provided a consciousness of the experience of the audience (or the future class of students):

> Data collected after the first eight weeks of the Study of Teaching program indicated that students could articulate the skills they had developed. For example they noted the following aspects of their developing practice in reading aloud: using different tones of voice; using eye contact and facial expression; clarity, fluency, volume. Some also began to recognise the development of attributes in themselves such as confidence and enthusiasm. (Mathewson-Mitchell et al., 2012, p. 9)

As noted in Mathewson-Mitchell et al. (2012), quite significant examples of change are evident in pre-service teacher responses to our evaluation of the program. One pre-service teacher noted that he had developed the following knowledge and skills as a result of the program in its first stage:

– The ability to read aloud from a book with confidence and clarity
– To read this book in a manner that is engaging and promotes individual student thinking beyond it
– To ask stage appropriate open-ended and engaging questions whilst reading this book
– To dress in a professional yet practical manner in a school environment
– The ability to work in a collaborative environment – giving and receiving critical advice

(Pre-service teacher response, Study of Teaching feedback)

There have now been ten action cycles across the three campuses, including the second-year program in 2012 on Bathurst, and the model and process for the sessions has remained fairly similar. Over this three-year period we have investigated four conditions or contexts for the program to establish an evidence base on which we have worked to introduce the Study of Teaching into the formal curriculum of our initial teacher education programs though a process of course review for national accreditation. As a co-curricular offering, pre-service teachers access this program outside of their normal load. However, in the first year, because of the research focus on pre-service teachers' learning, the program was promoted to pre-service teachers as an important pre-requisite to their first Professional Experience placement. This meant that large numbers of pre-service teachers took part, and there were limited opportunities for extended and deep reflective critiques of some of the practices that we were asking pre-service teachers to rehearse. In the handwriting sessions, for instance, the time needed for all pre-service teachers to teach their peers meant that we did not have time to problematise and connect the disciplinary goals of lessons such as these with other aspects of the curriculum. This was an important omission for us, and it meant that the potential for the production of a critical and transformative teaching subject may have been compromised:

> Unless individuals are also given access to the grounds for selection and the principles of interpretation (and hence given more critical insight into the processes and possibilities of knowledge production, their own and that of the culture), they are merely socialised into the dominant meaning system and lack the capacity to take an active role in its transformation. (Green, 2012, p. 7)

In subsequent years we have offered the Study of Teaching program as a voluntary co-curricular activity while we refined the structure, sequence and resources for inclusion as a compulsory aspect of the first and second years of study in the new course we have been developing over this time. With smaller groups and the continued support of classroom teachers and final year pre-service teacher mentors, the experience for our first year pre-service teachers has been enhanced, although there are continuing challenges that we meet and seek to address in our own practice as teacher educators.

CONCLUSION

Our orientation supports the complexity of the intention of the work of Grossman and McDonald (2008) and Grossman et al. (2009), who advocate the placement of practice at the core of the teacher education curriculum. Through this program we have attempted to engage first year pre-service teachers, classroom teachers and university academics in an action research program centred on understanding and developing particular core practices of teaching. This has constituted the creation of a foundation of significant curriculum reform that is being studied and elaborated on. It is an integrated, cross-curriculum attempt to move initial teacher education courses toward the more specific pedagogical preparation that Grossman (1991)

explores; in a program directed towards what we argue are core practices that work to inform teachers' pedagogical success.

The focus on practice in this sense is not used as an opposition to theory, but rather as complementary to theory and propositional knowledge, enabling the contextualisation of theory in relation to experience. Through repeated observation, discussion, constructive criticism, rehearsal and mimicry of expert practice, and the coaching and modelling of expert others, pre-service teachers are actively engaged in examining the nexus between theory and practice—and seeing themselves develop their teaching capacities week by week. However, we must be continually alert to ensure that the attention to what and how teaching is "played out" in different situations of practice does not lead to us overlooking the need to consider and talk about the effects of any routinised classroom practice in terms of social and educational justice (Zeichner, 2012).

The csuPRAC Study of Teaching program has responded to the challenge proposed by Grossman et al. (2009) to turn to a form of teacher education curriculum organised around a core set of practices in which knowledge, skill and professional identity are developed in the process of learning to practice. Yet teaching as an object of study is always more than *just* embodied practice. It is always situated practice (Green & Reid 2004, 2008), on a social field—happening at a particular time and place, and with particular student communities. As we move forward in the development of the Study of Teaching, on the basis of our research into attention to core practices of teaching for the very beginners in first year, we continue to take up the challenge of ensuring that critical perspectives and opportunities are not missed or discounted because of lack of time or opportunity. For the study of teaching, these are essential, and can be fostered by different forms of relationships with school partners to ensure pre-service teachers have opportunity to practice their skills in professional experience settings. As Zeichner (2012) argues:

> The focus on teaching specific core teaching practices should be complemented by participation in teacher inquiry communities…from the very beginning of teachers' preparation programs so that novice teachers can begin to acquire the habits and skills to learn in and from their practice in the company of colleagues. (p. 379)

Working with each other, as novices examining teaching as an object of inquiry, alongside more experienced and expert members of the teaching community in programs like Study of Teaching, is a way to address Zeichner's (2012) critique of practice-based teacher education which worries that it may not address the problems with performance-based systems in the past, and "ignore important aspects of good teaching" (p. 376). These saw the answer to the problem of teacher education in terms of a single view of the problem itself, that is, as a training- and skills-based problem only. However, taking a practice turn to study how teaching is practised focuses talk and interaction about the affordances and constraints of different embodied skills and techniques, of routines and regularities of language and activity in classrooms, in relation to the different places, purposes, rationales and policies that contextualise

them. Through engaging in the Study of Teaching with our teacher partners, we hope that our pre-service teachers will be ready to move towards the *study of learning* in classroom settings as the basis for teacher reflection, rethinking and renewal with regard to the programming, communication and relationships that, we believe, can best bring about effective learning.

NOTE

[1] The Study of Teaching program runs slightly differently on each of the Bathurst, Wagga Wagga and Dubbo campuses of CSU, in response to different staff interests and organisation. See Edwards-Groves and Hoare (2012) and Mathewson-Mitchell et al. (2012) for a more comprehensive account of the program.

REFERENCES

Aldrich, R. (2006). *Lessons from history of education: the selected works of Richard Aldrich,* Abingdon: Routledge.

Australian Institute for Teaching and School Leadership. (2011). *Australian professional standards for teachers.* Retrieved from http://www.teacherstandards.aitsl.edu.au/ Standards

Ball, D. L., & Forzani, F. M. (2009). The work of teaching and the challenge for teacher education. *Journal of Teacher Education*, *60*(5), 497–511.

Boud, D. (2010). Assessment for developing practice. In J. Higgs et al. (Eds.), *Education for future practice* (pp. 251–262). Rotterdam: Sense Publishers.

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge and New York: Cambridge University Press.

Bourdieu, P. (2005). Habitus. In J. Hillier & E. Rooksby (Eds.), *Habitus: A sense of place* (pp. 43–9). Aldershot: Ashgate.

Bradley, D. (2008). *Review of Australian higher education. Final report.* Government of Australia Retrieved from http://www.innovation.gov.au/highereducation/ResourcesAndPublications / ReviewOf AustralianHigherEducation

Britzman D. (1991/2003). *Practice makes practice: A critical study of learning to teach* (Revised ed.). Albany: State University of New York Press.

Carter, K. (1990). Teachers' knowledge and learning to teach. In W. R. Houston, M. Haberman, & J. Sikula (Eds.), *The handbook of research on teacher edu*cation (pp. 291–310). New York; Macmillan.

Daniel, G., Auhl, G., & Hastings, W. (2011, November). *Preparing first-year preservice teachers for participation in the community of practice of teaching: collaborative feedback and reflection of professional growth*. Paper presented at AARE Annual Conference, Hobart.

Dewey, J. (1916/1966). *Democracy and education: An introduction to the philosophy of education*. New York: New York Free Press.

Dreyfus, H., & Dreyfus, S. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer.* New York: New York Free Press.

Dreyfus, H., & Dreyfus, S. (2005). Expertise in real world contexts. *Organization Studies, 26*(5), 779–792.

Edwards-Groves, C., & Hoare, R. (2011, November). *Talking to learn: Focusing teacher education on dialogue for learning*. Paper presented at AARE Annual Conference, Hobart.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. In C. Seale, G. Gobo, J. F. Gubrium, & D. Silverman (Eds.), *Qualitative research practice: Concise paperback edition* (pp. 390–404). London & Thousand Oaks, CA: Sage.

Foucault, M. (1972). *The archaeology of knowledge*, Trans. A.M. Sheridan-Smith. New York: Pantheon Books.

Green, B. (2009). Introduction: Understanding and researching professional practice. In B. Green (Ed.), *Understanding and Researching Professional Practice* (pp. 1–18). Rotterdam: Sense Publishers.

Green, B. (Ed.). (2009). *Understanding and researching professional practice*. Rotterdam: Sense.

Green, B. (2012). Subject-specific literacy and school learning: A revised account. In B. Green and C. Beavis (Eds.), *Literacy in 3D: An integrated perspective in theory and practice (*pp. 2–21). Camberwell, Victoria: ACER Press.

Green, B. (2013, April). *Practising professional identity*. Presentation at Practice-Based Education Summit 2013. Sydney. Retrieved from http://www.youtube.com/watch?v=lQFRxYkTX2o&feature=youtu.be

Green, B., & Reid, J. (2004). Challenging futures, changing Agendas? Sustaining and renewing teacher education in Australia, *Asia-Pacific Journal of Teacher Education*, *32*(3), 255–274.

Green, B., & Reid, J. (2008). Method(s) in our madness. In A. Phelan, & J. Sumsion (Eds.), *Critical readings in teacher education: Provoking absences* (pp. 17–31). Rotterdam: Sense.

Grossman, P. (1991). Overcoming the apprenticeship of observation in teacher education coursework. *Teaching and Teacher Education, 7*(4), 345–357.

Grossman, P., Hammerness, K., & McDonald, M. (2009). Redefining teaching, re-imagining teacher education. *Teachers and Teaching, 15*(2), 273–289.

Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal*, *45*(1), 184–205.

Hammerness, K., Darling-Hammond, L., Bransford, J., with Berliner, D., Cochran-Smith, M., McDonald, M., & Zeichner, K. (2007). How teachers learn and develop. In L. Darling-Hammond, & J. Bransford [Eds.], *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 359–389). New York: Jossey-Bass Wiley.

Hartsuyker, L. [Chair]. House of Representatives Standing Committee on Education and Vocational Training]. (2007). *Top of the class report on the inquiry into teacher education*. Canberra: Australian Government Printing Service.

Kemmis, S. (2009). Understanding professional practice: A synoptic framework. In B. Green (Ed.). *Understanding and researching professional practice* (pp. 19–38). Rotterdam: Sense.

Kemmis, S., & Smith, T. (Eds.) (2008). *Enabling praxis: Challenges for education.* Rotterdam: Sense.

Korthagen, F., & Kessels, J. (1999). Linking theory and practice: Changing the pedagogy of teacher education. *Educational Researcher*, *28*(4), 4–17.

Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago: The University of Chicago Press.

Mathewson-Mitchell, D., Hoare, R., & Reid, J. (2012, September). *Knowing is not enough: (Re)turning to practice in teacher education.* Paper presented at the European Conference for Educational Research, Cadiz.

Moore, A. (2004). *The good teacher: Dominant discourses in teaching and teacher education.* London and New York: Routledge Falmer.

New South Wales Department of Education and Communities. (2013). *Great teaching- inspired learning: A blueprint for action*. Retrieved from http://www.schools.nsw.edu.au/media/downloads/news/greatteaching/gtil_blueprint.pdf

Parliament of Victoria, Education and Training Committee. (2005). *Step up, step in, step out. Report on the suitability of pre-service teacher training in Victoria*. Melbourne: Victorian Government Printer.

Pietsch, M., Mathewson-Mitchell, D., & Reid, J. (2011, June). Identity and image in initial teacher education: looks like, sounds like, feels like…. Paper presented in the Symposium. *Teacher education as study of teaching: Towards a research framework for practice***,** ATEA Annual Conference, Victoria University, Melbourne.

Reid, J. (2011). A practice turn for teacher education? *Asia-Pacific Journal of Teacher Education, 39*(3), 293–310.

Schatzki, T. (1996). *Social Practices: A Wittgensteinian approach to human activity and the social*. Cambridge: Cambridge University Press.

Zeichner, K. (2006). Reflections of a university-based teacher educator on the future of college and university-based teacher education. *Journal of Teacher Education*, *57*(3), 326–340.

Zeichner, K. (2012). The turn once again toward practice-based teacher education. *Journal of Teacher Education, 63*(5), 376–382.

AFFILIATION

Jo-Anne Reid
Charles Sturt University

JAN HERRINGTON, NATHANIEL OSTASHEWSKI,
DOUG REID, & KIM FLINTOFF

8. MOBILE TECHNOLOGIES IN TEACHER EDUCATION

Preparing pre-service teachers and teacher educators for mobile learning

INTRODUCTION

As more and more children bring personal mobile devices to school, schools struggle to formulate policies that acknowledge their power as learning tools. Until quite recently, policy often simply prohibited the use of mobile phones in any form while on school grounds, despite parental approval for students to carry them for personal safety and convenience. As mobile devices have acquired more functionality, largely through the widespread availability of small applications or *apps*, the usefulness of mobile phones and tablets for meaningful and authentic learning has become more apparent.

Mobile learning has also captured the imaginations of many teacher educators in universities, particularly those interested in learning with technology, as they envisage a learning culture and environment that are no longer tethered to fixed laboratories of computers. As an alternative to institution owned computers, mobile technologies provide a refreshing and contemporary alternative. Instruction on the pedagogical potential of mobile devices in learning must now become standard in the preparation of pre-service teachers, and the use of their own mobile devices in this preparation models good practice of their use in learning.

A definition of mobile learning provided in Ally's (2009) book, acknowledges first and foremost the value of the communication aspects of mobile devices, that is "using a mobile device to access and study learning materials and for communicating with the institution, tutors and fellow students" (p. 287). However, most educators recognise that mobile learning has the capability to be substantially more than this simple definition suggests. The learning affordances of mobile technologies far exceed practical elements of access, communication, and the convenience of being light and portable.

Brasher and Taylor (2005) capture the dual strengths of mobile technologies in education in their definition, describing mobile learning as "any sort of learning that happens when a learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunity offered by mobile technologies" (p. 33). In this chapter, we focus on the latter strength of mobile learning, as it is particularly relevant for preparing pre-service teachers for

Jones & Ryan (Eds.), Successful Teacher Education, 137–151.

classrooms where personal mobile devices may abound. The chapter describes the use of mobile devices as powerful cognitive tools (Jonassen & Reeves, 1996; Kim & Reeves, 2007) in classrooms as a means to explore and create authentic products, rather than principally capitalising on their mobility or communication functions. As noted by Traxler (2009), mobile is not merely "a new adjective qualifying the timeless concept of learning; rather, mobile learning is emerging as an entirely new and distinct concept alongside the mobile workforce and the connected society" (p. 14). The chapter further explores strategies to support teacher educators and lecturers as well—many of whom are ill-equipped and uncertain about accommodating technologies that are largely unfamiliar—by providing case studies and exemplars of professional learning focused on mobile learning and technologies.

Such a new approach requires more than a simple rethinking of learning tools; it benefits from an entirely different pedagogical method—that of authentic learning.

AUTHENTIC MOBILE LEARNING

Mobile technologies work particularly well as cognitive tools for learning within authentic learning environments (Herrington, Reeves, & Oliver, 2010). Traxler (2009) noted that authentic learning aligned positively with the affordances of mobile learning, defining it as follows:

> By authentic learning, we mean learning that involves real-world problems and projects that are relevant and interesting to the learner. Authentic learning implies that learning should be based around authentic tasks, that students should be engaged in exploration and inquiry, that students should have opportunities for social discourse, and that ample resources should be available to students as they pursue meaningful problems. (Traxler, 2009, p. 18)

He then explained how mobile learning can readily meet these conditions of authentic learning:

> Mobile learning enables these conditions to be met, allowing learning tasks built around data capture, location-awareness, and collaborative working, even for distance learning students physically remote from each other. (Traxler, 2009, p. 18)

By further exploring elements of authentic learning as a pedagogical framework, nine design principles can be used to guide the design of mobile learning (Herrington, Reeves, & Oliver, 2010, 2014). Authentic learning environments:

- Provide authentic contexts that reflect the way the knowledge will be used in real life
- Provide authentic tasks and activities
- Provide access to expert performances and the modelling of processes
- Provide multiple roles and perspectives
- Support collaborative construction of knowledge

– Promote reflection to enable abstractions to be formed
– Promote articulation to enable tacit knowledge to be made explicit
– Provide coaching and scaffolding by the teacher at critical times
– Provide for authentic assessment of learning within the tasks

(Herrington, Reeves, & Oliver, 2010, p. 18)

Further description of authentic learning has been provided by Rule (2006) in a qualitative analysis of 45 journal articles that faculty members had offered as examples of authentic learning. The results of the analysis identified that authentic learning activities, which incorporate real-world problems for an external (to the classroom) audience, provide powerful authentic learning opportunities. The four components identified by Rule comprise:

– Real-world problems that engage learners in the work of professionals;
– Inquiry activities that practice thinking skills and metacognition;
– Discourse among a community of learners; and
– Student empowerment through choice. (Rule, 2006, p. 1)

The elements of these frameworks can be used as guidelines for the design of a complete learning environment. But it is also useful to consider design principles related to mobile learning to further refine learning tasks and approaches.

Principles of Mobile Learning Design

Design principles can serve to assist in maximising the use of mobile devices as cognitive tools within an authentic learning environment. Several frameworks have been developed over recent years, including a definition of the sense of *mobility* in learning. For example, Sharples, Arnedillo-Sánchez, Milrad, and Vavoula (2009) identified several constructs of mobility in learning environments:

– Mobility in physical space: people continually on the move trying to cram learning into the gaps of daily life or to use those gaps to reflect on what daily life has taught them. The location may be relevant to the learning, or just a backdrop.
– Mobility of technology: portable tools and resources are available to be carried around, conveniently packed into a single lightweight device. It is also possible to alternate between different devices, moving from the laptop to the mobile phone to the notepad.
– Mobility in conceptual space: learning topics and themes compete for a person's shifting attention … attention moves from one conceptual topic to another driven by personal interest, curiosity or commitment.
– Mobility in social space: learners perform within various social groups, including encounters in a family, office, or classroom context.
– Learning dispersed in time: learning is a cumulative process involving connections and reinforcement among a variety of learning experiences, across formal and informal learning contexts. (p. 235)

Pedagogical implications of mobile learning have also been explored, such as in a two-year study of mobile technology use within a faculty of education (Herrington, Herrington, Mantei, Olney, & Ferry, 2009). In the study, pre-service teachers used smartphones and iPods across a range of courses or semester units within a Bachelor of Education. Pre-service teachers used their devices to address complex tasks across a range of levels and subject areas, including: health and physical education (Forrest, 2009), language and literacy (Mantei & Kervin, 2009), environmental education (Ferry, 2008), science (Hoban, 2009), adult education (Herrington, 2008), visual arts (Brown, 2009), early childhood (Olney, Herrington, & Verenikina, 2008), mathematics education (Chinnappan, 2009), and professional learning of teachers (Kervin & Mantei, 2009). The devices were used as cognitive tools rather than as simple communication devices or delivery platforms, and the resulting pedagogies are adaptable to other higher education contexts. From this study, the following guidelines were recommended for the effective implementation of mobile learning into a higher education learning environment:

– Real world relevance: Use mobile learning in authentic contexts
– Mobile contexts: Use mobile learning in contexts where learners are mobile
– Explore: Provide time for exploration of mobile technologies
– Blended: Blend mobile and non mobile technologies
– Whenever: Use mobile learning spontaneously
– Wherever: Use mobile learning in non traditional learning spaces
– Whomsoever: Use mobile learning both individually and collaboratively
– Affordances: Exploit the affordances of mobile technologies
– Personalise: Employ the learners' own mobile devices
– Mediation: Use mobile learning to mediate knowledge construction
– Prod*use*: Use mobile learning to produce and consume knowledge.

(Herrington, Herrington, & Mantei, 2009, p. 134)

In a significant body of work by Cochrane on mobile learning in higher education institutions in New Zealand (Cochrane, 2010; Cochrane & Bateman, 2009) a community of practice was established to support action learning projects focused on "technology integration, pedagogical development, and institutional change… moving from a model of fixed, dedicated general computing to a mobile, wireless computing paradigm" (Cochrane & Bateman, 2009, p. 2). The results of the research identify the affordances of smartphones and a range of pedagogical approaches that support social constructivist activities, and in particular pedagogical success factors for integrating wireless mobile devices:

– The level of pedagogical integration of the technology into the course criteria and assessment
– The level of lecturer modelling of the pedagogical use of the tools
– The use of regular formative feedback from both lecturers and student peers
– Appropriate choice of mobile devices and software
– Technological and pedagogical support. (Cochrane, 2010, p. 37)

The guiding principles and components proposed by Cochrane (2010), and Herrington, Herrington and Mantei (2009) can be used to design and plan the effective use of mobile devices in student-centred authentic learning environments. In the next section, a learning environment is described, where pre-service teachers used mobile technologies as cognitive tools to learn about the pedagogical uses of educational technologies in primary school classrooms.

FIRST YEAR EDUCATIONAL TECHNOLOGY UNIT

Mobile technologies were used in a compulsory first year education unit in a Bachelor of Education degree, where pre-service teachers used their own mobile devices and technologies in an authentically framed curriculum. Polly, Mims, Shepherd, and Inan (2010) have pointed out that nearly every pre-service teaching degree offers an educational technology course of some kind in their teaching preparation. Unfortunately, such courses are often based on reductionist methods that focus simply on access to technology and technology skills (Tondeur, van Braak, Sang, Voogt, Fisser, & Ottenbreit-Leftwich, 2012) rather than appropriate pedagogical uses. Selected technologies, such as PowerPoint, and Excel, or specific administration items such as a student roll or assessment sheet, are taught as objects of study in their own right, rather than as powerful cognitive tools to be used intentionally to solve problems and create meaningful products (Kim & Reeves, 2007).

The course described here sets out to use quite a different approach by employing authentic learning principles, where pre-service teachers created useful and polished products in collaboration with other pre-service teachers (see also Herrington & Parker, 2013; Herrington, Parker, & Boase-Jelinek, 2014). The requirements of the assessment could not be successfully met by pre-service teachers without in-depth learning, or without the creative and accomplished use of the technologies themselves, both as cognitive tools and as delivery platforms for the products they created.

Ideally, an authentic learning environment requires pre-service teachers to complete a single realistic and complex task encompassing the entire curriculum of a unit, with all assessable components contributing to that one endeavour. Pre-service teachers in the course completed one product for overall assessment—a website with embedded blog. They created a prototype shell in the first weeks, and then populated their sites with the products of the course to create a multifaceted web portfolio. The major activity focused strongly on pedagogical approaches using technology, in particular, pre-service teachers designed and constructed an authentic learning environment appropriate to curriculum in a chosen subject area and grade level, to be completed in the classroom over two to three weeks. Pre-service teachers created the learning curriculum resource in a wiki, enabling them to collaboratively construct the work online. In this way, they learned *with* technology, rather than *from* it or *about* it (Jonassen & Reeves, 1996).

Because of university requirements, the course methods comprised lectures and tutorials in a standard format, so the authenticity was instantiated in the overall

tasks and the activities that pre-service teachers completed. That is, the tasks were not completed in the "real world" workplace of classrooms during practicum, but in the university setting. Lectures were not designed to teach how to use different technologies, but were more in the style of keynote addresses to accomplish the role of expert performance. Tutorials were not conducted in computer labs but in standard university teaching rooms. Pre-service teachers were able to bring their own mobile devices to tutorials, and as they worked in collaborative groups, there may have been an assortment of devices within each group. For example, one group of three pre-service teachers might have had the use of a mobile phone, an iPad and a laptop computer. During the tutorials, pre-service teachers worked on the course tasks, so the devices were variously used to contribute to the creation of the final authentic product, such as:

- The Unit Guide might have been accessed via the course's learning management system (LMS) on a laptop computer
- Information on the topic discussion might be accessed via Google on the iPad
- Short video interviews could be recorded on the mobile phone
- Planning notes might have been created on the iPad
- Wiki contributions could be written on the laptop
- Pictures could be taken on the mobile phone or iPad, or copyright-free images accessed on the internet.

The pedagogy adopted in this course differed from other approaches adopting mobile devices—substantially in some cases, and more subtly in others. These differences and their rationales are discussed in more detail below:

Technology focus. The technology focus was not pre-determined, and instead capitalised on whatever mobile device pre-service teachers had in their possession. The pedagogy was not dependent on all pre-service teachers possessing and using the same model of device (such as a tablet or mobile phone) in order to accommodate a lock-step approach to learning, where the teacher guides the instruction in a step-by-step way with all pre-service teachers required to "keep up". Instead, the complex task requirement meant that there was no one correct way to complete the task, and the pre-service teachers used the affordances of the devices they already owned to achieve their goals.

Information transmission. The mobile devices were not used at any stage to transmit or deliver essential activity requirements to pre-service teachers, such as worksheets or written exercises. Instead, mobile devices were used as tools by pre-service teachers as and when they were required, to access information or to create artefacts or resources to contribute to the final authentic products.

Communication devices. The mobile devices were not used principally for simple communication, such as for phone calls, text messages, or emails, although these uses were employed from time to time.

Mobility of devices. One of the characteristics of mobile learning that is often cited as a key distinguishing feature is the mobility of the device. The smaller size and ready portability (such as smartphones and mini tablets) means that learning can be opportunistic according to where the learner is physically located with their mobile device. The teacher education course did not specifically focus on the location of the device outside the formal learning context, in that the task did not require original data to be collected in the field. However, mobility was valuable in providing the opportunity to capture original images and appropriate audio where required.

Polished authentic products. Many educational activities designed for use on mobile devices focus on the delivery of set exercises that pre-service teachers complete as they are away from the classroom, such as the completion of worksheets or questions while on field trips. Such exercises fail to acknowledge the power of mobile devices as cognitive tools, where pre-service teachers use the devices to create genuine products that are valuable in their own right.

In addition to the focus on the use of mobile devices by pre-service teachers as they learn the craft of becoming teachers, it is important to also consider the professional development needs of those who teach the teachers. In the next section, we consider the professional learning requirements of university faculty and teachers new to mobile technologies.

PROFESSIONAL DEVELOPMENT FOR MOBILE LEARNING

For many university teachers, technology is moving at such a rapid pace that they often feel incompetent in dealing with new technologies. The solution is not always straightforward, as noted by Herrington, Schrape, Flintoff, Kelly, Singh, and Taylor (2012):

> Professional development in higher education is an inexact science. It appears that a single approach such as the traditional workshop is unsatisfactory in achieving the desired professional development outcomes….A rich, integrated combination of professional development approaches (responsive to teachers' and students' needs) is necessary to utilise the affordances of mobile devices in contexts that promote quality learning outcomes. (p. 2570)

The need to prepare higher education teachers for mobile learning is a critical professional learning challenge (Herrington, Schrape & Singh, 2012). Five strategies have been identified by Lefoe and colleagues (2009) to support such professional development:

– Development of a shared understanding of the theoretical frameworks and philosophies of the approach
– Development of understanding of the affordances of the technologies at hand, and having a significant amount of time to develop these skills before using with students

– Participation in authentic tasks which model the practices to assist the move from theory to practice
– Development of a shared language, knowledge and understanding of new pedagogies and the implications for practice and teaching roles
– Cycles of reflection on the implications for the development of new pedagogies
– (Lefoe, Olney, Wright, & Herrington, 2009, p. 25)

Lefoe et al. (2009) also noted: "Of significance [is] the ability for faculty to be able to use the devices in their everyday work and to become familiar with them to such an extent that they [are] then able to incorporate their use in the curriculum" (p. 25).

PROFESSIONAL DEVELOPMENT SUPPORT

This approach, of providing familiarisation support, is the basis of one Australian university's approach to enabling the implementation of a mobile technology into teaching practice. In this case, several university faculties and their staff were encouraged to experiment with the iPad tablet mobile device as a learning and teaching tool. One faculty provided several hundred iPads for students to utilise, while other faculties provided lecturers or specific semester units with access. Over a short period of time it became clear that the use of mobile tablet technology required support from the centralised teaching and learning department. This saw the formation of an iPad User Group for university staff as a way to develop an informal community of learners around the iPad technology.

Initially, the iPad User Group invited staff who were interested in any aspect of the iPad to informally come together and share user stories. A series of lunchtime sessions were presented over the course of a year. The topics of these sessions initially presented the iPad and some of the interactions and applications that could enhance use for any user. The sessions further progressed to have staff share user stories around activities already in delivery around the university, such as a custom application that showcased an authentic portfolio assessment tool, and an eBook resource development story, the use of the iPad and applications for digital storytelling, and authentic learning activities. As the iPad User Group became more sophisticated, and progressed into its second year, these sessions became more focused on how to incorporate mobile learning into specific teaching and learning contexts.

An example of a successful iPad implementation comes from another type of faculty familiarisation story. As part of an educational engagement team in the same university, two education design specialists working in mobile learning research and implementation, worked with an iPad-interested faculty member. The staff member was keen to provide authentic activities that really engaged the classroom learners. Having no prior iPad experience, the staff member asked for assistance in the design of a classroom activity to effectively utilise the device. After reviewing research and examining the existing pedagogical practices of the staff member, an authentic

activity was custom-designed for implementation. In order to further support the implementation, education team members attended and provided technical and pedagogical support during the first activity. Student engagement, excitement, and outcomes of this first activity were so successful in the view of the staff member, that mobile learning on the iPad quickly became a way to regularly provide meaningful authentic activities for learning. During the second semester, the staff member continued to work with two educational engagement team members developing and implementing a total of four authentic tasks. These activities, while requiring additional applications and support, provided a "never turn back" moment for the staff member. As a way to provide authentic engaging activities, the iPad as a mobile interaction device provided opportunities to produce, share, and discuss student created artifacts (Martin, Ostashewski, & Dickinson-Delaporte, 2013). This example encapsulates a single instance validation of Lefoe et al. (2009) in terms of supporting staff professional development beyond the simple provision of sessions on how to use the technology.

As the user group became a campus-wide community of practice, it addressed professional development concerns in a less formal manner and drew on the diversity of experience across the community to initially share insights and approaches, and later introduced some more structured, experiential workshops in a five-week series entitled Using iPads to Transform Your Teaching Practice. This series of workshops offered a guided active classroom approach where participants were introduced to a range of technologies and classroom strategies:

- Week 1: Presentation and display
- Week 2: Content creation, curation and distribution
- Week 3: Evidence: capture and reflection
- Week 4: Feedback and student engagement
- Week 5: Student use

Over the course of the workshop series, student-centred learning principles were used to effectively step away from the role of principal delivery agent, allowing participants to take responsibility for sharing and guiding learning opportunities based upon their own growing expertise as they explored the possibilities in their own teaching contexts. While there was some attrition of participants over the series, what emerged was a core group of practitioners who reported extending their own use of tablet technology, and restructuring their classroom practices to facilitate more active engagement from students who, in turn, found themselves increasingly absorbed in authentic activity.

CURRICULUM-BASED PROFESSIONAL DEVELOPMENT

In a Canadian case, teachers were introduced to mobile technology to solve everyday challenges (Reid & Ostashewski, 2011). They used their growing expertise to incorporate mobile technology into their curriculum, as recommended by Lefoe et

al. (2009). In this scenario, the key objective was to examine the potential impact mobile devices could have on teaching and learning experiences. Educators were invited to apply for technology funding to support their professional practice and needed to develop a detailed plan stating their goals, expected impact on student learning and the infrastructure of support that was already in place. The successful applicants received a number of mobile devices in addition to professional development support designed specifically for their educational needs.

The support offered to the educators included professional development and technical support. Each of the types of support was designed to assist the educators as they achieved their goals. Most notably, the professional development support had two key components: in-class support and social networking opportunities. The in-class support involved having guest presenters come into class and demonstrate the use of mobile devices in an educational setting while mentoring the educators through any questions, reflections or pedagogical situations that arose.

The mentoring took place before, during and after the students had engaged with the initial implementation tasks. Educators and students gained a preliminary level of comfort in using the mobile devices through engagement with purposefully designed introductory activities, including basic uses of the technology and basic introductions to more complicated curricular outcomes. Particular apps were used as they allowed for the introduction of concepts and functionality that would be needed at a later point. In this case, the apps and tasks were all based on digital storytelling and having students create electronic stories that could be shared to create community engagement opportunities. Once the educators were prepared, more complex curricular tasks were set for the students who used the mobile devices to support their learning as they created curriculum-based projects.

Following the preliminary in-class support and professional development, a phase of exploration and social networking commenced. The educators continued to have support as they worked with the curriculum, the students and the technology. A small social networking group was set up to assist with questions and to share findings among the professionals involved with these opportunities. There was a variety of requests that ranged from technical support, device management questions, and appeals for specific expertise regarding other curricular outcomes not connected with the original project. The divergence in how the technology was eventually used demonstrated how the faculty members became familiar with the devices so they could incorporate their use to attain curricular outcomes. The literature (e.g. Lefoe et al., 2009) identifies this as a significant component of the strategies needed to promote successful professional development.

SPECIAL EDUCATION MOBILE PROFESSIONAL DEVELOPMENT

One final example of professional development for mobile learning involved a lecturer and a teacher receiving professional development from two different perspectives within one educational setting in Canada. This teacher professional development

(Reid, Fraser, & Ewing, 2012) involved implementing mobile technology into the professional practice of a university lecturer and special education educator.

The development of understanding of the affordances of the technologies at hand, and having a significant amount of time to develop these skills before using with students is a key strategy recommended by Lefoe et al. (2009). This educational opportunity saw the teacher receive a great deal of professional development and opportunity to hone her expertise with the mobile device and its management prior to use with the students. As in the previous example, teachers were given the opportunity to apply for technology funding to encourage pedagogical innovation. Before the teacher completed the grant application, a number of brainstorming and planning sessions occurred. Among the planning processes was a guided discovery method that allowed the teacher to learn more about the mobile devices and their functionality prior to any commitment of money or time. Detailed conversations, research and reflection regarding both professional practice and the learning outcomes of the students impacted the decision to move ahead with the grant application. This project did not include an introductory in-class component for the professional development, and as there was only one teacher involved, there was not a social network of associates available. The teacher quickly became proficient with the functionality of the devices for basic activities and was then able to explore the affordances of the mobile device and, importantly, the limitations and management requirements of the devices. There were technical and device management procedures that needed to be developed to promote student learning. All the technical concerns—such as app maintenance, file sharing and device availability—needed to be sorted out before the students had access to the mobile devices. Determining the apps to be used also required an in-depth knowledge of the students' special needs matched to the affordances of the device—in all, quite a time-consuming process.

Once the initial development of an understanding of the affordances was complete, the project moved toward use in the teacher's professional practice with students. This phase of the project paralleled another strategy suggested by Lefoe et al. (2009), that is, participation in authentic tasks that model the practices, to assist the move from theory to practice. This shift in strategies allowed for the development of a great deal of practical and pedagogical understanding. As students and teachers became more familiar with the devices, a trend in the interactions about mobile devices occurred. Eventually, it was observed by the researchers and educators that the mobile device was being used as a common tool for students to achieve curricular outcomes across disciplines.

There was one further process that was implemented to promote the professional development of the teacher in this project, that is, the cycles of reflection on the implications of the development of new pedagogies (Lefoe et al., 2009). As the project progressed, a journal was kept, and reflection upon challenges and lessons learned were recorded. This journal formed the basis of the writing and dissemination process (Reid, Fraser & Ewing, 2012). Having the teacher structure and write a publishable paper further cemented the professional development, as it encouraged the use of

nascent writing skills that had not been fully accessed since her post-secondary schooling. The reflection process and educational content knowledge were the basis of this highly specific professional development activity. The researchers scaffolded the educational process as the more structured academic writing occurred. Initially the writing seemed a difficult task for the teacher but she reported that it became almost second nature with further purposeful and reflective application.

One key finding of the process was the identification of appropriate professional development strategies at different points in the project. This project implemented activities that touched upon three key strategies suggested by Lefoe et al. (2009) including: the development of understanding of the affordances of the technologies, and having a significant amount of time to develop these skills before using with students; participation in authentic tasks; and cycles of reflection on the implications for the development of new pedagogies. The combination of multiple professional development strategies was seen to be very impactful by the teacher and has allowed for further educational opportunities.

CONCLUSION

Our intention in this chapter has not been to provide a prescriptive step-by-step description of the process of how mobile technologies can be integrated into pre-service teachers preparation. Indeed, we do not prescribe to the view that there is a single way of achieving this outcome, nor to the belief that technology can be added to a pedagogical approach for the sole reason of making learning more interesting or more up-to-date. Instead, we have presented models from the literature on the current thinking on mobile learning, and embedded these ideas in the pedagogical approach of authentic learning.

Our advice to those whose job it is to prepare our future teachers is to ensure that the implementation of mobile devices in their curriculum is *less* prescriptive, *more* open, and soundly based in learning theory rather than on teaching about the technology affordances themselves. In particular, we would advise that pre-service teachers be encouraged to use the familiar technologies of their everyday world rather than be required to purchase a standard configuration technology. Teachers should be encouraged to view these devices, not as time-wasters or distractions, but as cognitive tools that can be employed productively in learning, and to avoid at all costs using them solely to transmit information or teacher-created work-sheets for students to complete. Instead, mobile devices can be used to create polished and worthwhile products that can be shared, published and appreciated widely.

Finally, we recognise the professional learning curve can be a very steep one for many academics in universities charged with the important task of preparing school teachers for a whole new world of technology. As noted by Sharples, Taylor and Vavoula (2007): "A world in which children own powerful multimedia communicators and where they practise new skills of online file sharing and informal text communication does not fit easily with traditional classroom schooling" (p. 241).

Pre-service teachers and their university teachers must be adequately prepared for their new roles, and the means to do this requires imagination and forms of professional development that go beyond the simple provision of information about the devices themselves and how they work. Such endeavours may ensure that teachers will no longer prohibit the use of mobile devices in classrooms, but embrace them as powerful tools for learning.

REFERENCES

Ally, M. (Ed.) (2009). *Mobile learning: Transforming the delivery of education and training*. Edmonton: AU Press.

Brasher, A., & Taylor, J. (2005). Development of a research plan for use of ambient technology to test mobile learning theories. In J. Attewell, & C. Savill-Smith (Eds.), *Mobile learning anytime everywhere* (pp. 33–37). London: Learning and Skills Development Agency.

Brown, I. (2009). Art on the move: Mobility – a way of life. In J. Herrington, A. Herrington, J. Mantei, I. Olney, & B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education* (pp. 120–128). Wollongong: UOW. Retrieved from http://ro.uow.edu.au/

Chinnappan, M. (2009). Role of mobile digital technology in fostering the construction of pedagogical and content knowledge of mathematics. In J. Herrington, A. Herrington, J. Mantei, I. Olney, & B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education* (pp. 75–86). Wollongong: UOW. Retrieved from http://ro.uow.edu.au/

Cochrane, T. (2010). Exploring mobile learning success factors. *Research in Learning Technology, 10*(2). doi: 10.3402/rlt.v18i2.10758

Cochrane, T., & Bateman, R. (2009). Smartphones give you wings: Pedagogical affordances of mobile Web 2.0. *Australasian Journal of Educational Technology, 26*(1), 1–14.

Ferry, B. (2008). Using mobile phones to augment teacher learning in environmental education. *Proceedings of the Ascilite Conference 2008*, (pp. 295–298). Melbourne. Retrieved from http://www.ascilite.org.au/conferences/melbourne08/procs/ferry.pdf

Forrest, G. (2009). Using ipods to enhance the teaching of games in physical education. In J. Herrington, A. Herrington, J. Mantei, I. Olney, & B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education* (pp. 87–98). Wollongong: UOW. Retrieved from http://ro.uow.edu.au/

Herrington, A. (2008). Adult educators' authentic use of smartphones to create digital teaching resources. *Proceedings of the Ascilite Conference 2008* (pp. 414–418). Melbourne. Retrieved from http://www.ascilite.org.au/conferences/melbourne08/procs/herrington-a.pdf

Herrington, A., Schrape, J., Flintoff, K., Kelly, J., Singh, K., & Taylor, D. (2012). PD for ML in HE: Embedding mobile learning in a university context. In T. Amiel & B. Wilson (Eds.), Proceedings of EdMedia 2012 (pp. 2573–2579). Chesapeake, VA: AACE.

Herrington, A., Schrape, J., & Singh, K. (Eds.) (2012). Engaging students with learning technologies. Bentley, WA: Curtin University.

Herrington, A., Herrington, J., & Mantei, J. (2009). Design principles for mobile learning. In J. Herrington, A. Herrington, J. Mantei, I. Olney, & B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education* (pp. 129–138). Wollongong: UOW. Retrieved from http://ro.uow.edu.au/newtech/

Herrington, J., Herrington, A., Mantei, J., Olney, I., & Ferry, B. (Eds.). (2009). *New technologies, new pedagogies: Mobile learning in higher education*. Wollongong: UOW. Retrieved from http://ro.uow.edu.au/newtech/

Herrington, J., & Parker, J. (2013). Emerging technologies as cognitive tools for authentic learning. *British Journal of Educational Technology, 44*(4), 607–615. doi:10.1111/bjet.12048

Herrington, J., Parker, J., & Boase-Jelinek, D. (2014). Connected authentic learning: Reflection and intentional learning. *Australian Journal of Education*, *58*(1), 23–35.

Herrington, J., Reeves, T., & Oliver, R. (2010). *A guide to authentic e-learning*. London: Routledge.

Herrington, J., Reeves, T., & Oliver, R. (2014). Authentic learning environments. In J. M. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.), *Handbook of Research on Educational Communications and Technology* (4th ed., pp. 401–412). New York: Springer.

Hoban, G. (2009). Using mobile phone cameras to capture images for slowmations: Student-generated science animations. In J. Herrington, A. Herrington, J. Mantei, I. Olney, & B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education* (pp. 112–119). Wollongong: UOW. Retrieved from http://ro.uow.edu.au/newtech/

Jonassen, D., & Reeves, T. C. (1996). Learning with technology: Using computers as cognitive tools. In D. H. Jonassen (Ed.), *Handbook of research on educational communications and technology* (pp. 693–719). New York: Macmillan.

Kervin, L., & Mantei, J. (2009). Collaborative gathering, evaluating and communicating 'wisdom' using iPods. In J. Herrington, A. Herrington, J. Mantei, I. Olney, & B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education* (pp. 99–109). Wollongong: UOW. Retrieved from http://ro.uow.edu.au/

Kim, B., & Reeves, T. C. (2007). Reframing research on learning with technology: In search of the meaning of cognitive tools. *Instructional Science, 35*, 207–256.

Lefoe, G., Olney, I., Wright, R., & Herrington, A. (2009). Faculty development for new technologies: Putting mobile learning in the hands of the teachers. In J. Herrington, A. Herrington, J. Mantei, I. Olney, & B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education* (pp. 15–27). Wollongong: UOW. Retrieved from http://ro.uow.edu.au/newtech/.

Mantei, J., & Kervin, L. (2009). Using iPods to capture professional dialogue between early career teachers to enrich reflective practice. In J. Herrington, A. Herrington, J. Mantei, I. Olney, & B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education* (pp. 63–74). Wollongong: UOW. Retrieved from http://ro.uow.edu.au/

Martin, R., Ostashewski, N., & Dickinson-Delaporte, S. (2013). Creating authentic iPad activities to increase student engagement: A learning design approach. In J. Herrington, A. Couros, & V. Irvine (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2013* (pp. 249–253). Chesapeake, VA: AACE.

Olney, I., Herrington, J., & Verenikina, I. (2008). iPods in early childhood: Mobile technologies and story telling. *Proceedings of the Ascilite Conference 2008*, (pp. 696–700). Melbourne. Retrieved from http://www.ascilite.org.au/conferences/melbourne08/procs/olney.pdf

Polly, D., Mims, C., Shepherd, C. E., & Inan, F. (2010). Evidence of impact: Transforming teacher education with preparing tomorrow's teachers to teach with technology (PT3) grants. *Teaching and Teacher Education, 26*(4), 863–870. doi: http://dx.doi.org/10.1016/j.tate.2009.10.024

Reid, D., Fraser, S., & Ewing J. (2012, May). *iPads in a skills program: Introducing mobile learning devices in special education environments.* Paper presented at Canadian Network for Innovation in Education 2012 Conference: Green Aware, Canmore, AB Canada.

Reid, D., & Ostashewski, N. (2011). iPads in the classroom – new technologies, old issues: Are they worth the effort?. In T. Bastiaens, & M. Ebner (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2011* (pp. 1689–1694). Chesapeake, VA: AACE.

Rule, A. (2006). The components of authentic learning. *Journal of Authentic Learning, 3*(1), 1–10.

Sharples, M., Arnedillo-Sánchez, I., Milrad, M., & Vavoula, G. (2009). Mobile learning: Small devices, big issues. In N. Balacheff, S. Ludvigsen, T. Jong, A. Lazonder & S. Barnes (Eds.), *Technology-enhanced learning* (pp. 233–249). Netherlands: Springer.

Sharples, M., Taylor, J., & Vavoula, G. (2007). A theory of learning for the mobile age. In R. Andrews, & C. Haythornthwaite (Eds.), *The Sage handbook of elearning research* (pp. 221–247). London: Sage.

Tondeur, J., van Braak, J., Sang, G., Voogt, J., Fisser, P., & Ottenbreit-Leftwich, A. (2012). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. *Computers & Education, 59*(1), 134–144. doi: http://dx.doi.org/10.1016/j.compedu.2011.10.009

Traxler, J. (2009). Current state of mobile learning. In M. Ally (Ed.), *Mobile learning: Transforming the delivery of education and training* (pp. 9–24). Edmonton: AU Press.

AFFILIATIONS

Jan Herrington
Murdoch University

Nathaniel Ostashewski
Curtin University

Doug Reid
Grant MacEwan University

Kim Flintoff
Curtin University

MELLITA JONES

9. REFLECTIVE PRACTICE IN THE ONLINE SPACE

INTRODUCTION

This chapter reports on the use of an online discussion forum to develop pre-service teachers' critical reflection on their own teaching practice during the practicum component of their teacher education program. Reflection is considered a key aspect of ongoing learning and development for teachers, but can be reduced to a descriptive-type task rather than one through which learning about teaching is more likely to occur. The aim of the online reflection reported in this chapter was to encourage pre-service teachers to critically reflect on their school-based experiences through the process of linking their practicum experiences with the theoretical aspects of their academic coursework. This linking of theory and practice through critical reflective thinking was encouraged in order to promote pre-service teachers' learning about how effective learning and supportive environments are created for students. Thus, the study sought to address the often-criticised theory-practice gap in teacher education. The findings demonstrate the levels of reflection in which pre-service teachers engaged and analyse factors that appeared to encourage various kinds of reflection. Pre-service teachers also provided an evaluation of the online discussion experience.

REFLECTIVE PRACTICE

Reflective practice is a *term d'art* within the teaching profession, and some have argued that it is a "generic component of good teaching" (Korthagen, 2001, p. 51). This is no doubt linked to the common belief that effective educators should be continually looking for ways to improve their teaching practice and subsequently, their students' learning outcomes, and that reflective practice aids such improvement. The expectation of reflective practice is documented in national and international teacher standards. It is a core proposition within the United States' National Board for Professional Teaching Standards (NBPTS) where teachers must "think systematically and learn from experience" (NBPTS, 2002, p. 4); and in the United Kingdom, Department for Education (DfE) teachers must "reflect systematically on the effectiveness of lessons and approaches to teaching" (DfE, 2013, p. 8). The Australian Institute of Teaching and School Leadership (AITSL, 2012), the accrediting body for professional standards across Australia, embeds reflective

Jones & Ryan (Eds.), Successful Teacher Education, 153–173.

practice in the achievement levels for teachers at all career stages: graduate, proficient, highly accomplished and lead teachers.

Reflective practice has been discussed and defined by many different authors both generally and in regard to teacher education. Within the education context Dewey (1933) was among the first to discuss the practice of reflection, defining it as a process of thinking about a teaching dilemma or perplexing situation and acting on this in some manner to seek improvement. Similarly, Schon's (1983) model of action-reflection encompassing *reflection in* and *reflection on* action is primarily concerned with the identification of a problem, which then leads to action for improvement. In fact Loughran (2002) purports that the perception of reflection being concerned with a problem, "a puzzling, curious, or perplexing situation" (p. 33), is the most prevailing definition, no doubt stemming back to Dewey's original work. Osterman and Kottkamp (2004) also refer to reflection as a problem, and suggest that reflective practice is specifically concerned with data collection relating to a personal issue or problem experienced in the professional setting. The importance of this "problem" is explained by Loughran (2006) who states "a problem is unlikely to be acted upon if it is not viewed as a problem" (p. 131). Thus viewing reflective practice in association with a problem heightens the likelihood of action for improvement; the purpose of reflective practice in education.

Kreber and Cranton (2000) argue that for teachers, reflective practice includes issues such as success and difficulties in a particular lesson. This expands on the common view associating reflection with a problem, suggesting that it can also be concerned with reflection on success. Reflection on success may in fact help practitioners identify crucial elements or patterns that contribute to successful teaching, which in turn could also improve overall practice. This view of reflection thus allows for improvement based on a wider range of experiences and incorporates more than the deficit view of reflection being about a problem.

The varieties of models of reflective practice evident in the literature appear to be adaptations or applications of Schon's (1983) action in and action on reflection. Brookfield (1995) offers four lenses through which he encourages reflection: autobiographical, students' eyes, colleagues' experiences and theoretical literature. These cover respectively, personal perspectives on practice, looking at practice through the eyes of students, peer review/discussion with colleagues, and researching the literature to help explain the assumptions that influence practice and ways to change them. The use of a framework like this helps to avoid reflection being reduced to a descriptive task which Parsons and Stephenson (2005) describe as the reporting on events, rather than as an analytical task where reasons for successes and difficulties are identified in order to construct approaches for improvement. This more analytical approach to reflection is what makes reflection critical rather than descriptive.

Kreber and Cranton (2000) also discuss critical reflection drawing on Mezirow's (1990) transformational theory that involves three levels of reflection: content,

process and premise reflection. Kreber and Cranton explain content reflection as being focused on identifying problems/issues but without any real consideration of the causes underpinning them. This is what Mezirow (1990) describes as thoughtful action without reflection. Process reflection extends on this to become thoughtful action with reflection, or reflective action (Mezirow, 1990). Kreber and Cranton (2000) explain process reflection as that which takes into consideration the reasons underpinning certain approaches to pedagogy or to resolving problems/issues experienced. This level of reflection is thus more critical than the content reflection. Further increasing the level of critical reflection, Kreber and Cranton explain that in premise reflection, practitioners go on to consider the importance of the problem they are facing, or its "functional relevance" (Kreber & Cranton, 2000, p. 478). Mezirow (1990) describes it as questioning the very premises on which we base justifications for our past and intended actions. The three levels of content, process and premise reflection could be considered as the *what, how* and *why* of the problem, and when practitioners engage in premise level reflection, and thus consider *why* the issue is arising and *why* it is of significance for learning, then reflection is truly critical.

REFLECTIVE PRACTICE IN TEACHER EDUCATION

Reflective practice needs to be a fundamental component of pre-service teacher education. Parsons and Stephenson (2005) explain that new teachers in their first appointment are expected to be reflective practitioners. Corley and Eades (2004) highlight that any profession that expects continuous professional development, as does the teaching profession, should be concerned with reflective practice. It is essential then, that teacher education courses build in experiences of reflection and strategies for being critically reflective in order to equip pre-service teachers with the skills required by their profession.

Loughran (2002) discusses effective reflective practice as the consideration of "teacher knowledge through particular concrete examples" (p. 39). This integration of theory and practice through the key role of reflection helps to prepare pre-service teachers in a manner in which they are better able to "handle the problems of everyday teaching through theory-guided action" (Korthagen, Loughran & Russell, 2006, p. 1021). Darling-Hammond (2006) also offers the view that the integration of course-work and field-work helps pre-service teachers to better "understand theory, to apply concepts they are learning in their course work, and to better support student learning" (p. 307), something she reports as being supported by a number of other researchers. These considerations position reflective practice as a key determinant for bridging the theory-practice gap, and an important one given that the theory-practice divide is one of the most commonly criticised components of teacher education programs (House of Representatives, 2007; Parliament of Victoria, 2005).

Korthagen et al. (2006) highlight reflection as being an "essential tool" (p. 1024) for bridging the theory-practice gap in pre-service teacher education. They discuss how learning does not occur through experience, but rather through reflection on experience and interaction with others. They also highlight the need for the theoretical underpinnings of practice to be "tailored to the specific situation under consideration" (p. 1025). This helps to achieve two things: firstly, it demonstrates the relevance of the learning to the learner and develops learning through constructivist means by building on what the learner already knows or believes he/she knows; and secondly, it reinforces ideas that are being connected through theory and practice which Darling-Hammond (2006) tells us produces more effective learning.

Of course, most teacher education programs incorporate some form of field-work through the teaching practicum, also known as the teaching placement, teaching round or professional experience among other terms. However, re-iterating Korthagen et al.'s (2006) message, Loughran (2006) reminds us that "experience alone does not lead to learning–reflection on experiences is essential" (p. 131). Parsons and Stephenson (2005) explain the importance of this, reporting that the teaching round is usually so pressured and time hungry that pre-service teachers spend most of their time thinking about "what should I do next?" rather than on "why am I doing it?" (p. 103). Moreover, practicum placements are often quite solitary in nature, which inhibits the development of reflective practice (Parsons & Stephenson, 2005). Loughran (2002) discusses how sharing experiences in practice-focused discussions can enhance meaningful learning for pre-service teachers, particularly if they are required to "develop assertions about their practice as a result of this sharing" (p. 38). He argues that meaningful learning occurs due to the developing understanding stemming from pre-service teachers reconsidering their own and their peers' experiences and articulating these as practice-based assertions through discussion. This development of higher-order synthesis of experience into assertions has to involve thinking and talking about theory, thus drawing on a number of Brookfield's (1995) lenses for reflection, as reflection moves from personal experience to collegial experience, and is articulated through theoretical notions associated with the course of study. Loughran (2002) believes that:

> This ability to recognise, develop, and articulate a knowledge about practice is crucial as it gives real purpose for, and value in, effective reflective practice; it is a powerful way of informing practice as it makes the tacit explicit, meaningful, and useful. (p. 38)

One of the key issues in achieving this practice-based sharing and reflection on experience is that when engaged in the practicum component of a teacher education course, pre-service teachers are placed in schools away from campus for extended periods of time. The locations of these school practicum placements can be geographically diverse, and this, coupled with the full-time teaching and the after-school commitments associated with the practicum, inhibits pre-service teachers' ability to engage in meaningful reflective practice.

ONLINE LEARNING

The online platform is a useful tool to help overcome the issue of geographic spread during practicum periods and enables pre-service teachers to engage in reflective practice during this critical component of teacher education. Koballa and Tippins (2001) indicate that online discussion is a useful tool for providing pre-service teachers with "opportunities to engage in discussion and debate with fellow learners" (p. 222). Furthermore, Means, Toyama, Murphy, Bakia and Jones (2010) indicate that online learning can have a similar impact on learning outcomes as face-to-face learning. Together, these assertions suggest that the online space could provide the means for pre-service teachers to share experiences in the practice-focused discussions that are required for reflective practice, which may overcome the issue of distance from the campus inherent in the practicum period.

Online learning provides a space for the social construction of knowledge (Koballa & Tippins, 2001; Hammond, 2005), another characteristic of reflective practice as described by Loughran (2002, 2006) and Korthagen et al. (2006). Hammond (2005) indicates that online forums are also beneficial for:

- Interaction that could not otherwise take place easily due to distance;
- Engendering student appreciation for the opportunities for discussion;
- Providing social support and subsequent motivation to study;
- Fostering higher order discussions and knowledge building;
- Adding value to the learners' experience.

Swan, Richardson, Ice, Garrison, Cleveland-Innes and Arbaugh (2008) also recognise the social element of online learning but argue that an instructor must facilitate both this and the teaching and learning. They consider the learner experience in the online space and argue for three key components to make the online environment supportive. The instructor must have social presence, providing social and emotional support through encouragement; teaching presence, the level of teacher interaction; and cognitive presence, the level of inquiry that is fostered through the instructor contributions. Swan et al. (2008) indicate that through meeting these three levels of fairly intensive instructor involvement, deep learning can be achieved.

Salmon (2003) also argues for a strong instructor presence in establishing an effective online learning community, but she argues that the level of the instructor presence should gradually be reduced as the learning community becomes more independent. By the time her fifth and final stage of instructor presence is reached, the role of the instructor has changed from emotional and social supporter to facilitator of individual cognitive skills and reflection. This, she argues, encourages practitioners to become more responsible for their own learning. Means et al. (2010) warn that instructors need to be wary about how their contributions are directed within the learning community. Comments that are directed to the group as a whole may influence group interaction, and thus meet Swan et al.'s (2008) social presence, but to foster learning Means et al. argue that comments must be directed at the individual.

THE STUDY DESIGN

The present study attempts to bridge the theory-practice gap in teacher education by engaging pre-service teachers in online reflective practice during the practicum component of their course. The study is a small component of a larger Australian federal government-funded project investigating practicum partnerships between two regional[1] university campuses located in the state of Victoria, Australia in 2011, Australian Catholic University (ACU), Ballarat and La Trobe University Shepparton (see Ryan, Jones, McLean & Walta, 2012). This larger project involved lecturers and pre-service teachers from the two universities as well as teachers from the schools hosting pre-service teachers in the practicum. ACU was running a one-year Graduate Diploma in Education Secondary[2] program (see Chapter 3) and La Trobe was running a one-year Graduate Diploma in Education Middle Years[3] course (see Chapter 4). Two staff from each university were involved in the project along with all 84 pre-service teachers who were completing the practicum component of their respective courses, which included 27 pre-service teachers from ACU and 57 from La Trobe University. There were 22 male and 62 female pre-service teachers across the two courses. Only the component of the project focussing on reflective practice in the online forums during practicum is reported here. This small component of the project is referred to as the study from herein.

Four Professional Learning Teams (PLTs) were established in the study to help manage the size of the online discussion groups. Allocations to PLTs were made such that pre-service teachers from each university were equally distributed between each PLT. This resulted in mixed-university PLTs of 21 pre-service teachers, with fewer numbers from ACU compared to La Trobe University. The 22 male pre-service teachers were also distributed equally giving a mix of males and females in each PLT. Each PLT was supervised by one of four lecturers associated with the two courses. This included two female lecturers from ACU, and a male and a female lecturer from La Trobe University. The supervising lecturers were responsible for communicating with members of their PLT in the online space as well as acting as an initial point of contact for pre-service teachers and schools with regard to overall supervision of the practicum.

The study was focused on engaging pre-service teachers in online critically reflective discussions during the five-week practicum each course was running as a part of their program. The coinciding practicum took place approximately three weeks into the second semester of each course. It was the second practicum experience for most of the pre-service teachers; however, pre-service teachers from La Trobe University had their first practicum in a primary school, so this was their first experience of the secondary school setting. Participation was considered a core part of the practicum, and was linked to an assessment task for some pre-service teachers. This required that all pre-service teachers participate in the practicum forum, but only those who provided consent were also used for analysis. All 84 pre-service teachers provided this consent.

The forum was designed mindful of the variety of opportunities that the online platform affords, including social construction of knowledge (Koballa & Tippins, 2001), and social support and motivation to study (Hammond, 2005; Swan et al., 2008). This was incorporated by encouraging group discussions and by requiring pre-service teachers to contribute both original posts and responses to others that extended the discussion. Support and encouragement were provided through lecturers' regular input that acknowledged pre-service teachers' posts. Lecturers also aimed to pose questions asking individuals and others to extend the discussion and develop links to theories. The design of the forum also built on the findings of a preliminary investigation within the overall project in which the lead researchers investigated a group of eight pre-service teachers as they engaged in online discussions and found that they tended to prefer to recount experience (content reflection) and rarely engaged in high level reflection (Jones & Ryan, 2014). Therefore in the present study there was a focus on fostering critical reflection through the topics which pre-service teachers were asked to discuss and through the interaction with lecturers and each other. The topics aimed to encourage the critical reflection on school-based experiences that Kreber and Cranton (2000) purport leads to knowledge about the scholarship of teaching. Examples of questions that achieved this included "Have others had similar experiences?" "Were the outcomes similar or different?" "Why is this important?" In this way pre-service teachers were encouraged to engage in the analysis of their own and others' experiences, which Loughran (2002) sees as a key professional skill. This process, in turn, assisted the identification of the reasons for successes and difficulties that Parsons and Stephenson (2005) argue are needed for *critical* reflection. This questioning was also intended to encourage pre-service teachers to make links to the theoretical components of their courses and articulate the reasons for their successes and failures in relation to this theory, thus promoting the theory-practice nexus. Hence critical reflection in the current study was viewed as the ability of pre-service teachers to make theory-practice links based on their own and others' experiences, in a generalised manner that recognises the "functional relevance" (Kreber and Cranton, 2000, p. 478) of their experiences and thus aligns with Kreber and Cranton's premise reflection.

Five threaded forum topics were published online, one for each of the five weeks of the practicum. Postings were analysed for levels of reflection using Kreber and Cranton's (2000) content, process and premise reflection, which builds from descriptive content level reflection to critical premise level reflection. The role of the lecturer was also considered in the discussion of the findings in terms of how critical reflection can be encouraged in teacher education. Pre-service teachers were asked to contribute to each week's forum topic a minimum number of three times per week. The five weekly forum topics that were established were:

Week 1: Briefly highlight ONE issue/incident you have experienced this week in relation to classroom management OR a teaching and learning approach you used. Was it an effective/ineffective approach? What do you think

made it effective/ineffective? Everyone should then comment on what could be done to enhance/improve a situation like this next time and provide evidence that supports these improvement ideas.

Week 2: Share your reflections on Week 2 of the practicum here!

Week 3: What are the top three strategies for creating a productive and effective learning environment and why do they work?

Week 4: We have selected the following quote for you to think about, then respond to our question below: *"*We're walking into schools full of all this knowledge on 'research done on the Middle Years of Schooling' and 'Teaching–Best practice' etc and yet, what we're seeing and being forced to be a part of is almost a polar opposite*."*

Question: This is one rather pessimistic image of schools today. What are you seeing, (or what will you do in your classroom), that gives you hope that schools are giving students what they need for living in contemporary society?

Week 5: What are the most crucial things you have learned about students; about schools; and about how to best engage students in learning over the past four to five weeks?

At the end of the practicum period the discussion forum was closed and participants' posts were downloaded and printed in preparation for analysis. Pre-service teachers returned to coursework on the conclusion of the practicum, which ran for a further seven weeks (ACU) and three weeks (La Trobe University). At the end of the year's coursework, 50 of the 84 pre-service teachers invited completed a questionnaire that was administered through SurveyMonkey®. Pre-service teachers from ACU were also asked to complete a course evaluation upon the conclusion of their course. For some this was at the end of 2011, the year in which the study took place, and for others who were only halfway through their part-time enrolment, this was at the end of 2012. Only five of the 27 ACU pre-service teachers returned a completed course evaluation. Aspects of these questionnaires and evaluations dealing with the online forums are also presented in the findings.

Data Analysis

Data analysis involved three researchers independently engaged in topic coding of online forum postings (Richards, 2009). The analysis was being conducted with regard to the level of content, process and premise reflection (Kreber and Cranton, 2000) reached which meant that the topic areas or categories for analysis were pre-determined. Analysis was a matter of determining which responses best matched each category. This is consistent with topic coding, which according to Richards (2009) requires very little interpretation, it "merely allocates passages to topics" (p. 100). Once this analysis was completed, the researchers swapped their analyses allowing for a cross-checking process to be undertaken. Any classifications that were not agreed on were discussed by the two lead researchers, with reference to

the definitions of each level of reflection until a consensus on the categorisation was reached. Responses were also analysed according to whether or not they were in response to lecturers' posts, peer interactions as evidenced through discussion threads, or individual reflections in direct response to the topic. This was completed in order to determine the impact of the lecturers' role in encouraging critical reflection and whether peer interactions were more or less likely to promote critical reflection. The nature of lecturers' posts was also noted as to whether or not they provided the social/emotional support and/or questioning to encourage more critical reflection. In some cases a post was a direct response to a peer even though the pre-service teachers did not use the threaded discussion functionality. In these cases researchers categorised it using internal evidence from the post to determine whether or not it was response to an earlier idea/comment.

SurveyMonkey® data was analysed by frequency of responses to closed, multiple choice questions, and open questions were subjected to a process of analytical induction, a qualitative method for building up causal explanations of phenomena from a close examination of a small number of cases (Burns, 2000; Bernard & Ryan, 2010). The analytical induction, which involved considering the meaning of the data in context and creating categories which expressed common threads (Richards, 2009), led to the formation of themes. The analysis of both the quantity and nature of the discussion posts and pre-service teachers' evaluation of their experiences are reported below.

FINDINGS AND ANALYSIS

The findings and analysis of the study are outlined in sections below that deal with 1) pre-service teachers' overall engagement in the online discussion, 2) ways in which content reflection, 3) process reflection, and 4) premise reflection were reached, 5) the influences and conditions encouraging premise level reflection and 6) pre-service teachers' evaluation of the online experience.

Pre-service Teachers' Engagement in Online Discussion

Table 1 shows the extent of content, process and premise reflection for each of the PLTs over the five weeks of the practicum in which the forum took place.

Table 1 shows that over the five weeks of online reflection, the final week of the practicum tended to contain fewer contributions in the online reflection compared to the first few weeks. This was the case for each PLT where there were fewer posts made in week five, compared to weeks one to four in each PLT, except for PLT 4 where there was a significant decrease in contributions in week three. The general pattern of decreased contributions in week five is perhaps indicative of the busyness of the end of the practicum compared to early in the practicum where there may be more observation than planning, teaching and assessment occurring. Table 1 also shows that there was substantially less premise reflection occurring (12% of total number

of posts) compared to content or process reflection in any given week, which did not show the same marked difference (45% and 42% respectively). This is likely to be due to the relative ease in describing issues and approaches (content reflection) and why teaching and learning strategies were selected and trialled (process reflection), two aspects that are naturally embedded within the teaching endeavour. Pre-service teachers did not engage as often in deeper thinking about why particular strategies/ ideas are important in a philosophical and generalised sense (premise reflection).

Content Level Reflection

When engaging in content reflection, pre-service teachers tended to recount classroom incidents, and mostly ones associated with classroom management. This was particularly the case early in the practicum where there was little reflection on teaching strategies and school processes. Most reflections tended to focus on negative and challenging experiences with student behaviour. Some examples that characterise the nature of the content reflection include:

> The class sizes are what I find difficult to manage. My Year 10 science class has 29 student [sic], and this number of teenagers in one room is a lot!
>
> I seem to find a lot of dis-engaged students, especially boys… Some students in the class have very low literacy levels and are disengaged from the school processes.

As the practicum progressed, the content reflection expanded to include thinking about the schools and curriculum as well as recounting more positive encounters with students as the following excerpts exemplify.

> I've seen a lot of positive things in schools that I've been in this year, both on placement and at work. I've seen a lot of technology implemented and for the most part, students have really enjoyed it.
>
> I am lucky to be based in a school that is very progressive. There are lots of different techniques used here. There are interactive whiteboard [sic] in all but 2 classroom [sic] ... Students have a great deal of access to computers … All secondary students have a wiki.

These examples of reflection illustrate the descriptive nature of what is essentially a recount of experiences–describing the problem/situation. None explicitly considers the implications for learning or why the issues they raise are important considerations for education, thus they remain at a content level of reflection. It also shows, not unsurprisingly, that pre-service teachers' initial preoccupations lie in their grappling with classroom management, something that would be expected as they establish themselves with their classes, particularly given their novice status. Once this becomes more established there is less focus on it in reflections, which then began to consider the teaching approaches, school structure and curriculum instead.

Table 1. Incidence of content process and premise reflection

	PLT 1					*PLT 2*					*PLT 3*					*PLT 4*					*Total*
	W1	*W2*	*W3*	*W4*	*W5*	*W1*	*W2*	*W3*	*W4*	*W5*	*W1*	*W2*	*W3*	*W4*	*W5*	*W1*	*W2*	*W3*	*W4*	*W5*	
Content Reflection	35	18	16	27	17	47	45	17	27	15	36	31	24	26	34	33	22	0	13	13	496 (45%)
Process Reflection	20	25	32	27	21	23	33	22	34	18	28	23	28	28	27	21	11	12	11	21	465 (42%)
Premise Reflection	2	10	5	12	7	4	6	11	12	5	2	9	12	13	3	1	7	4	7	4	136 (12%)
Total	57	53	53	66	45	74	85	50	73	38	66	63	64	67	64	55	41	16	31	38	1097
	PLT 1 Total: 274					PLT 2 Total: 320					PLT 3 Total: 324					PLT 4 Total: 181					

Content reflection also tended to contain social/emotional elements. There were a number of instances where pre-service teachers shared common experiences with statements beginning with "I agree with you…" and "I can relate to that…" They also encouraged each other with expressions like "I think that was a good tactic, well done!" The sharing of common experiences and affirmation were the most common examples of the emotional and social support pre-service teachers offered one another. Some also asked for help, providing a further example of this form of content reflection. For example: "What strategies do you think I could use with a class where there are so many different levels?" These words of support and encouragement pre-service teachers' provided one another reflect the social/emotional dimension that a number of authors highlight as important to establish in online learning communities (e.g., Hammond, 2005; Salmon, 2003; Swan et al., 2008).

Process Level Reflection

There were instances where posts did extend into more critical levels of reflection, particularly process level reflection where some consideration was given to the reasons that certain problems/issues arise in terms of the pedagogical processes that may be involved. As stated earlier, these also tended to be largely within the same post as a content level introduction. Some examples that characterise the nature of the process reflection that occurred include:

> I put the Japanese 10 useful classroom expressions poster (such as greeting, farewell, yes/no, can you repeat that again? I do understand/I do not understand, etc) up on the board. I have created these posters to enhance the usage of target language in the classroom.

> I use PowerPoint presentations as it keeps me on track and I haven't developed a good whiteboard script yet and it also keeps my students from misbehaving when I am writing.

> When I feel like I've done a large amount of 'information dumping' I reckon [*sic*] it's necessary to change angle. I often do this by placing a relevant picture, video, statistic, etc up on the board and asking students to "reverse engineer" why I've selected the material and how it relates to the topic at hand. This helps to break the session up, while also allowing different thinking skills to come into play.

These examples illustrate how pre-service teachers provided reasons for their actions/comments demonstrating an awareness of the pedagogical underpinnings of practice and represented about 42% of the total reflections made. Given the similarity of this figure to the 45% content level posts, these results show that pre-service teachers are able to readily move beyond the content level or descriptive reflection that Parsons and Stephenson (2005) emphasise is too prevalent in teacher education. These contributions show some engagement in cognitive development (Swan et al., 2008)

as pre-service teachers reflected on why they were using particular pedagogical approaches. In these posts there were sometimes either explicit or implicit links to theoretical underpinnings of the specific situations in which the pre-service teachers were involved. This supports Korthagen et al.'s (2006) notion of learning through reflection on experience.

Premise Level Reflection

The awareness of pedagogical underpinnings of practice was also evident in the 12% of postings where premise level reflection was reached. In these premise level postings, the pedagogical underpinnings were identified alongside a consideration of the "functional relevance" (Kreber & Cranton, 2000, p. 478) that is the importance of the approach for learning. Some of the examples of premise reflection include:

> It is good to take a list with photos to class and discreetly refer to it throughout if you need … It really personalises the lessons as I can speak with students and use their name.… I believe using their names makes them feel like part of the class and not "just another student that the teacher doesn't know". And when they feel like part of the class they are more open to contributing to discussions, sharing their work or ideas.

> I believe if the students can see the relevance and practice (or learn) a skill they can use again in life, then that is half the battle. I was the worst student for asking "why are we learning this?" I have turned this around and make sure my students always see the relevance in what they are learning.

As demonstrated by these examples, most premise level reflections contained statements of belief: 'I believe…" or 'I think…". It was when pre-service teachers engaged in this metacognitive thinking that their postings reached a premise and thus critical level of reflection. In these posts pre-service teachers also extended beyond the specific situation and rather, used their experiences to consider the general importance of their idea/issue. In this way, pre-service teachers tended to justify their actions/ideas, which is what Mezirow (1990) describes in premise reflection as considering the premises on which justifications for our past and intended actions are based; and what Kreber & Cranton (2000) discuss as the "functional relevance" (p. 478) of the idea/issue. However, as reflected in the small number of these types of posts (12%) this level of generalising about the importance of particular ideas was not a typical part of most pre-service teachers' reflective writing.

Given the competing demands of the online forum to provide social/emotional support as well as develop pre-service teachers' critical reflective thinking, it is unsurprising that premise level reflection was less frequent than other levels of reflection. However, overall, the online forum did, to some extent, address both the emotional and cognitive needs that Swan et al. (2008) and Salmon (2003) discuss as important in the online space.

Factors Influencing the Level of Reflection

The Nature of the Forum Topic. Two further interesting aspects of the nature of the reflection emerged in the data for weeks three and four. In week three there was a drop in the number of content level reflections and an increase in the number of process level reflections for most PLTs. In week four there tended to be a small increase in the number of premise level reflections compared to other weeks. These results may be linked to the nature of the discussion forum question posed for each of these weeks. In week four the forum asked participants to share their top three strategies for creating a productive and effective learning environment and why they work. This topic lends itself to process level reflection as it specifically asks for strategies and reasons for their use to be discussed. Answered fully (the what/how, along with the why) there in fact should be very little room for any content reflection, although this was not quite the case, except for PLT 4. In week 4 the forum asked participants to share what they were seeing or doing that provided hope that schools are giving students what they need for living in contemporary society. By its nature, this topic is more philosophical than some of the others, and may have thus prompted a tendency to reflect in the generalised ways associated with premise level reflection. Week one's topic also asked participants to share what made particular approaches effective/ineffective, which should have led to process and/or premise level reflection, but it was a wordy four-part forum topic that began by asking for an issue or incident to be shared. Perhaps its long four-part structure encouraged the tendency for pre-service teachers to respond to only the initial part of the question: that of sharing their issue and thus producing the large number of content focused reflections. Together, these findings suggest that the level of reflection can be engendered through the nature and wording of forum topics.

The Influence of Interaction. Data were also analysed to ascertain the conditions that encouraged premise reflection within pre-service teachers' postings. Table 2 reports these data in terms of the frequency of the different ways in which premise reflection was reached.

Table 2. Interactions that led to premise reflection

Conditions Leading to Premise Reflection	PLT1	PLT2	PLT3	PLT4	Total
Reached on own	21	24	28	15	88 (65%)
Reached after interaction with peers	15	13	11	7	46 (34%)
Reached in response to lecturer contribution	0	1	0	1	2 (1%)
Total	36	38	39	23	136

Table 2 indicates that pre-service teachers were more likely to reach premise reflection as a result of their own musings in response to a discussion forum question than they

were as a result of interactions with one another. There were 88 (65%) instances of premise reflection being reached within a pre-service teacher's initial post. This would occur, for example, when pre-service teachers responded to the forum by describing an example and going on to consider the importance of the problem for teaching and learning more generally. The examples of premise reflection provided earlier are examples of this occurring. As also noted earlier, they tended to contain "I believe" and "I think" statements as a part of the post.

Instances of premise reflection as a result of interaction would occur when one pre-service teacher responded to another's post about a certain situation and then attempted to provide a reason or justification for the experience. For example, one pre-service teacher posted a comment about using a strategy called "the box train method" to solve a perimeter problem in mathematics. Her post described the use of the method and how it enabled students to access visual stimuli to help construct a solution to the problem. The original post showed process reflection as the pre-service teacher highlighted the pedagogy as beneficial, but did not extend to premise reflection to demonstrate the importance of the different approach she used. In response to this, another pre-service teacher commented:

> It sounds like a great way of understanding processes as to WHY we get the answers we do in a more step by step fashion and promotes deeper (cognitive) thinking and questioning for learners/teachers alike. I think it's great that you can actually see the mechanics and evidence of the learning processes; I think this is really valuable as it gives you the great insight as to where individuals are up to and how they got there in their learning.

This example illustrates how one pre-service teacher can provide the reasoning for why a particular strategy/situation described by another is of importance and was characteristic of the 46 (34%) instances of premise reflection reached as a result of peer interaction in the online space. This example also demonstrates that reflection on successful experiences can also lead to useful reflection for learning, rather than reflection needing to focus on problems as is generally stated in the literature as required for fostering improvement in practice (e.g. Schon, 1983; Osterman & Kottkamp, 2004).

What was interesting, and indeed concerning, was the lack of premise reflection stemming from interaction with the lecturer. Table 2 shows that there were only two (1%) incidences of premise reflection reached through interactions with lecturers which was substantially lower than the premise reflection reached through interactions with peers or through independent meta-cognitive thinking. The researchers, noting the low level of premise level reflection in response to their contributions, made a further analysis of the data to see how lecturers were participating in the discussions. A key focus was whether lecturers were encouraging premise level reflection through asking questions and thereby encouraging pre-service teachers to be more critical in their reflections. Table 3 reports data on lecturers' contributions to the forum.

Table 3. Lecturer contributions to forums

	PLT 1	*PLT2*	*PLT 3*	*PLT 4*	*Total*
Lecturer poses a question in contribution	3	8	0	3	14 (8%)
Lecturer input leads to premise reflection	0	1	0	1	2 (1%)
Lecturer input is responded to in non-premise ways	0	3	1	6	10 (6%)
Lecturer input does not elicit a response	30	13	67	43	153 (93%)
Total number of lecturer contributions	30	17	68	50	165

Table 3 shows that of the total number of lecturer contributions in only 14 (8%) cases did the lecturer pose a question that might have led to more reflective thinking. Most posts from lecturers were supportive acknowledgements of what the pre-service teacher was experiencing. For example:

> I think Robyn's point is true–it's hard or perhaps impossible to have a perfect mix. Don't give up with this boy–continue to work on connecting strategies – however, don't be disappointed if it doesn't work out. As I have said before, there are some very difficult students around and it takes more than five weeks to connect, or even make small progress.

> Wow Daniel! You are going to be busy! It is interesting reading your comments about that all boys and all girls classes [*sic*].

It was surprising that 153 (93%) of the lecturers' posts were evidently ignored by pre-service teachers. In the small number of instances where pre-service teachers did respond to a lecturer's comment or question, it appeared that a question would be more likely to elicit a response than a comment, although with so few instances of lecturers posing questions, it is difficult to establish whether there was a trend with this. The nature of the question posed by the lecturer may also be important. One lecturer asked pre-service teachers to provide examples of other strategies that could be used for classroom management after one pre-service teacher described difficulties with keeping the whole class in at recess. This led to a couple of pre-service teacher responses, but they were both content level contributions, describing examples rather than discussing why they were better/worse alternatives to each other or the initial strategy trialled. This suggests that lower order questioning may encourage less critically reflective responses.

When pre-service teachers responded to a comment made rather than a question posed by a lecturer, it tended to be when they disagreed with the comment the lecturer made. For example, one lecturer, who frequently posted their personal opinions and experiences, at one point commented that the use of ICT was sometimes done for the sake of using ICT rather than for specific pedagogical reasons. On another occasion the same lecturer offered sympathy to a student after an experience and encouraged

her to see it as a learning experience. In each of these cases a pre-service teacher responded, one with *"*I'm not sure I agree that the use of ICT 'for it's [sic] own sake' is something to be avoided" which the pre-service teacher followed up with a premise level reflection explaining why. The lecturer responded to this as well, but there was no further interaction from the pre-service teacher. In the instance where sympathy was given, the pre-service teacher concerned responded with "I don't feel sorry for myself, and I see it too as a learning experience." These examples suggest that comments that confront pre-service teachers' views may engender some response. This raises the question of whether it might be beneficial for the lecturer to play the role of devil's advocate in the online space where they try to interject alternate or potentially contentious views to stimulate a reaction from participants. Although, the lack of continued debate in the first example may be an indicator that this would not lead to sustained interaction.

The lack of response to lecturers' posts and the general lack of premise reflection that resulted in the few interactions that did occur in response to lecturers' contributions were concerning and surprising. It also suggests that the lecturer had little to no impact on the nature or extent of interaction among pre-service teachers outside of setting the original discussion topic. However, as has been argued, lecturers' contributions tended to be ones of encouragement and support and rarely did they pose questions that might have encouraged deeper thinking and more critical reflection. The fact that they did provide encouragement and support is not necessarily a bad thing, as it does help to address Swan et al.'s (2008) demand for social/emotional support, something Salmon (2003) also alludes to in the early stages of her five-step lecturer presence in the online space. Swan et al. (2008) indicate that in addition to social support, lecturers must provide interaction that develops cognitive presence which they describe as the level of inquiry that is fostered through the instructor contributions.

Another point of interest regarding the role of the lecturer relates to Means et al.'s (2010) warning that instructors need to be wary about targeting the learning community rather than individuals in their contributions. Means et al. (2010) indicate that comments that target the group as a whole may influence group interaction, and thus meet Swan et al.'s (2008) social presence, but to foster learning, they argue that comments must be directed at the individual. Three of the four lecturers in this study tended to direct their contributions to individuals and one lecturer used a combination of individual and general group summaries. Pre-service teachers did not respond to either of these forms of interaction so it is unclear whether the individual versus group directed contributions had any bearing on pre-service teachers' learning. What is evident, however, is that this remains an area for further investigation. Further investigation would also be beneficial to explore whether the level of cognitive presence and premise level reflection could be improved if lecturers adopted a role more focused on developing higher order thinking through an increased amount and level of questioning directed to individuals and the group.

Pre-service Teacher Evaluations

In evaluating the use of the online professional learning teams, pre-service teachers generally indicated that the practicum forum was useful for their learning. Of the fifty pre-service teacher respondents to the survey monkey evaluation, 26 (52%) agreed and 7 (14%) strongly agreed that the initiative supported their learning. Nine (18%) were undecided. The course evaluation distributed to ACU pre-service teachers showed that all five pre-service teacher respondents viewed the PLT forums favourably. The reasons provided for why the practicum forum was useful for learning were generally linked to the social and emotional support they offered. For example:

> Keep in contact with lecturers and students (Pre-service teacher 2, course evaluation)
>
> As beginning teachers we really are in need of ideas for teaching strategies, classroom management and teaching resources (Pre-service teacher 4, course evaluation)
>
> I found reading the comments extremely useful and interesting. In many cases I felt I was not the only person experiencing problems (Pre-service teacher survey monkey)

There were some comments indicating that the practicum forum assisted learning:

> Develop more insight into personal teaching practice (Pre-service teacher 2, course evaluation)
>
> Good to open my mind and be aware of common challenges and ways to improve (Pre-service teacher 3, course evaluation)
>
> It helped me broaden my horizon from people who have different perspectives about their experiences (Pre-service teacher survey monkey)
>
> Very useful. I also liked the explicit questions given, which encouraged more intellectual discussion. (Pre-service teacher survey monkey)

When asked whether lecturers' contributions were valuable for the learning experience, most reported favourably, indicating that:

> It is good to have a mentor from the university who has a word about what students write and to redirect the conversation (Pre-service teacher 4, course evaluation)
>
> Keeps you on the right track, helpful insight into problems (Pre-service teacher 2, course evaluation)
>
> Generally prepared and gave useful tasks (Pre-service teacher 1, course evaluation)

Reasons given for not liking the forums were to do with the desire to want to "unload" or because of the challenge to engage in critical thinking:

> The structured discussion feels like assessment - I want to debrief. (Pre-service teacher survey monkey)
>
> I don't like discussion, you have to think of what to respond with. (Pre-service teacher survey monkey)

The first set of these responses aligns with the social and emotional support that was also derived from the general pre-service teachers' discussion. The lecturers' input appeared to enhance pre-service teachers' overall sense of feeling supported. Some comments were also associated with the lecturers' expertise in providing insights and directing the conversation in meaningful ways and appeared to have a closer association with the learning intention of the forum. This suggests that even if lecturers' posts were not being responded to directly as the earlier findings demonstrate, they were still valued by some and may have influenced the thinking underpinning the posts being made, even if this was not explicitly acknowledged or evident.

CONCLUSION

Overall, the findings suggest reflective practice in the online space associated with the practicum experience of teacher education courses offers an opportunity to engage pre-service teachers in meaningful reflection on their teaching practice that goes some way towards addressing the often-criticised theory-practice gap in teacher education. There is some concern about adding additional university requirements to the practicum period given it is usually very time pressured (Parsons & Stephenson, 2005) and in this study this led to some deliberation among the researchers about what would be appropriate and manageable. Pre-service teachers reported favourably on the weekly forum used in the study, indicating that it was a useful strategy to support their learning. It also provided a means of overcoming the often isolated nature of the practicum (Parsons & Stephenson, 2005), that generally sees pre-service teachers placed in schools away from campus for extended periods of time. The process and premise level reflection that emerged in this study shows that an online forum with discussion topics centred on pedagogical practices and the underpinning theoretical notions from their course can encourage critical reflective practice in the online space as well as help overcome the sense of isolation that they can often feel on placements. A model such as Kreber and Cranton's (2000) content, process and premise reflection may also assist lecturers to focus on ways to provide opportunities for social and emotional support as well as fostering learning about teaching practice.

The literature highlights the view that reflective practice for improved practice needs to focus on the identification of a problem (Loughran, 2002; Osterman & Kottkamp, 2004; Schon, 1983). The findings of this study support this notion, particularly in the posts early in the round, which centred on classroom management

issues and fostered reflection and discussion about improvement. Similar reflection on problematic teaching strategies also occurred. However, the reflection on why particular teaching approaches have been successful also appeared to offer opportunities for effective critical reflection on practice. This was evidenced in the "box train" example where success with a teaching strategy led to premise reflection. Thus, reflection need not always be associated with a problem. As well as a deficit view of reflection for improvement, improvement can also be achieved by critically reflecting on why particular approaches are successful and considering ways to replicate the underpinning pedagogical approaches and premises that justify them. Thus, reflective practice can be achieved through reflection on problems encountered in practice as well as through the examination of factors contributing to success.

One of the key findings of this study was associated with the role of the lecturer in the online space, which needs careful consideration in practicum forums. This study provides evidence to indicate that the lecturers' contribution to the online forum did little more than support the social and emotional climate. Further investigation into purposeful, higher-order questioning in online practice-based discussions is needed to examine whether the lecturer can foster increased levels of critical reflection and learning about teaching in the online space which in turn promote the cognitive development with which Salmon (2003) and Swan et al. (2008) are concerned with, and thus heighten the linking between theory and practice.

NOTES

[1] In Australia regional refers to both distance from major cities and population. Regional cities are small (less than 100, 000).

[2] In Victoria, Australia, secondary school refers to Years 7-12 of schools where students are approximately 13-18 years of age.

[3] Middle Years does not have a set definition with different authors defining it in slightly different ways. It is generally considered to encompass the late years of primary school and early years of secondary (Years 5-8 of schooling)

REFERENCES

Australian Institute for Teaching and School Leadership [AITSL]. (2012). *Australian professional standards for teachers.* Retrieved from http://www.teacherstandards.aitsl.edu.au/Standards/Standards/AllStandards

Bernard, H., & Ryan, G. (2010). *Analyzing qualitative data: Systematic approaches*. Thousand Oaks, CA: Sage Publications.

Brookfield, S. D. (1995). *Becoming a critically reflective teacher*. San Francisco: Jossey-Bass.

Burns, R. B. (2000). *Introduction to research methods* (4th ed.). Frenchs Forest: Longman-Pearson Education Australia.

Corley, A., & Eades, E. (2004). Becoming critically reflective practitioners: 'Academics and students' reflections on the issues involved. *Human Resource Development International, 7*(1), 137–144.

Darling-Hammond, L. (2006). Constructing 21st century teacher education. *Journal of Teacher Education, 57*(3), 300–314.

Department for Education [DfE]. (2013). *Teachers' standards.* Retrieved from https://www.gov.uk/government/publications/teachers-standards

Dewey, J. (1933). *How we think*. MA: D.C. Heath and Company.
Hammond, M. (2005). A review of recent papers on online discussion in teaching and learning in higher education. *Journal of Asynchronous Learning Networks*, *9*(3), 9–23.
House of Representatives Standing Committee on Education and Vocational Training. (2007). *Top of the class. Report on the inquiry into teacher education*. [Electronic version]. Retrieved from http:/www.aph.gov.au/house/committee/evt/teachereduc/report/front.pdf
Korthagen, F. (2001). *Teacher education: A problematic enterprise in linking practice and theory: The pedagogy of realistic teacher education*. Mahwah, N.J., Lawrence Erlbaum Associates Inc.
Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education*, *22*, 1020–1041.
Koballa, T., & Tippins, D. (2001). Portraits of professional development models in science teacher education: a synthesis of perspectives and issues. In D. Lavoie, & W. Roth (Eds.), *Models of science teacher preparation* (pp. 213–224). Netherlands: Kluwer Academic Publishers.
Kreber, C., & Cranton, P. (2000). Exploring the scholarship of teaching. *The Journal of Higher Education, 71*(4), 476–495.
Loughran, J. (2002). Effective reflective practice: in search of meaning in learning about teaching. *Journal of Teacher Education*, *53*(1), 33–43.
Loughran, J. (2006). *Developing a pedagogy of teacher education: understanding teaching and learning about teaching*. New York: Routledge.
Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K., (2010). *Evaluation of evidence-based practices in online learning: A meta-anlaysis and review of online learning studies*. Washington D.C.: US Department of Planning, Evaluation and Policy Development.
Mezirow, J. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning.* San Francisco: Jossey-Bass Publishers.
National Board for Professional Teaching Standards [NBPTS]. (2002). *What teachers should know and be able to do*. Retrieved from http://www.nbpts.org/sites/default/files/documents/certificates/what_teachers_should_know.pdf
Osterman, K., & Kottkamp, R. (2004). *Reflective practice for educators: Professional development to improve student learning*. California: Corwin Press.
Parliament of Victoria, Education and Training Committee. (2005). *Step up, step in, step out. Report on the suitability of pre-service teacher training in Victoria*. Melbourne: Victorian Government Printer.
Parsons, M., & Stephenson, M. (2005). Developing reflective practice in student teachers: collaboration and critical partnerships. *Teachers and Teaching: Theory and Practice, 11*(1), 95–116.
Richards, L. (2009). *Handling qualitative data: A practical guide* (2nd ed.). London: Sage publications.
Jones, M. & Ryan, J. (2014). Learning in the practicum: Engaging pre-service teachers in reflective practice in the online space. *Asia-Pacific Journal of Teacher Education, 42*(2), 132–146.
Ryan, J., Jones, M, McLean, A., & Walta, C. (2012). *Preservice teacher education partnerships: Creating an effective practicum model for rural and regional preservice teachers. Final Report 2012*. Australian Government Office of Learning and Teaching. Retrieved from http://www.olt.gov.au/system/files/resources/PP9_1285_Ryan_Report_2012.pdf
Salmon, G. (2003). *E-moderating: The key to teaching and learning online* (2nd ed.). Oxon: Routledge Falmer.
Schon, D. (1983). *The reflective practitioner*. San Fransisco: Jossey-Bass.
Swan, K., Richardson, J., Ice, P., Garrison, R., Cleveland-Innes, M., & Arbaugh, J. (2008). Validating a measurement tool of presence in online communities of inquiry. e-*mentor, 2*(24). Retrieved from http://www.e-mentor.edu.pl/artykul_v2.php?numer=24&id=543

AFFILIATION

Mellita Jones
Australian Catholic University

CONCLUSION

MELLITA JONES & JOSEPHINE RYAN

10. SUCCESSFUL AND 'TRANSFERABLE' PRACTICE

Politicians' questions about whether there is a blueprint for successful teacher education are customarily resisted by those in teacher education. The response might be "Teacher education is a complex activity and straight-forward formulae are not available." The contributions to this volume present evidence of this complexity. Each illuminates a particular aspect of teacher education, presenting points of tension, perhaps contradiction, between their points of view. However, analysis of their collective experience, arguments and evidence illuminates key shared perspectives. The following chapter will outline these arguments, offering not so much a blueprint but some clear signposts about possible future directions for teacher education.

Generally speaking, course designs are based on a variety of learning theories and while they might look similar, the purposes of each are important because they have an impact on how they work. In this volume, five course models have been explicated, two of which are site-based models: Redman (Chapter 1) and Neal and Eckersley (Chapter 2) and two are blended courses in which online learning is a feature, Ryan (Chapter 3), and Walta and McLean (Chapter 4). A further distinctive "community-based" model (Hall, Chapter 5) has been developed to address the particular challenges of preparing Indigenous teachers to teach in the remote locations of Australia's Indigenous communities where Indigenous languages rather than English are prevalent and distances from the university are measured in days travelled by road. In the latter part of the book, some of the distinctive practices associated with more mainstream course models have been examined including the notion of school-university communication during the essential practicum period of teacher education (Ryan & Jones, Chapter 6); how the art of teaching can be studied for nuances of practice (Reid, Chapter 7); authentic and effective use of mobile technologies (Herrington, Ostashewski, Reid & Flintoff, Chapter 8); and how to promote critical reflective practice in the increasingly pervasive online teaching space (Jones, Chapter 9). Together these contributions provide messages about high quality teacher education and possible directions for its future. Teacher education can be both distinctive and very similar in different settings. This chapter aims to explicate these distinctive and similar features and provide ideas for successful and transferable practice.

THEORY-PRACTICE IN TEACHER EDUCATION

The theory-practice divide that pre-service teachers must bridge is one of the most frequently cited problems for designers of teacher education (Zeichner, 2010a). The

Jones & Ryan (Eds.), Successful Teacher Education, 177–194.

extreme version is that university teacher educators are seen as superfluous because they are on the less useful, theoretical side and school teachers are the real source of practical teacher education (see Kumashiro, 2010 for discussion of the tensions in the debate). For writers in the present volume, theory-practice or school-university are not dichotomous as they have often been described in past and present teacher education debate (Darling-Hammond, 2006a) but the challenge is how to create successful integrated models. The authors describe a range of journeys through which they established programs, and practices within these, which give pre-service teachers a more integrated experience in which their work at university and that in schools complemented each other.

It is useful to consider, as Reid does in this volume (Chapter 7) and elsewhere (Reid, 2011), the history of teacher education from which the contemporary debate about theory and practice emerged. Teacher education in former eras has been viewed as an *apprenticeship*, learned by doing in the classroom under the tutelage of a more experienced teacher. Later conceptualisations saw it as *training in key practices*, this time at a teacher's college. In both these views of teacher education, theory is relatively invisible in the practical world of classrooms. But even within an apprenticeship model there is an idea of what good teaching is, a theory of teaching that is embedded in the program of study. And, as Reid notes, citing Lortie (1975) and Brizman (2003), frequently these views of teaching are conservative. Teacher education is prone to conservatism because of the fact that we all have experienced teaching in our own schooling and it is easy to fall back on familiar patterns. Following Dewey, Reid argues we need a study of teaching which is not a reproduction of what has been seen but the result of "reflective practitioners who are disciplined and thoughtful in their work" (p. 124).

The capacity to reflect on experience and make decisions based on this reflection is the essence of what is meant by reflective practice and is one key component of all the models presented in this volume. It has been argued that reflective practice is the contemporary paradigm of teacher education replacing what Korthagen and Kessels (1999) describe as the more "traditional application-of-theory" (p. 4) models of teacher education. It has become the prevailing approach to learning about teaching whether in pre-service teacher education or in-service professional development. Moreover, reflective practice is an expected component of teachers' professional lives (Corley & Eades, 2004; Parsons & Stephenson, 2005). The notion of reflective practice is argued to assist pre-service teachers to make theory-practice links (Korthagen, Loughran & Russell, 2006) that help them interrogate practice and try to formulate reasons for particular actions, or indeed, inactions in the classroom. In this way, teacher educators aim to foster pre-service teachers' ability to articulate *why* they do what they do or *why* they should do it differently, and thus move away from what Parsons and Stephenson (2005) note is usually a focus in their thinking on "*what* should I do" when engaged in teaching experiences. Reflective practice, designed in particular ways, can encourage this focus on *why*. Thus, teacher education through reflective practice brings the practice and theory together.

Where there is an emphasis on core skills, without the opportunity to problematise these skills, education can reproduce limited knowledge. A key argument of the writers in this volume is that reflective practice is not an automatic skill of the learner but needs to be modelled and practised. In the context of teacher education, the absence of the teacher educator who is exemplifying and encouraging reflective practice can lead to reproduction of existing practice. This has been the charge made about the school-centred programs offered in the United Kingdom (UK) as discussed by Neal and Eckersley (Chapter 2); and the fast-track teacher education qualifications available in the United States (US) (Zeichner, 2010b). In non-university teacher education programs where the academy has been side-lined there may be insufficient critique of current practice. Site-based models of teacher education, as described by Redman (Chapter 1) and Neal and Eckersley (Chapter 2), aim to unite the academy with the school so that pre-service teachers are involved in learning through praxis-inquiry, that is, they are asked to develop their theories of teaching from the practice they see in schools and reflection is the process through which this learning is achieved.

PARTNERSHIPS IN TEACHER EDUCATION

It is argued then by many in teacher education including those in this book that integrated teacher education programs that bridge the theory-practice gap must be founded on a working relationship between schools and universities (Darling-Hammond, 2006b). Thus the notion of *partnerships,* which is so often mentioned in models of teacher education, becomes important (Kruger, Davies, Eckersley, Newell & Cherednichenko, 2009). Most courses described in this book use the term *partnership* to describe the relationship with schools through which they attempt to induct pre-service teachers into the profession. As has been noted (Neal, 2010), partnership is a slippery term. Course designers refer to different things when they say they have a partnership with schools. The designers of both the Melbourne clinical model (Redman, Chapter 1) and the Victoria University (VU) site-based approach (Neal & Eckersley, Chapter 2) assert that the school learner is at the centre of their models. They are able to claim this because within their model pre-service teachers are regularly based in schools and so are seen as working with teachers to improve school students' learning. In a continuation of the tradition of US professional development schools (Darling-Hammond, 2005), or similar in the UK (as outlined by Redman, Chapter 1), lecturers teach some of their subjects in the schools, collaborating with teachers to do this. Neal and Eckersley (Chapter 2) point out that the act of teaching academic university subjects in the school does not in itself lead to meaningful integration of theory and practice in the minds of pre-service teachers. Rather it is the implementation of a praxis-inquiry process to pre-service teacher learning in the school setting that is critical to growth in understanding. The course designers argue that pre-service teachers are enabled to develop their theories of learning and teaching through both the frequency and the continuity

of their encounter with school experience mediated by the university and teacher mentors. One of the pre-service teachers in the Neal and Eckersley (Chapter 2) study put it this way:

> [L]ike we're in the classrooms and then something happens we can come back here [to their tutorial space with the lecturer] and talk about it, how one teacher did it one way and have group discussions about what we've just seen in the classroom. (p. 40)

The writers of both Chapter 1 (Redman) and Chapter 2 (Neal & Eckersley) note that the practice of integrating school teachers into the teacher education program, and pre-service teachers into the school program, ensures the partnership is far-reaching in its impact. Such an approach has been termed a "collaborative" partnership (Kruger et al., 2009, p. 47) in that there is a comprehensive working together in which both lecturers' and teachers' roles are altered within the arrangement. As noted above, a feature of the collaborative partnership is the shared focus on the learning of the child (Kruger et al., 2009), and in this volume Redman and Neal and Eckersley describe the operation of such partnerships. These arrangements can be contrasted with "complementary" partnerships (Kruger et al., 2009, p. 47) where pre-service teachers are placed in the schools to be mentored by teachers but with a lower level of interaction between the universities and schools. In these approaches it is usually the pre-service teacher who is at the centre of the partnership and this may create potential for tensions in the relationship due to the fact that the teachers have other school agendas (Ure, 2009).

It is instructive to note the various ways a collaborative partnership has been theorised and organised. For Redman (Chapter 1), the clinical model reflects the idea that pre-service teachers are seen as learning to use *data* about school students' current knowledge to define goals and deliver teaching interventions. As Redman notes, the clinical model relies on the notion of more expert individuals who can model instructional practice. Within the model these experts are both the university academic, called the "clinical specialist", who deliver seminars in the school setting, and the school-based personnel or "teaching fellow" who, among other responsibilities, visits the pre-service teachers in their classrooms. These experts, Redman explains, have a clear focus on the pre-service teachers' learning about how to address the potential in school learners. Pre-service teachers within the clinical practice model are expected to discuss their classroom work in terms of research-based evidence of optimal pedagogical practice. A condition, then, of the successful working of this model is the creation of an environment where school student data and research data is exchanged among participants in the teacher education process. In both the Redman and the Neal and Eckersley models it is important that this takes place at the school so student data is readily accessible. Neal and Eckersley state: "Tutorials at universities often raise issues that are not contextually relevant to the pre-service teachers and cannot be immediately reviewed in classrooms" (p. 41).

A number of the authors (Redman, Chapter 1; Neal & Eckersley, Chapter 2; Walta & McLean, Chapter 4) argue that teacher education needs to reject the individual apprenticeship model where a pre-service teacher is placed in a school with an individual teacher, and instead, create a community of inquiry where the pre-service teacher has an opportunity to discuss multiple views of practice with a community of colleagues. They claim that the old roles of *university* and *teacher supervisor* and *student teacher* or *practice teacher* do not match the active, multi-relational role that is required of all members of the community of practice in developing pre-service teachers' knowledge. As Neal and Eckersley highlight, a community of practitioners means that:

> The emphasis is no longer placed on the sole mentor or university lecturer as being the font of all knowledge. There are opportunities for shared exchange of new ideas, to view and experience the interpretation of various teaching approaches, and to engage in the professional dialogue between multiple staff and pre-service teachers to link theory and practice about effective pedagogy. (p. 39)

A strength claimed for the collaborative partnership approach is that it places the learning of the pre-service teachers in the space of their future work and this fosters their identity and agency as teachers. However, Reid (Chapter 7) presents another way of looking at the partnership model by arguing that there is a need for pre-service teachers to "study teaching in order to prepare them to teach" (p. 122). That is, rather than learning through immersion in the school where the focus is on studying student learning, the pre-service teacher is given opportunities to focus on specific aspects of the teacher's craft *before* they are placed in schools, "carefully observing, practising and reflecting" (p. 127) in order to understand decisions that inform the actions that an expert teacher takes. This mirrors the *what* and *why* of reflective practice where the experience is not based on school observations but on expert teachers' modelling aspects of practice. Reid's project where pre-service teachers show their developing embodied practice to lecturers and each other for review in a setting "where skills can be repeated and refined without penalty" (p. 131) is another way of creating a more integrated theory-practice model. It is interesting to note that one of Reid's goals is to make teacher education manifest the proposition that teaching is a bodily as well as a cognitive activity, which adds a dimension to Redman's (Chapter 1) discussion of pre-service teacher education as a "cognitive apprenticeship" (p. 19). However, in arguing for there being aspects of the teacher's craft which can be practised out of context, Reid is also at pains to avoid the idea that teaching consists of a transferable set of skills that can be easily learnt and applied. Rather, Reid argues, teaching is embodied and situated practice.

DOES CONTEXT MATTER IN TEACHER EDUCATION?

Within teacher education there remains debate about the extent to which teaching pedagogies are transferable and how teacher education can prepare teachers for

particular contexts. Redman (Chapter 3) and the clinical practice view of teacher education tends to suggest that the clinical assessment of school students' needs is a transferable practice because the assessment and resulting intervention must take account of the school context in making decisions. For those who focus on the importance of understanding the particular needs of disadvantaged social groups, teacher education needs to be more contextual. Australian and international evidence is that disadvantaged groups are more likely to be taught by teachers unqualified for the position they are occupying (Kline, White & Lock, 2013; Zeichner, 2010b). Writers of other chapters stress the need for teacher education to be focused on the needs of particular communities. Ryan (Chapter 3) argues that without teacher education for rural and regional communities the entrenched disadvantages experienced in these areas are reinforced by the higher education system. Ryan presents evidence that teacher education which engages with the needs of rural communities can lead to employment in these areas; and others present data that they are more likely to remain in these communities if it is where they have undertaken their studies (e.g. Kline, White & Lock, 2013). Neal and Eckersley (Chapter 2) argue that there is particular merit in universities establishing partnerships with schools in low socio-economic communities because the experience will assist pre-service teachers to work in such vulnerable communities, an approach that has a considerable history in the US (Zeichner, 2010b).

A further illustration of context being important can be extrapolated from discussion of the online reflective practice that takes place during the practicum (Jones, Chapter 9). This strategy was established to achieve similar outcomes to Neal and Eckersley's (Chapter 2) more immediate reflection on experiences that can occur through their site-based model. Jones demonstrates that the situated and immediate reflection that is encouraged in Eckersley and Neal's site-based model can be emulated through the online space. This is a necessary alternative for rural and regional contexts, which are characterised by geographic diversity and isolation, and consequently where school visits and/or site-based models that include a university presence are impractical to implement. Context is also vitally important for Hall (Chapter 5) who argues that successful teacher education for Indigenous pre-service teachers needs to be embedded in Indigenous school and cultural contexts. Without this community-based work teacher education will not even produce teacher graduates, let alone ones who can operate successfully in these highly contextualised settings. Governments under pressure to find solutions to complex educational problems such as the low educational achievement in particular schools, have sometimes decided that a change to teacher education will address questions of teacher quality; e.g., through the implementation of a skills test for teacher graduates (Zeichner, 2010b). This idea has considerable currency in contemporary Australia (Dinham, 2013). And yet the evidence in this volume is that it is school experience, mediated with the assistance of more expert mentors during pre-service teacher education, which is empowering for graduates. Given that schools with a high proportion of students from educationally disadvantaged

groups present particular challenges it is essential that teacher educators make it their business to keep strong connections with these schools.

Generally, the contributions to this volume align with the research from situative theorists (e.g., Brown, Collins & Duguid, 1989; Lave & Wegner, 1991) who argue that both physical and social contexts are an integral aspect of the learning that takes place (Brown et al., 1989). Learning does not just occur in the learner's head as a set of isolated and independent set of skills and facts, but rather is embedded in activity, culture and context—the situation in which learning is experienced and enacted (Lave & Wegner, 1991). As Putnam and Borko (2000) argue, teacher learning is affected by the settings in which it takes place. Thus attention must be given to a range of settings such as Hall's Indigenous communities (Chapter 5); the rural and regional contexts of Ryan (Chapter 3) and Walta and McLean (Chapter 4); and the low socio-economic groups of Neal and Eckersley (Chapter 2). Given the wide-spread evidence of disadvantage in education for rural and regional, low socio-economic communities and Indigenous populations, the learning needs of the students and the teachers in these contexts must be distinctive and must be attended to in a manner that respects their various and differentiated needs. This illustrates that the notion of *transferable* practice is a difficult one. Learning about teaching in this volume, and as shown in the lessons of situated learning theory, is connected to the context in which it takes place, and thus what is appropriate and effective in one context may not be successful in a different context making the notion of transferable practice idealistic and somewhat illusory.

REVISITING THE PEDAGOGIES OF REFLECTIVE PRACTICE

As noted earlier, reflective practice is a feature of all contemporary models of teacher education. In this book, reflective practice was explored in a variety of ways.

Reflection in the online space was featured in the approaches described by Ryan (Chapter 3) and Walta and McLean (Chapter 4). Each of these contributors highlighted how the online platform provided opportunities for pre-service teachers to engage in reflective practice focused on examining theory-practice links, which have been established as being essential to quality teacher education. However, the particular mixed-mode models discussed in these chapters also highlighted how the purpose of reflection is important to consider. When the links between theory and practice are the key focus of reflection, reflection needs to be at a more critical level where the general importance of ideas for teaching and learning are considered. However, as discussed by Walta and McLean (Chapter 4) and Jones (Chapter 9), reflective space can also provide important social and emotional support, particularly in online or distance programs, and during the practicum period when pre-service teachers can find themselves quite isolated from their peers. This issue is exacerbated for rural and regional courses where a greater tendency exists for pre-service teachers to be placed in schools that are geographically diverse; and this placement often occurs without a peer group. In these situations the online reflective space also provides a

platform for sharing more descriptive-type reflections about successes and failures, queries and ideas; and the purpose is more focused on providing the social and emotional support that Swan, Richardson, Ice, Garrison, Cleveland and Arbaugh (2008) discuss.

On the other end of the continuum we saw site-based models described by Redman (Chapter 1) and Neal and Eckersley (Chapter 2) where entire programs were based in schools, including delivery of theoretical components by university staff or their representatives. In these models, reflection was still integral to the design of the learning. Redman highlighted how school-based seminars enabled both pre-service and in-service teachers to attend to and discuss the theoretical aspects of teacher education, and reflect on these in relation to the classroom practices of which they were a part. These seminars provided the space and resources for reflection on the "implications of their ideas on their teaching, and student learning" (p. 26). In a similar way, Neal and Eckersley describe the use of learning circles for the development of pre-service teachers' understanding of the theory-practice nexus and indicate how the school-based approach can "promote self-reflections as key elements of an action-learning process" (p. 38). This provides what they describe as "real-time" (p. 38) opportunities providing immediacy to the reflective discussion that makes the linking of theory and practice more meaningful and engaging. The advantage of the site-based model described in these contributions appears to lie in the capacity for both pre-service and in-service teachers to both engage in the learning seminars/ circles and thus access joint professional learning. In these examples the focus on the theory-practice links that reflective practice can provide are evident.

The design of reflective practice is particularly important when instructors are aiming for *critical* reflection that encourages pre-service teachers to think and articulate their understanding of theory-practice links. This design is paid particular attention in Jones' (Chapter 9) account of critical reflection in the online space. In this contribution Jones discusses Kreber and Cranton's (2000) content, process, premise levels of reflection that describe reflection from a descriptive, content level account of experience, to premise level reflection that considers the general importance of particular ideas and approaches to teaching. Jones highlights the design of forum questions, the role of peer interaction and the nature of the lecturer contribution, particularly in regard to questioning, as potential factors that encourage critical level reflection. This provides useful insights for teacher educators to consider in terms of not only how to establish opportunities for critical reflective practice, but also for their role throughout its implementation, as well as that of the pre-service teacher participants.

One of the most interesting discussions of reflective practice for pre-service teacher learning occurs in Reid's discussion of "practice" in Chapter 7. Reid discusses the very essence of studying practice where pre-service teachers connect:

> how and why an expert teacher moves, arranges and uses her body in relation to the material elements of her teaching space. They will have studied how, when and why an expert teacher speaks and is silent, says things and listens,

> comments and responds to learners; how and why she sequences and arranges ideas and activities to assist the learners; and how she connects and interacts in relation to them as individuals and as a group. (p. 127)

As noted, Reid, echoing Lortie (1975) and Britzman (2003), warns us of the belief pre-service teachers tend to have in their own experience of what teaching looks and sounds like; and how this can be an obstacle in teacher education where pedagogical reform and/or innovation in practice are to be taught. Like Loughran (2006), Reid reminds us that learning does not occur from experience alone. Instead she wants pre-service teachers to be taught *how* to study their practice so they can take this skill with them as they enter the profession, and thus, be equipped to study their practice as teachers in order to be as effective as possible.

The notion that the expert teacher can operate with theory in practice as a natural way of teaching is embedded in standards for teacher education around the world (e.g., Australian Institute of Teaching and School leadership [AITSL], 2013; UK Department for Education [DfE], 2013; USA National Board for Professional Teaching Standards [NBPTS], 2013). The assumption is that the more teachers critically reflect with the intention of improving their practice, the more automatic these improved practices will become. Reid expounds on this when she refers to Korthagen and Kessel's (1999) gestalt, schema and theory levels of developing knowledge about teaching. The process of reflecting on existing gestalts—"what it is that guides their own behavior" (Korthagen & Kessels, 1999, p. 10), and schema—the "conscious mental framework of concepts and relationships" (Korthagen & Kessels, 1999, p. 10), the teacher educator can begin to formulate theoretical or epistemic levels of knowledge about their teaching. This theoretical knowledge about their practice is characterised by the "definitions, axioms (basic relationships), and logically derived propositions" (Korthagen & Kessels, 1999, p. 10) that are formed as a result of the critical reflection undertaken. Korthagen and Kessels argue that, with time, these new understandings about their practice are eventually used in more intuitive and less conscious ways, and as such a new gestalt is formed based on the reduction of the levels created from reflecting on the original gestalt. This illustrates the power of reflective practice for developing competent and successful teachers and highlights its place as a fundamental component of teacher education if the nexus between theory and practice is to be truly addressed. Given that students' learning is closely linked to the quality of the teacher (Darling-Hammond, 2006c), and this quality is related to the teachers' ability to enact their craft and adopt practice informed by relevant theory suited to the particular context, it is essential that effective strategies for encouraging reflective practice are developed in teacher education.

TECHNOLOGY FOR SUCCESSFUL AND TRANSFERABLE PRACTICE

The notion that it is the teachers who make the difference in education (Darling-Hammond, 2006c; Hattie, 2003) can be attributed to a range of factors about their practice, and of these factors teachers' understanding and use of pedagogy is paramount.

Knowledge of pedagogy is what enables the teacher to plan for and represent subject matter in a way that it is most accessible for learners (Shulman, 1986). The underpinning principles of good pedagogy need to inform teaching and learning design, and this is no different when planning for learning with or through technology. In fact, pedagogy in relation to technology has been viewed as a particular form of teacher knowledge termed Technology, Pedagogy and Content Knowledge or *TPACK*, which is "the basis of effective teaching with technology" (Koehler & Mishra, 2009, p. 66).

Technology for Communication and Learning

Technology is a key feature of recent writing about successful twenty-first century teacher education. Its effective use "is widely recognised as a crucial component of modern education and is increasingly seen as an enabler of learning" (Jones & McLean, 2012, p. 76). Thus it is no accident that technology was a feature common to many of the contributions in this volume. Technology was illustrated in a range of ways in the various chapters, including through the use of mobile devices such as the iPods, tablets, smartphones and Flip cameras to support learning, as described in Chapters 4, 5 and 8; and through online learning platforms that see teacher education occurring more at a distance, as described in Chapters 3, 4, 6 and 9. Technology was a key feature for communication through the use of Information Communication Technology (ICT), as demonstrated in particular in Chapter 6 where we saw email, Skype and webpages as examples of technology for communication purposes. Each of the examples was concerned with ways in which the *effective* use ICT is achieved for its given purpose.

Effective use of technology needs careful consideration of its purpose. When used to support learning, it was clear that pedagogy was of key concern, and that what is already established about good pedagogy is as relevant for technology as it is for general teaching practice. This was explicit in Walta and McLean's chapter (Chapter 4), which stated that, "uses of new technologies do not create a new paradigm of learning, but rather embed principles of good learning" (p. 75). Making a similar point, Herrington et al. (Chapter 8) illustrated how the principles of *authentic learning*, where the needs and interests of students are the focus of student-centred learning, link to the design of effective mobile learning environments. This student-centred learning was in fact a feature of most accounts of successful use of technology including Walta and McLean's various uses of online and mobile technology; Ryan's account of pre-service teacher involvement in the online space (Chapter 3), which was further developed in the illustration of online reflective practice (Jones, Chapter 9); and in Hall (Chapter 5) and Reid's (Chapter 7) use of Flip video for pre-service teachers to record examples of practice.

Technology for Collaboration

Collaboration between pre-service teachers was another feature of successful use of technology that was evidenced in a range of contributions. Collaborative

approaches to learning with technology were significant for Walta and McLean who discussed Garrison's (2011) *Communities of Inquiry* approach to online learning as a focus of their model (Chapter 2) where pre-service teachers used a range of handheld mobile devices (e.g. iPods, tablets, smart phones) and online learning platforms (e.g., Moodle, Pebblepad, Blackboard). Reid (Chapter 7) used technology to provide the video stimulus for shared study and analysis of teaching practice that relied heavily on peer interaction. Herrington et al. (Chapter 8) described the collaboration in which pre-service teachers engaged to use mobile devices to create a "multi-faceted web portfolio" (p. 141) that reflected the use of ICT as "cognitive tools and as delivery platforms" (p. 141). The online practicum discussions reported by Jones (Chapter 9) argued for the need for a social space that allowed shared discussion and reflection to link knowledge of theory and practice. Each of these examples demonstrates evidence of the affordances of technology to promote social construction of knowledge where the technology acted as a stimulus or medium for collaborative learning.

Technology for Catering for Diversity

A further affordance of technology that emerged from some contributions was its capacity to cater for diversity. Diversity was evident in the range of devices that authentic approaches to learning encouraged. This was illustrated by the different hand-held mobile devices utilized by Walta and McLean (Chapter 4) and by Herrington et al. (Chapter 8). In fact Herrington et al. argued that the use of technology for learning needs to be less prescriptive and should encourage and enable learners to "use the familiar technologies of their everyday world" (p. 148) rather than limiting them to the technology device(s) set or prescribed by the teacher. This notion also links to the idea of catering for learner diversity, not just through the selection of technologies to which learners may have access and familiarity, but also competence in using. A further example provided by Herrington et al. (Chapter 8) demonstrated this capacity of technology to cater for diversity emerged in their discussion of the way collegiate sharing supported academics' technology professional learning regardless of their initial abilities; and how this in turn led to increased use of technology to support pre-service teacher learning. These ideas of catering for diversity align with Jones and McLean's (2012) discussion of technology as a medium for catering for learner diversity. Jones and McLean indicate that giving pre-service teachers a voice in what they can do and want to learn in terms of technology caters for their interests and abilities and can also allow the technology to be utilised in any learning context, particularly when it becomes a platform for presenting learning.

Perhaps the most significant example of technology's capacity to cater for diversity came from Hall (Chapter 5) who reported how Indigenous teachers studying their fourth year upgrade used Flip cameras to compile video evidence of practice. This allowed these students, whose culture was embedded in an oral language history rather than a written one, to develop and sometimes even present their work through

a style that was more suited to their cultural heritage. Thus the technology became an enabler for addressing cultural diversity.

Professional Learning for Technology Use

The various uses of technology demonstrate that they are successful for learning when they are embedded within generally sound pedagogical approaches that are not necessarily unique to technology. However, they do require a particular knowledge of what technologies are available, and how they can be adapted and used for educational and learning purposes. This is illuminated by Ryan (Chapter 3) who reports evidence of more and less effective approaches to online learning design, which pre-service teachers attributed to lecturers' computer literacy. This suggests that some form of specific technology instruction is required to ensure academics apply the general principles of effective pedagogy when incorporating technology in learning, a notion supported by Kim, Mims and Holmes (2006). In fact the New Media Consortium Horizon Report states that "despite the widespread agreement on the importance of digital media literacy, training in the supporting skills and techniques is rare in teacher education and non-existent in the preparation of most university faculty" (Johnson, Adams & Cummins, 2012, p. 6). Herrington et al. (Chapter 8) also recognise what can be a steep learning curve for academics and that access to professional learning is needed if technology is to be embedded in a manner that can reflect the general principles of authentic and effective learning.

One of the most difficult aspects of working with technology in an effective manner is that they can be used in multiple ways, for a range of different tasks and purposes. Often their designs are not particularly intended for educational purposes (e.g., Microsoft Office was designed for business; many handheld devices were designed for personal use). Technology is also constantly changing and is somewhat *black box* in nature in that users do not often know or understand how they function internally in order to fulfill their outward function. These somewhat elusive features of technology can make it challenging for teachers to appropriately trial them in their teaching and highlights the need for "forward-looking, creative, and open-minded seeking of technology use … for the sake of advancing student learning and understanding" (Koehler & Mishra, 2009, p. 66). Thus, whilst the general principles of good pedagogy are evident in effective use of technology for learning, they are not necessarily directly transferable to teaching with technology.

Overall, the use of technology in collaborative, student-centred ways, that reflect authentic learning as depicted in the various chapters, demonstrates that technology can provide a vehicle for effective and successful twenty-first century teacher education. However, this does not occur when technology is used without specific, focused educational purpose that recognises the connections between this purpose and the technology, content and pedagogy used. Koehler and Mishra (2009) argue: "the complexity of technology integration comes from an appreciation of the rich connections of knowledge among these three components [technology, content

and pedagogy] and the complex ways in which these are applied in multifaceted and dynamic classroom contexts" (p. 67). The examples provided in this volume demonstrate some of these effective, multi-faceted and complex uses, but also remind us that the skills and understanding of this use is not innate in teachers or academics. Therefore, studying effective ways in which to foster Technology, Pedagogy and Content Knowledge [TPACK] (Koehler and Mishra, 2009) is required in professional learning and in teacher education alike. Funding models that support both time and access to such professional learning are important if successful technology-embedded teacher education, such as illustrated in this book, is to be achieved.

FINANCIAL CONSIDERATIONS

Further consideration must also be given to funding when particular models of successful teacher education are considered. An atypical facet (in the Australian context) of the Melbourne model (Redman, Chapter 1) is that the university faculty of Education is prepared to support their staff members, called "clinical specialists" with time in their work load to undertake this school-based pre-service teacher work; and also to contribute substantially to teachers having time to participate in pre-service teacher work. It is argued that without this commitment of substantial resources by the university the partnership will not be successful (Darling-Hammond, 2005; Kruger et al., 2009). The contemporary trend for university lecturers to be required to concentrate more on research than pre-service teacher preparation is a persistent danger to strong teacher education (Zeichner, 2010a).

In the Australian context, universities have long argued that governments have not provided sufficient funding to allow them to develop collaborative partnerships with schools. Lecturers, they claim, have too many calls on their time to permit such partnerships with schools (Parliament of Victoria, 2005). While government reports may endorse the universities' claim for more money to improve teacher education, the funding has remained scarce (House of Representatives, 2009). It has been argued if society wants a high quality education system it must be prepared to pay for it (House of Representatives, 2009). That is, funding that is sufficient and predictable needs to be provided so that university and school personnel can prioritise partnership work (Kruger et al., 2009).

Sufficient government funding to create collaborative partnerships with schools was what allowed the Victoria University "School Centres of Excellence" to develop. The funding model from the Australian and Victorian governments (Department of Education and Early Childhood Development [DEECD], 2011) allowed more than 1000 pre-service teachers to be embedded for two days per week and for blocks of time in school environments that were seen to exhibit high quality teaching practice. As argued in the US (Clift & Brady, 2005) it is incumbent on those who argue for this expensive, intensive form of teacher education to show that its results are superior to the traditional complementary model. But such research must be broad

and systematically organised. Darling-Hammond has attempted this through her case studies of high quality teacher education programs (Darling-Hammond, 2006b) and her meta-analysis of the impact of participation in teacher education programs on school learning (Darling-Hammond, 2006a). But in the Australian teacher education context, until the quality of teacher education can be seen to be linked to an improvement in high stakes measures valued by governments, such as the Programme for International Student Assessment *(*PISA) scores, then governments will continue to be skeptical about teacher education and universities cannot depend upon the systemic support for teacher education partnerships (DEECD, 2012). This leads to the discussion that follows about the importance of evidence in promoting particular approaches to teacher education.

EVIDENCE FOR THE VALUE OF INNOVATION IN TEACHER EDUCATION

Neal and Eckersley (Chapter 2) investigate the impact of their teacher education program within a Participatory Practitioner Research framework because, for them, the enterprise of initial teacher education is a shared one between the university and school participants as well as the pre-service teachers. The project presents evidence that pre-service teachers understand and purposely create knowledge about teaching through their participation in the extensive, embedded school experience that the teacher education program allows. They present comments from principals that the impact of teacher education's success has been evident within the school. Redman (Chapter 1) discusses the way the pre-service teacher education process within a clinical practice model is distinctive from other models. One key feature of this is the clinical praxis examination (CPE) as a key mode of assessment for the pre-service teachers. Here rather than submitting a more traditional academic essay or report-based written evidence of their development the pre-service teacher "publicly discusses and shares the processes they undertook in their effort to intervene successfully in a student's learning journey" (p. 25).

Hall's research (Chapter 5) presents the kind of evidence teacher education needs in that she shows the value of the community-based model in terms of retention and success rates. The approach in which staff travelled to the small, remote communities is one which financial audits might see as less than cost effective. "Why not make the students in the program travel to the university and deliver the program once rather than multiple times in various communities?" an accountant might ask. And yet the program's high retention and success rates compare favourably with on-campus models where the Indigenous students were asked to study away from their communities. However, it is important to highlight that while success and retention rates are one measure of the success of teacher education programs many would agree with Redman (Chapter 1) who argues that teacher education must ultimately be judged by school students' outcomes. Hence one way of assessing the value of teacher education is to follow pre-service teachers as they become teachers to see whether expert teachers have developed.

If such a longitudinal approach is taken it is important to recognise the complexity of school educational outcomes and that the pre-service teacher is not the only variable (Zeichner, 2010b).

It has been stated often since the seminal 2005 study (Cochran-Smith & Fries, 2005) that teacher education research is in its infancy and has not yet learned that cooperation between researchers and larger scale studies are needed. Not long after the US critique of teacher education research, a similar point has been made about Australian education research (Nuttall, Murray, Seddon & Mitchell, 2006). This critique applies to the individual contributions to this volume and is one which is not based on the quality of the particular accounts but rather that their claims are not part of an orchestrated program of research within teacher education. Each of the models of teacher education presented in this volume provides some evidence about the quality of their programs. Often there are parallel and perhaps even complementary approaches: for example, the community of inquiry that is a significant feature in the model of Walta and McLean (Chapter 4) is similar to the community of practice described by Redman, and to the participatory practitioner framework from Neal and Eckersley (Chapter 2). Hall (Chapter 5) also reviews a community-based approach that shares similar features to these others. Each of these models has been reviewed, evaluated and reported using different research methods and present varying levels of evidence and are somewhat limited in scale. The critique about the limitations of teacher education research will persist until teacher education researchers move beyond that of individual programs to look across programs to generalise about features that are significant in ensuring quality. The onus is on partnership programs particularly because, as noted, partnership approaches are expensive in comparison with complementary ones.

In the current Australian context, as has been the case in other parts of the world (Zeichner, 2010b), university pathways to teacher qualifications are being challenged by a fast-track, learn-in-the-classroom qualification Teach for Australia (Teach for Australia, 2013; Tovey, 2013). The alternative pathway has received support from governments of various persuasions seeking ways to address perceived issues of teacher quality and school achievement (DEECD, 2012; Tovey, 2013). In the face of such challenges it is not useful for university teacher educators to be merely defensive (Zeichner, 2010b). Rather, it is important that they are able to provide evidence for the success of their programs. As discussed, the form this evidence should take has been debated. The calls for more co-ordinated cross-institutional studies (Nuttall et al., 2006) constitute one necessary direction for teacher education research. But it is important that in the call for a more uniform approach, the particular experience of the pre-service teacher in a particular program is not lost, not to mention the other voices such as those of teacher mentors and school students (Clift & Brady, 2005). Moreover, teacher educators, like those in this book, are keen to study their own practice so that academics undertaking research on their own programs is likely to continue (Cochran-Smith & Fries, 2005). Individual studies are also less expensive than larger scale research (Nuttall et al., 2006). As noted, the on-site models of

Melbourne University (Chapter 1) and Victoria University (Chapter 2) have received funding to support their collaborative model of teacher education but such funding is not available to all universities. Ongoing research is required to provide the evidence which might encourage governments to offer greater resourcing so that the models and practices are not the just the work of "inspired individual" teacher educators and universities (Kruger et al., 2009, p. 1).

One productive development would be more meta-analyses where the findings of the small studies are analysed for core insights. On a small scale, this chapter has undertaken such an analysis of the key ideas of the writers in this book. The meta-analysis suggests that the successful models of teacher education are ones that respond to local situations, particularly changing stakeholder needs and constrained budgets, in innovative ways so that university and school links are maintained. Successful programs need to focus on reflective practice, praxis, and pedagogy where the essence of teacher practice can be studied and honed. Successful teacher education is not focused on *tools* (e.g., ICT), but still utilise twenty-first century resources in ways that support authentic learning and address specific learning needs. Partnerships with schools are also important, whether they be complementary or collaborative in nature. Successful partnerships appear to rely less on their nature than on the effort given to ensuring they work effectively; where they are not being taken for granted, but rather where the partners and their particular needs are acknowledged and are of concern. Thus successful practice has a range of representations that are characterised by deceptively simple ideas, which makes the idea of *transferable* practice not particularly useful. The messages stemming from the contributions in this volume indicate that there is no easy *transferable* formula for strong teacher education. However, there are the signposts of integrated, partnership approaches that focus on praxis-inquiry and reflective practice, and utilise twenty-first century technologies in an authentic and situated manner.

REFERENCES

AITSL. (2013). *Australian professional standards for teachers*. Retrieved from http://www.teacherstandards.aitsl.edu.au/Standards/AllStandards

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher, 18*(1), 32–42.

Clift, R., & Brady, P. (2005). Research on methods courses and field experiences. In M. Cochran-Smith, & K. Zeichner (Eds.), *Studying teacher education: The Report of the AERA panel on research and teacher education* (pp. 309–337). London: Lawrence Erbaum Associates.

Cochran-Smith, M., & Fries, K. (2005). Researching teacher education in changing times: Politics and paradigms. In M. Cochran-Smith, & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education* (pp. 69–109). American Educational Research Association publication. Mahwah: NJ: Lawrence Erlbaum.

Corley, A., & Eades, E. (2004). Becoming critically reflective practitioners: Academics' and students' reflections on the issues involved. *Human Resource Development International, 7*(1), 137–144.

Darling-Hammond, L. (Ed.). (2005). *Professional development schools. Schools for developing a profession*. New York: Teachers College Press.

Darling Hammond, L. (2006a). Reforming teacher preparation and licensing: Debating the evidence. In D. Hartley & M. Whitehead (Eds.), *Teacher Education. Major themes in Education. Vol. 5 Globalisation, Standards and teacher education* (pp. 95–124). London: Routledge.

Darling-Hammond, L. (2006b). *Powerful teacher education*. San Francisco, CA: Jossey Bass.

Darling-Hammond, L. (2006c). Constructing 21st century teacher education. *Journal of Teacher Education*, *57*(3), 300–314.

Darling-Hamond, L. (2010). The case for university-based teacher education. In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre, & K. Demers, (Eds.), *Handbook of Research on Teacher Education: Enduring Questions in Changing Contexts* (pp. 333–346). New York: Taylor and Francis.

DEECD. (2012). *New directions for school leadership and the teaching profession discussion paper*. Melbourne: Department of Education and Early Childhood Development. Retrieved from http://www.eduweb.vic.gov.au/edulibrary/public/commrel/about/teachingprofession.pdf

DEECD. (2011). *School centres for teaching excellence*. Retrieved from http://www.education.vic.gov.au/Documents/about/programs/partnerships/discussionpaper.pdf

Department for Education (DfE). (2012). *Teachers' standards.* Retrieved from http://media.education.gov.uk/assets/files/pdf/t/teachers%20standards%20information.pdf.

Dinham, S. (2013). The quality teaching movement in Australia encounters difficult terrain: A personal perspective. *Australian Journal of Education, 57*(2), 91–106.

Garrison, D. R. (2011). *E-learning in the 21st century: A framework for research and practice* (2nd ed.). New York: Routledge.

Hattie, J. (2003). *Teachers make a difference: What is the research evidence?* Melbourne: Australian Council for Educational Research.

House of Representatives Standing Committee on Education and Vocational Training. (2007). *Top of the class. Report on the inquiry into teacher education*. [Electronic version]. Retrieved from http:/www.aph.gov.au/house/committee/evt/teachereduc/report/front.pdf

Johnson, L., Adams, S., & Cummins, M. (2012). *The NMC horizon report: 2012 higher education edition.* Austin, Texas: The New Media Consortium.

Jones, M., & McLean, K. J. (2012). Personalising learning in teacher education through the use of technology. *Australian Journal of Teacher Education, 37*(1). Doi: 10.14221/ajte.2012v37n1.1

Kim, S., Mims, C., & Holmes, K. (2006). An introduction to current trends and benefits of mobile wireless technology use in higher education. *AACE Journal*, *14*(1), 77–100.

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education, 9*(1), 60–70.

Korthagen, F., & Kessels, J. (1999). Linking theory and practice: Changing the pedagogy of teacher education. *Educational Researcher, 28*(4), 4–17. DOI: 10.3102/0013189X028004004

Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education*, *22*, 1020–1041.

Kreber, C., & Cranton, P. (2000). Exploring the scholarship of teaching. *The Journal of Higher Education, 71*(4), 476–495.

Kruger, T., Davies, A., Eckersley, B., Newell, F., & Cherednichenko, B. (2009). *Effective and sustainable university-school partnerships. Beyond determined efforts of inspired individuals*. Canberra: Teaching Australia. [Electronic version]. Retrieved from http://hdl.voced.edu.au/10707/144200

Kumashiro, K. (2010). Seeing the bigger picture: Troubling movements to end teacher education. *Journal of Teacher Education, 61*(1–2), 56–65. DOI: 10.1177/0022487109347318

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Loughran, J. (2006). *Developing a pedagogy of teacher education: Understanding teaching and learning about teaching*. New York: Routledge.

Neal, D. (2010). *Teachers' perceptions of the impact of a university-school partnership on their preservice practicum education* (Unpublished doctoral dissertation). La Trobe University, Bundoora. Retrieved from http://arrow.latrobe.edu.au:8080/vital/access/HandleResolver/1959.9/154671

National Board for Professional Teaching Standards (NBPTS). (2013). *National board standards*. Retrieved from http://www.nbpts.org/national-board-standards

Nuttall, J., Murray, S., Seddon, T., & Mitchell, J. (2006). Teacher education in Australia: Charting new directions. *Asia-Pacific Journal of Teacher Education, 34*(3), 321–332.

Parliament of Victoria, Education and Training Committee. (2005). *Step up, step in, step out. Report on the suitability of pre-service teacher training in Victoria*. Melbourne: Victorian Government Printer.

Parsons, M., & Stephenson, M. (2005). Developing reflective practice in student teachers: Collaboration and critical partnerships. *Teachers and Teaching: Theory and Practice, 11*(1), 95–116.

Putnam, R., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher, 29*(1), 4–15.

Reid, J. (2011). A practice turn for teacher education? *Asia-Pacific Journal of Teacher Education, 39*(4), 293–310. DOI: 10.1080/1359866X.2011.614688

Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15*(2), 4–14.

Swan, K., Richardson, J., Ice, P., Garrison, R., Cleveland-Innes, M., & Arbaugh, J. (2008). Validating a measurement tool of presence in online communities of inquiry. e-*mentor, 2*(24). Retrieved from http://www.e-mentor.edu.pl/artykul_v2.php?numer=24&id=543

Teach for Australia (2013). *Frequently asked questions*. Retrieved from http://www.teachforaustralia.org/content/faqs-1

Tovey, J. (2013, September 1). Teach for Australia fastracks new breed in classrooms. *Sydney Morning Herald*. Retrieved from http://www.smh.com.au/national/education/teach-for-australia-fastracks-new-breed-in-classrooms-20130901-2sycc.html

Ure, C. (2009). *Practicum partnerships: exploring models of practicum organisation in teacher education for a standards-based profession*. Parkville, Vic: University of Melbourne. Retrieved from http://www.altc.edu.au/project-practicum-partnerships-exploring-melbourne-2009

Kline, J., White, S., & Lock, G. (2013). The rural practicum: Preparing a quality teacher workforce for rural and regional Australia. *Journal of Research in Rural Education, 28*(3), 1–13. Retrieved from http://jrre.psu.edu/articles/28-3.pdf

Zeichner, K. (2010a). Rethinking the connections between campus courses and field experiences in college- and university-based teacher education. *Journal of Teacher Education, 61*(1–2), 89–99.

Zeichner, K. (2010b). Competition, economic rationalization, increased surveillance, and attacks on diversity: Neo-liberalism and the transformation of teacher education in the U.S. *Teaching and Teacher Education, 26*, 1544–1552.

AFFILIATION

Mellita Jones and Josephine Ryan
Australian Catholic University

INDEX