

Learning to practise

A paper for discussion



Learning to Practise

A paper for discussion

Helen Timperley
Faculty of Education
The University of Auckland
2013

Contents

Acknowledgements.....	3
Introduction	4
1. Conceptualising professionalism.....	5
Learning to teach: The challenges	7
From novice to routine expert.....	7
From novice to adaptive expert	9
2. Learning experiences that develop adaptive expertise	11
Underpinning principles.....	12
Principle 1. Develop knowledge of practice by actively constructing conceptual frameworks	12
Principle 2. Build formal theories of practice by engaging everyday theories.....	15
Principle 3. Promote metacognition and self-regulated learning	18
Principle 4. Integrate cognition, emotion, and motivation	20
Principle 5. Situate learning in carefully constructed learning communities.....	22
Using the learning principles to shape learning-to-practise experiences	23
Example 1. Observing teacher candidates teaching and discussing practice	23
Example 2. Using narrative to examine cultural assumptions	24
Example 3. Using representations of practice.....	26
Example 4. Using metaphor to teach for incorporation of cultural and linguistic knowledge.	27
3. A model for developing expertise	30
Explanation of the model.....	32
Teacher education expertise	34
4. What next?	37
References.....	39

Acknowledgements

Many people have contributed to this paper. From the outset, Ro Parsons and Paul Aitken of the Ministry of Education engaged with the thinking at every level from the title down. I want to thank them for their unfailing encouragement. Consultants Russell Bishop and Rae Si'ilata used their deep cultural knowledge and their experience in challenging assumptions to co-construct case material with me. As always, they also challenged my thinking. Amongst his many comments on an early draft Russell asked, "Why not develop a tight model of practice?" Section 3 is the result.

Over numerous drafts, the advisory committee contributed important ideas and raised significant issues. Bobby Hunter strongly influenced how I thought about the model and helped me see how it might be put into practice. Margie Hōhepa helped shape much of the material to ensure its relevance to Māori and she challenged the use of 'clinical' in the original title, persuading me that it was a distraction. Field Rickards urged boldness, and Alister Jones asked for the paper to be more practice-oriented. As a result, it is. Graeme Aitken, Claire Sinnema, and Frauke Meyer, co-authors of the companion paper on standards for graduating teachers, have helped shape my ideas and the various diagrams.

While I cannot acknowledge by name everyone who has assisted this project, I must thank Anne Sinclair, Ngaire Hoben, Fiona Ell, Lexie Grudnoff, and Lyn MacDonald, who have engaged with and challenged my ideas and assisted with references.

Working with those named and many others has left me confident that New Zealand has the intellectual grunt and the practical smarts to create a world-leading initial teacher education system.

Helen Timperley
Faculty of Education
The University of Auckland
21 March 2013

Table 3. Observing teacher candidates teaching and discussing practice

Learning principle	Activities not consistent with the learning principles and development of adaptive expertise	Activities consistent with the learning principles and development of adaptive expertise
Develop knowledge by actively constructing conceptual frameworks	<ul style="list-style-type: none"> • Leave effectiveness criteria implicit. • Analyse record of observation by asking for the candidate’s opinion or giving own opinion but not justifying it in terms of an explicit theoretical framework. • Focus on teaching styles and practical strategies with reference to an under-theorised ‘what works’. 	<ul style="list-style-type: none"> • Prior to observation, co-construct effectiveness criteria, drawing on theoretical frameworks. • Analyse record of observation using the agreed criteria and candidate’s responses to judge effectiveness. • Co-construct new practice, justifying priorities on the basis of their theoretical underpinnings.
Build formal theories of practice by engaging everyday theories	<ul style="list-style-type: none"> • Make private judgments about the candidate’s theories of practice and do not explicitly inquire into them. • Use informal notes to record observations. • Focus on what the candidate wants to talk about. 	<ul style="list-style-type: none"> • Analyse when recorded practice is and is not consistent with effectiveness criteria. • Inquire into personal theories of practice to determine similarities and differences between personal and formal theories and which theories underpinned the practice decisions observed. • Seek ways to integrate differing theories.
Promote metacognition and self-regulated learning	<ul style="list-style-type: none"> • Focus observations on generic practice. • When identifying possible changes, focus on what the candidate can try next rather than on how they will know it is more effective for their learners. 	<ul style="list-style-type: none"> • Identify practice focus from personal learning goals and identify new learning goals as a result of the analysis. • When identifying changes to practice, also identify how the teacher candidate can monitor whether the new practice is more effective for their learners.
Integrate cognition, emotion, and motivation	<ul style="list-style-type: none"> • Give personal support to teacher candidates experiencing ‘practice shock’, focusing on survival without reference to theories of developing professionalism. • Focus judgments of effectiveness on how the candidate feels about their emerging practice. 	<ul style="list-style-type: none"> • Locate support for a candidate experiencing ‘practice shock’ within the context of developing professionalism through adaptive expertise. • Assist them to judge effectiveness in terms of how their learners respond.
Situate learning in carefully constructed learning communities	<ul style="list-style-type: none"> • Keep observations and feedback a private exercise between observer and candidate. 	<ul style="list-style-type: none"> • Develop criteria as a group. • Process challenges in meeting criteria collectively, in a mutually supportive context.

Example 2. Using narrative to examine cultural assumptions¹

Many Indigenous (Brayboy, 2005; Lomawaima, 2000; Sarra, 2011; G. Smith, 1997; L. Smith, 1999) and non-Indigenous (Alton-Lee, 2003; Freire, 1997; Kincheloe & Steinberg, 1997; McLaren, 2003; Timperley et al., 2007; Valencia, 1997) authors contend that the product of longterm power imbalances needs to be examined by educators at all levels. This includes examination of their own cultural assumptions and consideration of how they themselves might be participants in the

¹ This introduction was written by Russell Bishop and Table 4 was jointly constructed with him

systemic marginalisation of students in classrooms, schools, and the wider system. Teachers may not be in a position to rectify societal power imbalances but, by critically considering the discourses they draw on to explain their educational experiences, they can examine their role in the power plays that mediate Māori participation in schooling. In this way, their self-determination as teachers is acknowledged just as they are encouraged to acknowledge that of Māori students.

To this end, student narratives of school experience are used in the Te Kōtahitanga project (Bishop & Berryman, 2006) to give teachers the opportunity to reflect on the experiences of others involved in education, including, perhaps for the first time, student learners. Hearing these narratives, teachers are able to reflect on their own understandings of how Māori young people experience school, how their personal theorising and explanations have influenced their practice, and how this theorising and practice may have affected the achievement of their Māori students. Far from being a coercive activity, the vast majority of teachers report it to be enlightening and empowering (Bishop, Berryman, Cavanagh & Teddy, 2007).

Table 4. Using narrative to examine cultural assumptions

Learning principle	Activities not consistent with the learning principles and development of adaptive expertise	Activities consistent with the learning principles and development of adaptive expertise
Develop knowledge by actively constructing conceptual frameworks	<ul style="list-style-type: none"> • Show candidates how to integrate Māori perspectives, processes, and practices into teaching programmes in decontextualised ways, without examining either students’ or teachers’ experiences of being Māori. • Integrate Māori perspectives, etc., without interrogation or understanding of the relationships that need to be established between teacher and learner. 	<ul style="list-style-type: none"> • Use the evidence in the narratives to identify and explain Māori students’ experiences of being educated and teachers’ experiences of educating Māori. • Support candidates to locate themselves theoretically/discursively, and to understand that their discursive positioning will be the key to their relationships with students. • Actively engage candidates in constructing frameworks that unpack the natures of agentic and deficit discourses.
Build formal theories of practice by engaging everyday theories	<ul style="list-style-type: none"> • Determine kaupapa Māori outcomes without considering practices that involve interrogating the experiences of their Māori students. • Determine the teaching and learning programme and the integration model to be used; design a kaupapa Māori teaching and learning programme without first considering candidates’ experiences; implement programme; evaluate. 	<ul style="list-style-type: none"> • From narratives of experience, identify and name discourses people have used to explain their experiences; identify who is drawing upon what, and how frequently. • Identify which discourses teachers and candidates most often draw upon to explain their experiences of educating Māori students; identify implications for practice. • Pose the question: “What is the most likely explanation that Māori students will give?” • Assist teacher candidates to identify alternative discourses, associated actions, and likely responses; compare these discourses with alternatives that will result in better outcomes.
Promote metacognition and self-regulated learning	<ul style="list-style-type: none"> • Know who the tangata whenua of your area are but make no links to their experiences. • Teach appropriate mihi but put little emphasis on practices that develop relationships. • Integrate aspects of Māori knowledge and customs into the curriculum (e.g. 	<ul style="list-style-type: none"> • Develop a means of analysing experiences to identify the discourses (especially relational discourses) that candidates draw on and the likely impact of these discourses on students.

	hāngi into science, tukutuku into maths) without considering how they may be experienced/enacted by students and teachers.	
Integrate cognition, emotion, and motivation	<ul style="list-style-type: none"> • Acknowledge the emotional processes that candidates go through when trying to integrate Māori knowledges into their programmes, without supporting them to achieve a level of comfortableness. 	<ul style="list-style-type: none"> • Acknowledge the emotional processes involved in shifting discourses. • Provide positive alternatives and models such as the Effective Teaching Profile, underpinned by agentic discourse.
Situate learning in carefully constructed learning communities	<ul style="list-style-type: none"> • Seek guidance from people in the community knowledgeable about kaupapa Māori and tikanga Māori about how to develop a culturally respectful approach. 	<ul style="list-style-type: none"> • Situate all activities within a learning community that includes members who are culturally knowledgeable and focused on improving student outcomes.

Example 3. Using representations of practice

Representations such as videos and case studies are often used to situate learning in practice, but it has long been established that exposure to effective practice is not in itself sufficient to bring about change because teacher candidates do not know what to focus on or how to translate what they see/hear/read into their own contexts.

Guousseini & Sleep (2011) highlight the importance of making practice studyable, and of teacher educators guiding the focus, mediating the complex landscape of practice, and supporting teacher candidates to see how they can use new understandings in their own practice. Table 5 identifies how this can be done in ways that are inconsistent/consistent with the learning principles.

Table 5. Studying representations of practice

Learning principle	Activities not consistent with the learning principles and development of adaptive expertise	Activities consistent with the learning principles and development of adaptive expertise
Develop knowledge by actively constructing conceptual frameworks	<ul style="list-style-type: none"> • Focus analysis on practical strategies without reference to theoretical constructs or student responses. • Highlight classroom management rather than opportunities for students to learn. 	<ul style="list-style-type: none"> • Require analysis to identify how observed interactions are linked to focus theoretical constructs, how students are responding, and why this might be the case.
Build formal theories of practice by engaging everyday theories	<ul style="list-style-type: none"> • Focus on 'what is noticed', without specifically locating it in either formal or everyday knowledge. 	<ul style="list-style-type: none"> • Analyse the representation twice: (i) using informal, unstructured observation based on everyday theories of practice and (ii) using structured, formal theoretical constructs. Compare and contrast the two analyses, unpacking the reasoning behind each. • Explicitly use analysis as a way of resolving tensions between formal and everyday knowledge, with impact on learners the measure of effectiveness.
Promote metacognition and self-regulated learning	<ul style="list-style-type: none"> • Have a generic personal learning goal but not a structured self-assessment framework. 	<ul style="list-style-type: none"> • Relate analysis to a specific personal learning goal that has as its focus improved outcomes for learners. • Use a self-assessment framework to identify what was noticed, the extent to which it was linked to theoretical constructs, and how

		learners responded.
Integrate cognition, emotion, and motivation		[Unlikely to be an issue in this situation]
Situate learning in carefully constructed learning communities	<ul style="list-style-type: none"> Construct the learning activity primarily as an individual exercise followed by unstructured discussion where colleagues compare ideas. 	<ul style="list-style-type: none"> Undertake the analysis in groups, using comparisons of analyses to self-assess. Consider structuring as a web-based activity in which candidates develop and critique each another's analyses, developing community understanding of practice and the reasons that underpin it.

Example 4. Using metaphor to teach for incorporation of cultural and linguistic knowledge².

In Polynesian discourse, speakers often use metaphor and proverbial sayings to communicate truths indirectly. For example, the Māori whakatauki ‘Kaore te kumara e whaakii ana tana reka (the kumara does not speak of its own sweetness)’ is often used to remind someone not to boast. Metaphors and proverbs are an important part of the traditions and languages of Pasifika peoples, who hold oratory, poetry, and subtlety in high regard as means of communication, in conversation as well as in formal ceremony and ritual.

‘Alaga’upu’ (Sāmoa) and ‘heliaki’ (Tonga) both refer to indirectness – saying one thing and meaning another – and are a highly valued part of cultural discourse, essential to the Pasifika practice of spiralling, co-constructed conversation (Pratt, 1862; Kessing & Kessing, 1956; Dale, 1996; Johnson-Hill, 2008).

Metaphorical discourse is central to “Pasifika people’s social and cultural psyche” and in tertiary settings, “metaphors are used to define and explore deeper meanings and understandings of western concepts, so that Pasifika students also have a better understanding of course content” (Marat, Papoustaski, Latu, Aumua, Talakai & Kang, 2011, p.1). In teacher education contexts, metaphor can be a powerful tool for supporting candidates to surface their own assumptions about the students they may be teaching. Table 6 identifies how this can be done in ways that are inconsistent/consistent with the learning principles.

Table 6. Using metaphor to teach for incorporation of cultural and linguistic knowledge

Learning principle	Activities not consistent with the learning principles and development of adaptive expertise	Activities consistent with the learning principles and development of adaptive expertise
Develop knowledge by actively constructing conceptual frameworks	<ul style="list-style-type: none"> Introduce the metaphor as a reflective exercise in understanding cultural and linguistic knowledge. 	<ul style="list-style-type: none"> Situate the metaphor within theories of making connections to cultural and linguistic knowledge and its relevance to teaching (e.g. Cummins, 2008). Help candidates to view student and community funds of knowledge as resources for teaching and learning.

² This introduction was written by Rae Si’ilata and the figure and illustration co-constructed with her.

Build formal theories of practice by engaging everyday theories	<ul style="list-style-type: none"> Ask candidates to identify the meaning of the metaphor, critique aspects of interest, and identify implications for their teaching. 	<ul style="list-style-type: none"> Construct and unpack the metaphor to surface the candidate's assumptions about how particular students think and learn. Engage and challenge assumptions about what learners know and can do. Support candidates to use this information to find a starting point for their teaching and for building inquiry about their learners' cultural and linguistic resources into their practice.
Promote metacognition and self-regulated learning	<ul style="list-style-type: none"> Ask candidates to identify what they have learned from studying the metaphor and discussing it with colleagues. 	<ul style="list-style-type: none"> Ask candidates to identify other situations where they need to question their assumptions about students' thinking and ways of learning. Identify questions that candidates can ask when exploring their learners' cultural and linguistic knowledge, and explore how they could adapt their teaching in specific situations.
Integrate cognition, emotion, and motivation	<ul style="list-style-type: none"> Highlight the fact that incorporating cultural and linguistic knowledge may at times feel awkward or strange. 	<ul style="list-style-type: none"> Surface emotions of awkwardness and strangeness when faced with other cultural and linguistic ways of knowing and adopt an inquiry stance when exploring different worldviews.
Situate learning in carefully constructed learning communities	<ul style="list-style-type: none"> Allow discussion to take place within self-selected, homogeneous groups. 	<ul style="list-style-type: none"> Ensure discussions incorporate and build on diverse funds of knowledge, including those of the students and their whānau/aiga.

The following short text could be used as an introduction to a discussion on metaphor and to questions that might prompt the kind of thinking outlined in Table 6. As you read it, think deeply about possible meanings and about possible applications in the classroom, for school–community relationships, and for teachers and their students. Think about how it relates to seeing the world through someone else's eyes and the importance of ensuring that we create space for considering worldviews, languages, and cultures other than our own, and for incorporating them into educational discourse.

A family, with their dog Jess, was netting for sprats as baitfish along a remote beach. They spotted a school not far offshore. The father took the net and walked into the sea, surrounding the leaping sprats so there was no escape. Carefully they pulled the net in, keeping it in the shallow water because there were many more fish than they needed. Having put some in buckets, they extracted the remaining fish from the net and, one by one, threw them back into the water. Some fish were stunned and briefly floated upside down before recovering. Jess the dog became highly agitated when she saw the upside-down fish floating in the water and swam out to rescue them. She carefully took the fish one at a time in her mouth and swam back to the shore, making sure they did not get submerged in the water. Back on the shore, she gently laid them on the beach and returned for the next fish. In all, she 'rescued' six fish and sat watching over them for the rest of the afternoon.

Questions that could be asked include:

- What was Jess's motivation?
- What did Jess assume about fish culture?
- What advice would you give Jess for future situations where she would like to help the fish?

knowledge, and creates standards of practice; and completion of a rigorous academic and practical education for clinical practice, underpinned by appropriate standards.

Realising these characteristics will however require more than rethinking approaches to teacher education and renaming the profession. Large-scale change will require a considerable commitment of resources and a general willingness to take on new roles. For example, when introducing its clinical approach, Melbourne University, which trains 1000 graduates each year (Davies et al., in press), renamed academic staff 'clinical specialists', in which role they were charged with working alongside school-based 'teaching fellows' who were released for 50 percent of their time to work across clusters of schools. Teacher candidates split their week between schools and university. The short-term results are positive. Graduates claiming to be 'well' or 'very well' prepared after the one-year programme increased, on average, from 40 to 45 percent (traditional programme) to 90 percent following the introduction of the one-year clinical programme (Scott et al., 2010, cited in Davies et al.). The cost, however, is considerable.

As noted in the introduction, the brief for this paper and its companion was to be bold, so as to provide a basis for robust discussion and consultation. Together, the two papers present a vision for teacher education that could transform the profession. To put what they advocate into practice, a great deal of further unpacking will be required. This will demand commitment and energy, but bearing in mind the issues of equity and quality to be addressed, the stakes are very high.

References

- Aamodt, S. & Wong, S. (2011). *Welcome to your child's brain: From utero to uni*. Oxford: One World.
- Aitken, G., Sinnema, C., & Meyer, F. (2013). *Initial Teacher Education Outcomes: Graduate Teacher Standards*. The University of Auckland.
- Alter, J. and Coggshall, J.G. 2009. *Teaching as a clinical practice profession: implications for teacher preparation and state policy*. New York: National Comprehensive Centre for Teacher Quality. <http://www.tqsource.org/publications/clinicalPractice.pdf>
- Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling: Best evidence synthesis*. Wellington, New Zealand: Ministry of Education.
- Anthony, G., Haigh, M., & Kane, R. (2011). The power of the 'object' to influence teacher induction outcomes. *Teaching and Teacher Education*, 27, 861–840.
- Bleicher, E. (2011). Parsing the language of racism and relief: Effects of a short-term urban field placement on teacher candidates' perceptions of culturally diverse classrooms, *Teaching and Teacher Education*, 27, 1170–1178.
- Bishop, R. (2007) Lessons from Te Kōtahitanga for Teacher Education. In L. Deretchin & C. Craig (Eds.) *Teacher Education Yearbook XV: International Perspective on Accountability Systems and Their Impact on Students, Society and Teacher Preparation*. Lanham, MD: Rowman & Littlefield Education.
- Bishop, R., & Berryman, M. (2006). *Culture speaks: Cultural relationships and classroom learning*. Wellington: Huia Publishers.
- Bishop, R., Berryman, M., Cavanagh, T., & Teddy, L. (2007). *Te Kōtahitanga Phase 3 whanaungatanga: Establishing a culturally responsive pedagogy of relations in mainstream secondary school classrooms*. Wellington: Ministry of Education.
- Bishop, R., Berryman, M., Cavanagh T., & Teddy, L. (2009). Te Kōtahitanga: Addressing educational disparities facing Māori students in New Zealand, *Teaching and Teacher Education*, 25, 1–9.
- Blomberg, G., Stürmer, K., & Seidel, T. (2011). How pre-service teachers observe teaching on video: Effects of viewers' teaching subjects and the subject of the video. *Teaching and Teacher Education*, 27 (2011), 1131–1140.
- Boekaerts, M. (2010). The crucial role of motivation and emotion in classroom learning. In H. Dumont, D. Istance, & F. Benavides (Eds). *The Nature of Learning* (pp. 91–112). Paris: OECD.
- Boerst, T., Sleep, L., Ball, D., & Bass, H. (2011). Preparing teachers to lead mathematics discussions. *Teachers College Record*, 113 (12).
- Bransford, J., Brown, A., & Cocking, R. (Eds) and Committee on Learning Research and Educational Practice: Donovan, S., Bransford, J., Pellegrino, J. (eds). (2000). *How People Learn: Brain, Mind, Experience and School*. Washington DC: National Academy Press.
- Brayboy, B. M. J. (2005). Towards a Tribal Critical Race Theory in Education. *The Urban Review*, Vol. 37, No. 5, December 2005, pp. 425–446. DOI: 10.1007/s11256-005-0018-y. Published online: March 14, 2006.
- Coburn, C. (2001). Collective sensemaking about reading: How teachers mediate reading policy in their professional communities. *Educational Evaluation and Policy Analysis*, 32, 145–170.

- Cole, A., & Knowles, J. (1993). Teacher development partnership research: A focus on methods and issues. *American Education Research Journal*, 30, 473–495.
- Colley, H. (2002). A “rough guide” to the history of mentoring from a Marxist feminist perspective. *Journal of Education for Teaching*, 28, 257–273.
- Cummins, J. (2008). Teaching for transfer: Challenging the two solitudes assumption in bilingual education. In J. Cummins & H. Hornberger (Eds.). *Encyclopedia of Language and Education, 2nd Edition, Volume 5*, (pp. 65–67). Springer Science.
- Dale, P.W. (1996). *The Tonga Book*. London, England: Minerva Press.
- Dall’Alba, G. & Sandberg, J. (2006). Unveiling professional development: A critical review of stage models. *Review of Educational Research*, 76(3), 383–403.
- Darling-Hammond, L. (2006). *Powerful Teacher Education: Lessons from Exemplary Programs*. San Francisco: Jossey Bass.
- Davies, M., Anderson, M., Deans, J., Dinham, S., Griffin, P., Kameniar, B., Page, J., Reid, C., Rikards, F., Tyler, C. (in press). Masterly preparation: embedding clinical practice in a graduate pre-service teacher education program. *Journal of Teacher Education*.
- De Corte, E. (2010). Historical developments in the understanding of learning In H. Dumont, D. Istance, & F. Benavides (Eds). *The Nature of Learning* (pp. 35–68). Paris: OECD.
- Dreyfus, H., & Dreyfus, S. (1986). *Mind over machine: The power of human intuition and expertise in the era of the computer*. New York: Free Press.
- Dumont, H., Istance, D., & Benavides, F. (2010). *The Nature of Learning* (pp. 35–68). Paris: OECD.
- Feiman-Nemser, S. (2008). Teacher learning: How do teachers learn to teach? In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre & K. Demers (Eds.). *Handbook of Research on Teacher Education, 3rd Edition* (pp. 697–705). New York: Routledge.
- Feiman-Nemser, S., & Buchmann, M. (1985). Pitfalls of experience in teacher Education. *Teachers College Record*, 87, 53–65.
- Freire, P. (1997). *Pedagogy of the heart*. New York, NY: Continuum Publishing Company.
- Gardiner, W., & Parata, H. (2007). *Te Hiringa i te Mahara: Maori secondary school teachers and professional development, 1998–2008: 10 years on*. Wellington, Gardiner & Parata Ltd.
- Grossman, P., Hammerness, K., & McDonald, M. (2009). Redefining teaching, re-imagining teacher education, *Teachers and Teaching: theory and practice*, 15, 273–289.
- Guousseini, H., & Sleep, L. (2011) Making practice studyable. *Mathematics Education*, 43, 147–169.
- Hacker, E., Dunlosky, J., & Graesser, A. (2009). *Metacognition in educational theory and practice*. Hillsdale, NJ: Erlbaum.
- Hammerness, K., Darling-Hammond, L., Bransford, J., Berliner, D., Cochran-Smith, M., McDonald, M., & Zeichner, K. (2005). How teachers learn and develop. In L. Darling-Hammond (ed.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 358–389). San Francisco: John Wiley & Sons.
- Hatano, G., & Inagaki, K. (1986). Two courses of expertise: In H. Stevenson, H. Azama & K. Hakuta. (Eds.), *Child Development and Education in Japan* (pp. 262–272). New York: Freeman.
- Hatano, G., & Oura, Y. (2003). Commentary: Reconceptualizing school learning using insight from expertise research. *Educational Researcher*; 32, 26–29.

- Hoben, N. (2006). *Real teachers, real classrooms and real experiences: The work of associates with pre-service teachers on practicum*. The University of Auckland: Unpublished doctoral dissertation.
- Hobson, A., Ashby, P., Malderez, A., & Tomlinson, P. (2009). Mentoring beginning teachers: What we know and what we don't. *Teaching and Teacher Education*, 25 (2009), 207–216.
- Ingersoll, R., & Kralik, J. (2004). *The impact of mentoring on teacher retention: What the research says*. Denver, CO: Education Commission of the States.
- Istance, D., & Dumont, H. (2010). Future directions for learning environments in the 21st century. *The Nature of Learning* (pp. 317–338). Paris: OECD
- Jensen, B., Sandoval-Hernández, A., Knoll, S., & Gonzalez, E. (2008). *The Experience of New Teachers: Results from TALIS 2008*. Paris: OECD.
- Johnson-Hill, Kelly. (2008). Inner Exhilaration and Speaking Truth through Metaphor: An Exploration of the Theological Significance of Māfana and Heliaki in Tongan Dance, *Studies in World Christianity* 14(1), 19–34.
- Keesing, F., & Keesing, M.,(1956). *Elite communication in Samoa: a study of leadership*. Volume 3 of Stanford anthropological series. Stanford University Press. p. 88. Retrieved 16 January 2009.
- Kincheloe, J. L. & Steinberg, S. (1997). *Changing multiculturalism*. Buckingham, UK: Open University Press.
- Korthagen, F., Loughran, J., & Russell, T. (2006). Developing fundamental principles for teacher education programs and practices. *Teaching and Teacher Education*, 22, 1020–1041.
- Korthagen, F.A.J., & Wubbels, T. (2001). Learning from practice. In *Linking practice and theory: The pedagogy of realistic teacher education* (pp. 32–50). Mahwah, NJ: Lawrence Erlbaum.
- Lampert, M. (2009). Learning Teaching in, from, and for Practice: What Do We Mean? *Journal of Teacher Education*, 61(1–2), 21–34.
- Langdon, F. (2011) Shifting perception and practice: New Zealand beginning teacher induction and mentoring as a pathway to expertise. *Professional Development in Education*, 37(2), 241–258.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Le Fevre, D. (2011). Creating and facilitating a teacher education curriculum using preservice teachers' autobiographical stories. *Teaching and Teacher Education*, 27, 779–787.
- Lomawaima, K. T. (2000). Tribal sovereigns: Reframing research in American Indian education. *Harvard Educational Review*, 70(1), 1–21.
- Lortie, D. (1975). *Schoolteacher*. Chicago: University of Chicago Press.
- Lu, H. (2010). Research on peer coaching in preservice teacher education – A review of literature. *Teaching and Teacher Education*, 26, 748–753.
- Lucas, B., & Claxton, G. (2010). *New kinds of smart: How the science of learnable intelligence is changing education*. Berkshire, England: Open University Press.
- Lunenberg, M., & Samaras, A. (2011). Developing a pedagogy for teaching self-study research: Lessons learned across the Atlantic. *Teaching and Teacher Education*, 27, 841–850.

- Marat, D., Papoustaski, E., Latu, S., Aumua, L., Talakai, M., & Kang, S., (2011). *Akoaga: Efficacy, Agency, Achievement and Success in the Tertiary Sector; Focus on Students and Parents from Pasifika Communities*. Auckland, New Zealand: Unitec ePress.
- Masat, D., & Dooly, D. (2011). Rethinking the use of video in teacher education: A holistic approach. *Teaching and Teacher Education*, 27 (2011), 1151–1162.
- McLaren, P. (2003). *Life in schools: An introduction to critical pedagogy in the foundations of education (4th ed.)*. Boston, MA: Pearson Education.
- Ministry of Education, (2007). *The New Zealand Curriculum*, retrieved from NZCurriculum.tki.org.nz
- Moll, L. (2010). Mobilizing Culture, Language, and Educational Practices: Fulfilling the Promises of Mendez and Brown Journal. *Educational Researcher*, 39, 451–460.
- Montecinos, C., Walker, H., Rittershausen, S., Nuñez, C. Contreras, I., Solís, M. (2011). Defining content for field-based coursework: Contrasting the perspectives of secondary preservice teachers and their teacher preparation curricula. *Teaching and Teacher Education*, 27 (2011), 278–288.
- Ministry of Education, New Zealand Teachers Council (2011). *Tātaiako: Cultural competencies for teachers of Māori learners*. www.minedu.govt.nz
- Nilsson, P., & Driel, J. (2010). Teaching together and learning together in primary science student teachers' and their mentors' joint teaching and learning in the primary classroom. *Teaching and Teacher Education*, 26 (2010), 1309–1318.
- Ponitz, C.E.C., McClelland, M.M., Jewkes, A.M., Connor, C.M., Farris, C.L., & Morrison, F.J. (2008). Touch your toes! Developing a direct measure of behavioral regulation in early childhood. *Early Childhood Research Quarterly*, 23, 141–158.
- Pratt, G., (1862). *A Grammar and Dictionary of the Samoan Language, with English and Samoan vocabulary*, NZ Licence CC-BY-SA 3.0. NZ Electronic Text Centre, Victoria University of Wellington. Retrieved 16 January 2009.
- Pressley, M., & Harris, K.R. (2006). Cognitive strategy instruction: from basic research to classroom instruction. In P.A. Alexander, & P. Winne (Eds.), *Handbook of Educational Psychology (2nd ed.)*, (pp. 265–286). Mahwah, NJ: Erlbaum.
- Putnam, R. T., & 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.
- Sarra, C. (2011). *Strong and smart: Towards a pedagogy for emancipation: Education for first peoples*. London, UK: Routledge.
- Schunk, D. & Zimmerman, B. (1994). *Self-Regulation of Learning and Performance*. New Jersey: L. Erlbaum Associates.
- Scott, C., E. Kleinhenz, P. Weldon, K. Reid, S. Dinham (2010). *Master of Teaching MGSE: Evaluation Report*. Camberwell, Victoria: Australian Council for Educational Research.
- Silverman, R., Welty, W., & Lyon, S. (1996). *Case studies for teacher problem solving*. New York: McGraw-Hill.
- Sleeter, C. (2008). Preparing white teachers for diverse students. In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre & K. Demers (Eds.). *Handbook of Research on Teacher Education, 3rd Edition* (pp. 559–582). New York: Routledge.

- Smith, G. H. (1997). *Kaupapa Maori as transformative praxis*. The University of Auckland: Unpublished doctoral dissertation.
- Smith, L. T. (1999). *Decolonizing methodologies: Research and indigenous peoples*. London: Zed Books.
- Soslau, E. (2012). Opportunities to develop adaptive teaching expertise during supervisory conferences. *Teaching and Teacher Education, 28*, 768–779.
- Stofflett, R., & Stoddart, T. (1994). The ability to understand and use conceptual change pedagogy as a function of prior content learning experience. *Journal of Research in Science Teaching, 31*, 31–51.
- Sykes, G., Bird, T., & Kennedy, M. (2010). Teacher Education: Its Problems and Some Prospects. *Teaching and Teacher Education, 61*, 464–476.
- Timperley, H.S. & Alton-Lee, A. (2008). Reframing teacher professional learning: An alternative policy approach to strengthening valued outcomes for diverse learners, 328–369. In G. Kelly, A. Luke and J. Green (eds.), *Disciplines, Knowledge and Pedagogy. Review of Research in Education, Vol. 32*. Washington, DC, Sage Publications.
- Timperley, H.S. & Parr, J.M. (2005). Theory competition and the process of change. *Journal of Educational Change, 6*(3), 227–252.
- Timperley, H., Parr, J., Hulsbosch, N. (2008). Coaching through Feedback: A Close and Critical Analysis. Paper presented to the American Educational Research Association Annual Meeting, Chicago.
- Timperley, H.S., & Robinson, V. (1998). Collegiality in Schools: Its nature and implications for problem solving. *Educational Administration Quarterly, 34*, 608–629.
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher Professional Learning and Development: Best Evidence Synthesis*. Wellington, New Zealand: Ministry of Education.
- Valencia, R. R. (1997). *The evolution of deficit thinking: Educational thought and practice*. London: Falmer Press.
- Villegas, A. M. (2008). Diversity and teacher education. In M. Cochran-Smith, S. Feiman-Nemser, D. McIntyre & K. Demers (Eds.), *Handbook of Research on Teacher Education, 3rd Edition* (pp. 551–558). New York: Routledge.
- Villegas, A., & Lucas, T. (2002). *Educating culturally responsive teachers*. New York: State University of New York Press.
- Sundli, L. (2007). Mentoring – a new mantra for education? *Teaching and Teacher Education, 23*, 201–214.
- Vosnaidou, S. (2007). The cognitive-situative divide and the problem of conceptual change. *Educational Psychologist, 42*(1), 55–66.
- Wang, J., & Odell, S. (2002). Mentored learning to teach according to standards-based reform: A critical review. *Review of Educational Research, 72*(3), 481–546.
- Wideen, M. Mayer-Smith, J. & Moon, B. (1998). A critical analysis of the research on learning to teach: Making the case for an ecological perspective on inquiry. *Review of Educational Research, 68*, 130–178.

Zhang, M., Lundeberg, M., Koehler, M. & Eberhardt, J. (2011). Understanding affordances and challenges of three types of video for teacher professional development. *Teaching and Teacher Education*, 27, 454–462.

Ministry of Education

45-47 Pipitea Street
PO Box 1666
Thorndon
Wellington 6140

Email information.officer@minedu.govt.nz
Phone 64-4-463 8000
Fax 64-4-463 8001

www.educationcounts.govt.nz

© Crown copyright, 2013
All rights reserved, enquiries should
be made to the publisher.

Published May 2013

ISBN 978-0-478-40643-6 (print)
ISBN 978-0-478-40642-9 (web)
RMR-1018

newzealand.govt.nz

