



TEACHING & LEARNING  
RESEARCH INITIATIVE

NĀU I WHATU TE KĀKAHU, HE TĀNIKO TAKU

# Shifting conceptualisations of knowledge and learning in the integration of the New Zealand Curriculum in teacher education: Project summary

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# Introduction

Around the world, researchers and policy makers emphasise that the ways knowledge and learning were thought about in twentieth century, industrial societies will not be appropriate for twenty-first century post-industrial 'knowledge societies' and therefore a change of conceptualisations of knowledge and learning is necessary (see, for example, Gee, 2003; Gilbert, 2005; Andreotti, 2010).

This research project tracked the engagement of eight teacher educators with theoretical discussions related to knowledge societies and post-modernity and traced the effect of this exercise on their conceptualisations of knowledge and learning in the incorporation of the *New Zealand Curriculum* (NZC) document (2007) in initial and in-service teacher education during 2009 and 2010. As part of the project, teacher educators undertook pedagogical initiatives with students in initial teacher education (ITE) and teachers from schools who were engaged in teacher professional learning, and they researched their own practice. The project sought to contribute to the understanding of how to best support teacher educators, teachers and student teachers to explore and critically engage with twenty-first century conceptualisations of knowledge and learning, and how they affected pedagogical practices.

## Key findings and major implications

Key findings from the project include:

- Initial interpretations of the NZC varied according to the background and intertwined professional and personal identities of the teacher educators.
- Once teacher educators engaged with conceptual tools related to the literature of twenty-first century education, they opened different possibilities for thinking about their thinking and practice, which triggered shifts in different directions in different practice contexts.
- The processes of shifting conceptualisations of knowledge and learning for teacher educators, student teachers and teachers were complex and non-linear. The processes were strategically engaged with according to the educators' interests, and current and emerging personal and professional identities (subjectivities).
- Educators' shifting epistemological understandings (about knowledge, curriculum, teaching and learning) were characterised by a move from realist towards contextual-relativist understandings or view points.
- An ethical dimension of different interpretations of the NZC was highlighted in most of the case studies in the distinction between 'changing education merely to adapt to twenty-first economic imperatives' and 'changing education to address the complexity, diversity, uncertainty and inequality of twenty-first century societies'. Teacher educators, student teachers and teachers emphasised various ideas relating to social justice and equity as they sought to make sense of possibilities for 'twenty-first century learning' and the NZC.
- Teacher educators, teachers and student teachers experienced tensions between their developing epistemological understandings and institutional structures and pressures (e.g., professional learning contract requirements; national qualifications and assessment requirements).

Major implications of these findings for teacher education include:

- Teacher education needs to broaden possibilities of interpretation of the very notions of education, curriculum, teaching and learning through critical curriculum studies and attending more fully to the role that teachers' current and emergent identities play in informing pedagogical practices.
- The roles of crises and dissonance in genuine learning in teacher education need to be recognised and strategies for supporting teacher educators, student teachers and teachers through these phases need to be developed.

- If teachers are to be defined as curriculum decision makers, their intellectual autonomy needs to be nurtured through teacher education curricula that exposes them to different perspectives and theories, and fosters critical, analytical and ethical thinking about assumptions, choices, implications and responsibilities in teaching and learning.
- Particular strategies may be usefully employed in teacher education courses and programmes to support epistemological thinking and critical engagement with curriculum, including:
  - intentional use of epistemological frameworks (conceptual tools and models) to explore beliefs and assumptions about knowledge, curriculum, teaching and learning and how they affect pedagogical practices
  - engaging with theory to facilitate learning of a theoretical language that enables new ways of thinking and understanding knowledge, curriculum, teaching and learning beyond instrumental understandings of development and implementation
  - modelling and trialling new and different teaching and learning approaches with student teachers and teachers.

## The research

### Research questions

Three research questions guided, and were addressed in, the research project:

1. How are shifts in conceptualisations of knowledge and learning interpreted within the different knowledge domains of the practitioners (teacher educators) in this research? How do these shifts affect the way the NZC is interpreted?
2. How do shifts in the conceptualisations of knowledge and learning affect student teachers' and teachers' interpretations of the NZC?
3. What are the characteristics of effective initiatives for shifting student teachers' and teachers' conceptualisations of knowledge and learning?

### Participants

The project team consisted of three researchers (investigators) and eight practitioner researchers who were all, at the time, teacher educators working at the University of Canterbury, Christchurch, New Zealand. Student teachers and teachers were also research participants in particular research initiatives that were conducted by teacher educators (as practitioner researchers) as part of the overall project.

### Project overview

This project was a multi-level undertaking. At one level, the focus was on supporting practitioner researchers to explore ideas relating to twenty-first century learning, epistemological thinking and the NZC, and on researching the practitioner researchers' developing understandings. At another level, the project was focused on supporting practitioner researchers to undertake and research their own practice initiatives with particular groups of student teachers (in initial teacher education classes) and teachers (on teacher professional learning programmes).

The project:

- provided conceptual and pedagogical tools to facilitate the engagement of practitioner researchers with theoretical discussions about shifts in ways of knowing and their implications for learning in the literature related to education in knowledge societies, which are tenets of the vision and principles of the NZC (2007)
- mentored eight practitioner researchers to develop pedagogical initiatives and to undertake research inquiries focused on those initiatives, with a view to exploring the implications of putting new conceptual understandings into practice

- mapped the ways practitioner researchers engaged with, strategically appropriated, and used existing tools and theories to create new conceptual and analytical tools to incorporate the changes suggested in the literature in the integration of the revised NZC in their teacher education courses
- examined the outcomes for teachers and student teachers who took part in those courses and who agreed to participate in this study.

## Research methodology

The research methodology consisted of the development of eight research inquiries (which constitute case studies for the wider project—see Table 1), and a dual meta-ethnography of those case studies and additional data, carried out from interpretivist and post-structuralist view points.

Each practitioner researcher, supported by one of the investigators, worked in a research cluster to develop a case study related to the first year of the incorporation of the new NZC into their teaching, emphasising the understanding of ‘teaching as inquiry’ (NZC, 2007, p. 38). Each practitioner researcher collected data related to their own learning processes and the learning processes of the participants in their courses. They had the autonomy to select the focus and central question of their inquiry in relation to the NZC (e.g., diversity, inquiry, professional knowledge, learning, and so on), and the data collection methods and analysis that were suitable for their professional contexts, intentions and focus.

The meta-ethnography offers two readings of the data in the eight case studies, pre- and post-interviews with practitioner researchers and pre- and post-questionnaires completed by student teachers and teachers. While the interpretivist analysis focuses on the practitioner researchers’ narratives of shifts, the post-structuralist analysis focuses on emerging issues related to the politics of knowledge production and the negotiations of epistemological and ontological shifts. Ethical approval was gained at the beginning of the process from the University of Canterbury for the collection of data.

**Table 1 Case studies**

Case Study	Participant Researcher	Topic of Practitioner Inquiry	Shift focus of Practitioner Inquiry
A	Alison Ayrton	Knowing differently, not knowing more: A practitioner inquiry in pre-service primary teacher education	Epistemological beliefs and teacher identities—from absolute to contextually relative knowing in professional studies (pre-service)
B	Judy Bruce	Dancing on the edge: Exploring shifting conceptualisations of knowledge and learning through self-study	Critical and post-critical possibilities in service learning in physical education (pre-service)
C	Amosa Fa’afoi and Vanessa Andreotti	Relating to others: Re-arranging configurations of cognition and affect	Post-structuralist ideas of culture and identity in multicultural studies (pre-service)
D	Kerri Fitzgerald	The contribution of embodied ways of knowing in re-conceptualising dance in the NZC: A grounded pathway for the twenty-first century	Beyond Cartesian knowing towards embodied learning: self expression and diversity in dance (in-service)
E	Wayne Freeth	Towards reconceptualising leadership: The implications of the revised New Zealand Curriculum document for school leaders	Distributed leadership, collective ownership and curriculum co-construction in the in-service education of school leaders
F	Juliet Fry	Shifting teachers’ conceptualisations of knowledge and learning in secondary ESOL: A practitioner inquiry	Reproductive and performative ideas of teaching English as a Second Language (ESOL) (in-service)
G	Jae Major	Process of becoming: Changing practice in teacher education through inquiry-based learning	Realism and relativism in inquiry-based learning and the disjunctions of theory and practice (pre-service)
H	Helen Moore	How do visual arts as embodied knowing and being contribute to the exploration and development of 21st century transformative learning sought by the New Zealand Curriculum?	Engaging with epistemological pluralism and sustainability through embodied and non-verbal ways of knowing in the visual arts (in-service)

# Limitations

The short time frame of data collection and a single research site (University of Canterbury) were the main limitations of this research. A follow-up longitudinal study across multiple sites would provide deeper insights and understandings into the process of shifting conceptualisations of knowledge and learning.

# Summary of findings

In the short time frame of the project, we have evidence that suggests that all participating teacher educators shifted their understandings and practices in their respective fields, as a result of learning and reflection in this TLRI initiative. However, they did it in varied ways and to different degrees of intensity (see examples in Table 1). Practitioner researchers engaged strategically with the project in line with their current and developing personal and professional identities, and the nature of their shifting understandings reflect these strategic engagements.

From the teacher educators' perspectives, their own epistemological shifts and the shifts experienced by student teachers and teachers with whom they worked were neither predictable nor linear. Evidence from the case studies and the meta-ethnography suggests that student teachers and teachers had their ideas about knowledge, teaching and learning challenged through, and as a result of, their engagement in the teaching initiatives undertaken by the teacher educators.

The points summarised below expand on the key findings outlined in the earlier section. General findings are organised under each research question, as reported through the meta-ethnography, and in relation to specific case studies (the number of the research question and the letter of the case study where each aspect was emphasised is provided):

## Shifts

- Shifts were based on post-structural ideas that language creates reality, rather than simply represents reality objectively, combined with a dual interpretation of knowledge: as a noun (fixed, universal and cumulative); and as a verb (performative, fluid, contextual and generative), which emphasises the fact that there are always multiple interpretations of concepts and events, including the NZC itself (Q1, Q2; all case studies).
- The awareness of multiple interpretations of education, curriculum, identities and so on triggered challenges to, and tensions within, existing ways of thinking, knowing and being; these challenges were experienced to some degree as tensions, dissonances and/or crises (Q1, Q2; all case studies).
- This awareness also opened possibilities for the production of new meaning, the creation of new relationships and the dismantling of existing social, cultural and disciplinary hierarchies; these possibilities were experienced as motivating and exciting (Q1, Q2; all case studies).
- The idea of a linear and developmental shift from twentieth to twenty-first century thinking was highly contested as shifts in ways of knowing were experienced as complex, conflictual and contingent—not something one arrives at, but a constant wrestling with how to produce meaning in different and shifting contexts (Q1, Q2, Q3; all case studies).
- The notion of shifting primarily through thinking was also challenged: affective, embodied and performative dimensions of learning were emphasised in some of the case studies (Q1, Q2, Q3; especially case studies C, D and H).
- Conceptual tools were effective in inspiring practitioners to engage in the process of reflection upon, and transformation of, practices, identities and understandings—practitioner researchers developed their own conceptual tools in their case studies (Q3; all case studies).
- The creation of spaces of re-signification, where participants had the time, space and conceptual support to reconfigure their concepts and practices without the pressure to arrive at a pre-defined, desirable outcome, helped create the conditions for deeper engagements with conceptual learning and shifts (Q3; all case studies).

## Curriculum

- The role of education and of educators in relation to society was questioned through post-structural theoretically informed engagements with the NZC: whether educators needed to reconceptualise their professional identities to adapt to changes in society or whether it was possible to develop differing professional identities to shape changes in society by developing a level of intellectual and professional autonomy (Q1, Q2; all case studies).
- The idea of 'twenty-first century education' was both used and critiqued: concerns were raised in relation to the economic and technological driver of knowledge societies which transforms education into a market service for individual consumers (learners); however, the power of the idea was also used strategically as an opportunity for transforming education through the NZC (Q1, Q2, Q3; case studies B, C, E, G).
- Analyses of power relations and the politics of knowledge production were highlighted in relation to:
  - the authority and identity of teachers (i.e., sage on stage or guide on side; producers or consumers of knowledge)
  - the control over the process of production of meaning (i.e., the paradox of enabling ownership of knowledge production and the need for direction towards desired knowledge outcomes)
  - engagements with difficult knowledge (i.e., the preparedness of the teacher in holding spaces of tensions, dissonances and crises, recognising that they are part of the process of shifting)
  - the authorship of case studies (i.e., the role of research mentors in supporting, re-presenting or co-constructing narratives). (Q1, Q2, Q3; all case studies)
- The contextual value of different knowledge systems (e.g., those of practitioners and those of academics) was both acknowledged and negotiated; the difficulties, challenges and ongoing nature of negotiations were also recognised (Q1, Q3; especially case studies C, E, G, H).
- There was a move from seeing the curriculum as an instrument owned by authorities, with contents to be transmitted, towards seeing the curriculum as a site of contested knowledges owned by communities and as a tool for social transformation (with multiple interpretations) (Q1, Q2; all case studies).
- The split between intentional and operational practices became explicit in many case studies, creating dissonance with existing practices; the need to align new theoretical understandings and pedagogical choices was a recurrent theme (Q1, Q2, Q3; especially case studies A, E, G).
- the effect of shifts was also felt in new possibilities for inter-disciplinary work that could raise the profile of marginalised disciplines (Q1, Q2; especially case study F).
- A commitment to social justice (expressed in different ways) and new openings to a re-conceptualisation of relationships with marginalised knowledges, and disadvantaged students and communities was highlighted (Q1, Q2; all case studies).

## Identities

- The construction of teacher identities through culture, society, institutions and institutional policies (including the NZC) was examined with an emphasis on recognising multiple, fluid and interwoven personal and professional identities, as well as the power of institutions and of teachers in both shaping and contesting identities (Q1, Q2; case studies A, B, C, E, G).
- Shifts affected practitioner researchers' personal and professional identities, as well as their ability to move between different discourse communities (Q1, Q2; especially case studies B, C, E, G).
- Participants equated the engagements with theory to learning a new language that enabled them to explore and express old and new concepts (Q1, Q2, Q3; especially case studies A, E, F).

Findings for each of the case studies and the meta-ethnography are reported separately through the TLRI website ([www.tlri.org.nz](http://www.tlri.org.nz)).

# Building capability and capacity

Practitioner researchers were actively involved in academic activities including writing journal articles and taking part in conference presentations throughout the project. Co-authorship of articles was also a strategy deliberately used to strengthen the intellectual autonomy of practitioners, their voices as authors and the scholarly dimension of their professional identities as contributors to the academic discipline of teacher education.

Academic and community outputs include:

- a partnership with Hornby School which involved professional development and the collaborative publication of the article '21st Century Thinking': Hornby School's Journey So Far' in *set: Research Information for Teachers* (2009)
- eight articles published, one in national and six in international peer-reviewed journals and one in a peer-reviewed international conference proceedings
- twenty-seven presentations at conferences, seven at national practitioner conferences, and 20 at research community conferences (nine at international and 11 at national conferences)
- three dissemination symposia with the Universities of Otago, Waikato and Oulu.

The research mentoring of teacher educators with varying levels of research experience was an integral part of the project and provided opportunities for informed theorising, and critically reflective conversations about pedagogical paradoxes and possibilities in the processes of shifting thinking and practices.

This mentoring and participating teacher educators' engagement in practitioner research supported change in teacher educators' teaching and practice. As part of their practitioner research, most of the teacher educators in the study implemented new, or further developed different, teaching approaches with student teachers (in initial teacher education classes) and teachers in schools (in teacher professional learning programmes). Thus capacity was built in relation to teaching as well as research.

## Recommendations and conclusion

As ideas of 'shifting thinking' towards the twenty-first century gain popularity, it is necessary to value and grow the importance of the intellectual independence and professional autonomy of teachers as curriculum decision makers, as well as critics and conscience of society.

If education is to meet the needs of diverse learners in complex, uncertain, plural and unequal societies, educators need to be equipped to engage with complexity, transience, and difference, and to identify, address and re-negotiate inequalities. Educators who have been conditioned by twentieth-century thinking and practices need support to develop literacies and dispositions to engage with shifting contexts to create possibilities beyond what has been imagined so far. This involves deep cognitive, affective, relational and performative professional and personal transformations that cannot be engineered as a mechanical, predictable and development process.

Evidence from this research project suggests that, when planning pre-service education or teacher professional learning opportunities that focus on shifts in conceptualisations of knowledge and learning, it is important to:

- understand the NZC as a historical and contested text, and curriculum more broadly as negotiated social practice, rather than as prescriptions and requirements for development and implementation
- emphasise the interconnectedness of personal and professional identities (ways of knowing and being) in shaping curriculum decision making
- create safe spaces where teacher educators and teachers can develop their intellectual autonomy; they should be supported to engage with different perspectives and to critically analyse the origins and implications of different options in different contexts without the pressure to conform quickly to the expectations of instructors

- recognise that identities are constantly renegotiated, that shifting understandings (including about knowledge and learning) are life-long processes, and that ideas of knowledge and learning are intertwined with identities, roles and relationships within and beyond professional spaces
- design learning experiences that engage the interfaces between theory, personal experience and professional practice
- respect the timing of individual learners in processing and taking ownership of their learning
- acknowledge the role and importance of tensions, dissonances and crises when learners engage with deep shifts that involve the re-arrangement of internal concepts, and support learners through crises without offering quick-rescue exits
- emphasise the professional strength of teachers as public intellectuals, autonomous and critical thinkers and curriculum decision makers, who are well equipped to negotiate the tensions, complexities and conflicting political and institutional demands of teaching in increasingly diverse and unequal societies.

## References

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## Project team

### Practitioner researchers

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### Researchers

#### **Dr Jane Abbiss, University of Canterbury**

Dr Abbiss is a senior lecturer in the school of Māori, Social and Cultural Studies in Education at the University of Canterbury, Christchurch. She has researched and published in the fields of gender relations in ICT education, curriculum studies (particularly in relation to social sciences education), and research partnerships. A common thread in her research is a focus on the lived experiences of learners, teachers and teacher educators.

#### **Dr Kathleen Quinlivan, University of Canterbury**

Dr Quinlivan is a senior lecturer in the School of Educational Studies and Human Development at the University of Canterbury, Christchurch. She is interested in the understanding the conditions of possibility leading to educational transformation within and across a range of formal and informal educational sites. Dr Quinlivan lectures and researches in critical curriculum studies and critical sexuality studies. She is co-editing a book, to be published by Routledge, entitled *Interrogating Pleasure*.

#### **Professor Vanessa de Oliveira Andreotti, University of Oulu**

Professor Andreotti is chair of global education at the University of Oulu, Finland. Her academic background is inter-disciplinary and informed by post-colonial, (post)critical and post-structural theories. Her research focus is on building bridges between contemporary theories and debates around globalisation and diversity, and pedagogical practices. She has published widely in the areas of global, development and global citizenship education. Recent publications include *Actionable Postcolonial Theory in Education* (Palgrave MacMillan) and *Postcolonial Perspectives on Global Citizenship Education* (Routledge).

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