



TEACHING & LEARNING  
RESEARCH INITIATIVE

NĀU I WHATU TE KĀKAHU, HE TĀNIKO TAKU

CASE STUDY

# Shifting Teachers' Conceptualisations of Knowledge and Learning in Secondary ESOL: A Practitioner Inquiry

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# Abstract

The context of this TLRI practitioner research project and ESOL professional learning initiative is the introduction and implementation of the revised curriculum, and in particular the curriculum as it pertains to ESOL. The aim of the pedagogical initiative was to challenge the practitioner researcher and ESOL teachers to think critically about ESOL teaching and learning and to explore epistemological concerns and beliefs relating to knowledge in the ESOL context. The aim of the inquiry was to explore ESOL teachers' responses to the initiative and their developing personal epistemological understandings in relation to ESOL teaching and learning. The initiative involved the development and application of model units of work that were designed to shift the focus of ESOL teaching from an emphasis on vocabulary and grammar acquisition and teaching to assessment performance criteria. The intention was to focus teachers' attention on drawing students into a deeper engagement with ideas and issues as a context and purpose for developing language.

An analytical framework was developed to explore teachers' understanding in relation to (a) dimensions of knowledge and (b) reproductive and performative views of knowledge, teaching and learning in ESOL. Findings suggest that all the participants were sensitised to ideas relating to what ESOL teaching and learning is about. Some of the participating teachers saw value in a more contextualised and performative approach, while others resisted this construction of ESOL teaching and learning.

## Introduction

This project relates to shifting conceptualisations of knowledge in relation to *The New Zealand Curriculum* (NZC) (Ministry of Education, 2007) and the nature of secondary English for Speakers of Other Languages (ESOL) support. It explores my epistemological thinking and that of participants in a professional learning initiative. The project was undertaken as part of a Teaching and Learning Research Initiative (TLRI) study, entitled 'Shifting Conceptualisations of Knowledge and Learning in the Integration of the New *New Zealand Curriculum* in Initial and Continuing Teacher Education'.

I work as a secondary schools' adviser, with a focus on ESOL and literacy, and have taught English, social studies and ESOL in secondary schools. I was involved, as an adviser, in helping to introduce the draft and the revised official NZC. A catalyst for involvement in this research project was my participation in a professional learning group that was interested in the revised curriculum and the exploration of ideas related to twenty-first century learning in the context of curriculum. The talk in this group also sparked an interest in epistemological ideas and thinking. In particular, these discussions provided a broader perspective on curriculum change, which, in turn, made the curriculum implementation both more exciting and more challenging. Discussion around historical movements and western thought challenged me to think differently about curriculum and more particularly about how ESOL has evolved and is positioned within the NZC. This, in turn, led to questioning about the connections between epistemology and practice in ESOL teaching.

Epistemology relates to theories of knowledge: ideas about what we know, how we know and who gets to know. It relates to understandings and beliefs about subject matter (content) and how students learn (process). According to Shaver (1992, p. 2), the content orientation can be thought of as 'epistemology as knowledge building', focusing on content development and the production of new ideas and rejection of the old. The process orientation can be thought of as 'epistemology as learning' or a focus on ways in which individuals acquire understandings. In relation to ESOL, an exploration into what can be known, how it can be known and who can know has significant implications for teaching and learning. It challenges ideas about the kind of ESOL support that could and should be provided in schools and invites consideration of underpinning values about who delivers and who receives ESOL support. Also, it raises questions about the content of ESOL learning and about teaching and learning processes.

As a ESOL adviser, I am drawn to explore curriculum decisions made for English language learners at national, school and classroom level.

# ESOL and the NZC

In the NZC, students who are new learners of English, or who are learning within an English language medium for the first time, are acknowledged as needing particular language support. The curriculum signals that language support should be directed to learning within and across all learning areas. ESOL teaching and learning constitutes broad language support rather than being positioned within a specific learning area. In addition, language acquisition is described both in terms of content and process, as language features and as a means rather than an end. Also, difference, uniqueness and multiplicity in languages depending on context, are recognised. 'Each learning area has its own language or languages. As students discover how to use them, they find they are able to think in different ways, access new areas of knowledge and see the world from new perspectives' (Ministry of Education, 2007, p. 16).

The context of this TLRI project and ESOL professional learning initiative is the introduction and implementation of the revised curriculum and the overt positioning of ESOL as cross-curriculum support. The positioning of ESOL has long been a point of professional debate and tension. The draft curriculum (Ministry of Education, 2006) was criticised for providing insignificant mention of ESOL support with a brief acknowledgement only in the pedagogy section. Consequently, the position of ESOL was reviewed and policy decisions made to give it a more prominent place alongside literacy, under the heading of 'Language and Learning' at the front of the learning area section. The position of ESOL in the front of the learning area section reflects the beliefs about ESOL held by some academics, and Ministry of Education personnel, who advised the writers that ESOL support was necessary for accessing all learning areas. However, there was no clear consensus among secondary teachers about what was wanted and expected. Many of the teachers who were part of the lobby group for a greater ESOL presence thought that ESOL should belong in the learning languages or English learning areas. Consequently, the cross-curricula position given ESOL in the revised curriculum is potentially controversial for many in the ESOL teaching community. It is in a context of contestation about the place and nature of ESOL that this project was undertaken.

I also take a position in this contested field. Over the past few years, my own ideas and beliefs about curriculum, and what ESOL should be about and where it should be located, have developed. I now strongly advocate the positioning of ESOL as cross-curricular support and think it should not be sitting in a learning area or comprising its own learning area. While I have always thought ESOL teaching should be in support of learning across the curriculum, I can now validate my arguments with greater theoretical knowledge based on key ideas from writings in the field. Given that my understanding about the nature of ESOL support may differ from the understandings of some teachers, I am faced with challenges as I negotiate my work and role as an education adviser. I appreciate that I may be working in a zone of discomfort and dissonance (Timperley, Wilson, Barrar, & Fung, 2007) as an adviser and developer of professional learning. An ongoing challenge for me is to work out what will be worthwhile focusing on (content) and how to engage and challenge teachers in positive ways (process) in ESOL professional learning initiatives. I do this from the position of a supporter of the revised curriculum, but without wishing to proselytise through uncritical advocacy. Rather, the intention is to challenge myself, and participants, to think critically about ESOL teaching and learning and to explore epistemological concerns and beliefs relating to knowledge in the ESOL context. What should be taught? How should it be taught? What should students learn? How should they learn?

This, I anticipated, is no easy task. My experience and evidence from NZQA course approval compliance processes over the years is that, quite often, but not always, professional learning work that has been done with ESOL teachers relating to the writing of units of work with a learning area context has not translated into teacher practice. This raises questions about whether this lack of change is something to do with the professional learning per se, or more to do with epistemological beliefs and understandings of teachers.

The initiative that was undertaken as part of this project (see the section on pedagogical intervention and research) was developed as I explored epistemological ideas and tried to create opportunities for deeper discussion and epistemological exploration among ESOL teachers in a particular professional learning context. First, though, I explore my own developing epistemological understandings, which provide the conceptual foundations for the initiative that was undertaken.

# Understanding epistemological shifts in ESOL

In this section, I outline my thinking in a narrative, with a beginning (at point of entry into the TLRI project), middle and later phase (at point of writing). In so doing, I highlight where and how different ideas relating to epistemology and epistemological shifts have become prominent in my thinking, been critiqued, discounted or taken up as relevant or useful in the context of this particular study. This narrative represents a personal learning journey and tracks how my understandings have developed. I consciously use the word 'developed' here in preference to 'shifted' because, for me, a shift implies leaving something behind and I think, rather, of ideas building on ideas to reconfigure understandings. Being engaged in the intellectualising of ideas has catalysed some developments in my own thinking.

I am aware, though, that these developments do not represent an end point but rather a step in an ongoing learning journey.

## Beginning – initial thinking

Early on I was enthused by the opportunity to build language to describe my thinking, by a new 'linguaging' of ideas. As I was learning new language, my ideas were expanding. I did not know the meaning of 'epistemology' two years ago. Neither did I know 'post-modernity' and 'social-constructivism' outside of vague notions of architecture. The concurrent learning of the new language and the exploration of educational ideas has contributed to my engagement and to the development of my thinking. It is indeed my experience that 'the limits of my language are the limits of my world' (Olsson, 1980, p. 6b).

One early experience was in coming across some words that have traditionally been nouns and are now being played into being verbs. 'Language' is one of them. I heard Ofelia Garcia talking about 'translanguaging' at the Language, Education and Diversity Conference at Waikato University in 2007 and first picked up the idea of certain key notions being used as a process, as a means, rather than as a fixed entity. We move between and across languages and students can become multi-competent users of language rather than just aiming to become native speaker-like knowers of English. Garcia draws on notions of 'plurilingual literacy practices', emphasising the integration of social and cultural contexts in 'doing' literacy (Garcia, Bartlett, & Kleifgen, 2007, p. 11). She draws on Shohat and Stam's definition of hybridity as 'an unending, unfinalised process ... [that] is dynamic, mobile, less an achieved synthesis, or prescribed formula than an unstable constellation of discourses' (Shohat & Stam, 1994, p. 42).

Jim Cummins, at the same conference, expanded on Garcia's ideas by articulating a shift in the terminology that we ESOL teachers regularly use. He argued that we should stop using the words and concepts of first language (commonly called L1) and second language (L2) as distinct entities. I understand that he suggested a much more fluid, active interpretation of language use so that students consider and make choices across and between languages, building a rich and complex mix of language, shifting and adapting in response to complex circumstances.

This experience of hearing such an eminent ESOL academic and theorist signalling a shift in his own ideas and language use was a surprise, and pivotal in capturing my interest in changing conceptualisations of knowledge. Cummins had coined the labels L1 and L2 and he was proposing that ESOL teachers discard the use of these terms because, he said, bilingualism should not be described in such distinct terms. If Cummins, whose theories about language learning and whose terminology are familiar to, and used by, ESOL teachers the world over, proposes a shift in thinking and the language used to describe that thinking, then perhaps I should be more engaged with, and critical of, the theory and language that underpin my practice. I found that the empowerment of activating a word like 'language' from a fixed noun form into a transforming verb like 'translanguaging' was exciting.

The notion of 'knowledge' as a verb rather than a noun is one that I first met through reading Jane Gilbert's (2005) writing. Figure 1 gives examples of such conceptualisations.

<b>Figure 1</b> Conceptualisations of knowledge as noun and verb	
<b>Knowledge as a noun</b>	<b>Knowledge as a verb</b>
Exists 'out there'	Socially constructed
Can be discovered and acquired	Can be (de)constructed
Collection of facts	Collection of interrelated ideas
To be stored and accumulated	Develops to be replaced
Passive	Does things (to be used)

Source: Gilbert (2005)

Gilbert challenges us to change our ideas of knowledge to conceptualise knowledge as performative rather than reproductive—something we put into action rather than something we get and store.

... knowledge only becomes 'Knowledge' when it is used to generate something *new*, something that can be then used to generate something else. Castells says that Knowledge is now something that *causes things to happen*: it is no longer stored [learned?] as 'stuff' that can be learned and stored away for future use. It is something that is produced collaboratively, by teams of people, something that 'happens' in the relationships between people. It is more like a 'process' than a product; it is constantly changing, evolving, 'flowing' and regenerating itself into new forms.

(Gilbert, 2005, p. 57).

Drawing on the ideas of Lyotard, Gilbert (2005) talks about acquiring 'old' knowledge not to add to it but to 'pursue "performativity": to apply it to new situations, to use it and replace it in the process of innovation' (p. 57). She explores the ways schools need to change to prepare students to participate in societies that are based on a different kind of knowledge and to support performativity in the application and use of knowledge. Gilbert's concept of performativity is different from that where performativity describes the acquisition of techniques and skills that are valued by markets. Her notion of performativity is more aligned with the development of personal autonomy and critical understandings.

'Identity' is another concept with a potential dynamic power that was introduced to me in the early stages of this project. 'Identity', like 'knowledge', does not have to be fixed and finite. Rather identities are fluid and multiple (Connell, 2002). In discussing learner identities, Andreotti, in a presentation to the Canterbury ESOL Teachers' Association in 2008, developed this idea and described students as drawers of their own identities, particularly in relation to culture. Not only do students draw on different aspects of their cultures to suit their purposes as they encounter different situations, but they are the active creators of their identities.

ESOL teachers may be doing themselves and their students a disservice by boxing language, knowledge and identity as nouns. It can be empowering to think of these ideas as verbs because then we can have power to shape, shift and use language, knowledge and identities. ESOL teachers could help students empower their own learning by bridging across domains of knowledge, between the languages and identities that they know, recognising that learner identities are continually being negotiated by students.

As a result of exploring ideas about epistemology, I became more focused on ideas relating to meta-cognition and promoted these meta-cognitive ideas in discussions with teachers. Ministry of Education ESOL materials have supported the meta-cognitive aspect of language learning for some time. For example, there is a section on meta-cognition in the introduction to *English Language Learning Progressions* (Ministry of Education, 2008) that includes ideas about knowledge:

Three different types of meta-cognitive knowledge have been identified (see Biggs & Moore, 1993):

- knowing what, or having knowledge about your own learning processes (declarative knowledge);
- knowing how, or having knowledge about what skills and strategies to use (procedural knowledge);
- knowing when, or having knowledge about when and why to use various strategies (conditional knowledge). ...

When English language learners are aware of their own skills and strategies and how they can use and combine them for various learning purposes, they become more independent learners. It's particularly important to teach

learning strategies that are appropriate for New Zealand classrooms when an English language learner’s current learning environment differs from what they are familiar with in their own culture. (p. 17)

I had regarded meta-cognition as a bit of an add-on in the past but it became a central point of the messages that I was giving to teachers.

## Middle shifts – models of personal epistemology

In this phase, I was challenged to think about different ways of conceptualising epistemological shifts, focusing on models of personal epistemology. These models are concerned with how individuals conceptualise knowledge and knowing. One model is Baxter Magolda’s stages of thinking (1992). She describes four stages in understanding about knowledge (see Figure 2).

One problem with, and criticism of, Baxter Magolda’s model is that it is hierarchical and deterministic. Stage 4 is clearly ideal and superior to Stage 1. These concerns with the model led me to Hofer’s (2004) epistemological dimensions. Although similar in that they, too, present a personal epistemological model and have an implicit hierarchical dimension, Hofer’s ideas present a more nuanced view and are more multidimensional than Baxter Magolda’s model. Hofer writes about the nature of knowledge and the nature of knowing. She describes a continua of different aspects within these constructs. As Hofer’s dimensions appear less judgemental than Baxter Magolda’s model, the dimensions might be more useful as the basis of an analytical tool and way of identifying and understanding epistemological shifts (see Figure 3).

**Figure 2** Baxter Magolda’s epistemological stages

<b>Stage 1(dualist or absolute knowing)</b>	<b>Stage 2 (transitional)</b>	<b>Stage 3 (independent)</b>	<b>Stage 4 (contextual)</b>
Knowledge is certain and absolute. Learning is about absorbing the knowledge of ‘experts’. Knowledge/ answers can only be right or wrong.	There are doubts about the uncertainty of knowledge— there is both partial certainty and partial uncertainty as well as absolute knowledge.	Knowledge is uncertain and what each individual knows is the result of a different learning journey. People interpret things in very different ways and they have a right to their own beliefs. There are many possible ‘right answers’ & many possible knowledges.	Knowledge is constructed, provisional and context based.

Source: Baxter Magolda (1992)

**Figure 3** Hofer's dimensions of knowledge

Nature of knowledge	Certainty of knowledge	←—————→ absolute tentative evolving	
	Simplicity of knowledge	←—————→ accumulation highly of facts inter-related concepts	
Nature or process of knowing	Source of knowledge	←—————→ locus actively outside constructed by individuals, self in interaction with external environments authority and others	
	Justification for knowing	←—————→ observation evaluation of authority, evidence, "what feels expertise, right" authority	

Source: Based on Hofer (2004)

Another model I found helpful in trying to understand epistemological matters was the matrix of ideas and knowledge developed by Andreotti and de Souza (2008) (see Figure 4). This model has dimensions reminiscent of Hofer. Knowledge is characterised in terms of certainty and education in terms of sources of knowledge or authority. Although there is a hierarchical element, this model was not designed to represent epistemological shifts or stages. Rather, it was designed as a tool to describe different approaches to teaching and learning that may be appropriate in different contexts (described in the quadrants). It appeals to me for the nuance and complexity that is implied through the intersecting axes. The quadrants allow for more complex reactions than in a simple linear progression model. Also, it has a practical application in that it invites teachers to position themselves and their teaching within the model and think about the different contexts where their position may be different, whereas other models may appear more academic and distant from practitioners.

**Figure 4** Matrix of ideas of knowledge and education

		Knowledge is ...	
		The right answer or way of doing something	Presenting and acknowledging multiple possibilities
Education is about...	Thinking as the teacher does and doing what the teacher says	A	B
	Thinking for yourself and choosing responsibility what to do	C	D

Source: Based on Andreotti and de Souza (2008)

Although I chose to work with these models, in the course of working with them I also became aware of their limitations. For example, the personal models may not recognise broad social constructs and different cultural ways of thinking.

These models and ways of thinking about epistemology had a strong influence on my work as the year progressed. I was developing my research plan and the materials I would use in my professional development initiative as I was exploring these ideas. The models formed the foundation of my analytical framework (see Figure.6) for the research analysis. My thinking developed further but this is not elaborated here as it is these models that were pertinent to the research component of my practitioner inquiry.

## Professional learning and development and research

In this section, I describe the content, some of the tools and the design process for the series of professional learning and development workshops that I planned and implemented in the course of the research. This series of workshops is the context of the research.

I was responding to the project research questions:

- What are the characteristics of effective initiatives for shifting teachers' conceptualisations of knowledge and learning?
- How do shifts in the conceptualisations of knowledge and learning affect teachers' interpretations of the NZC?

The research and development of the professional learning and development initiative were interwoven. The ideas and models that helped me understand epistemological shifts underpinned the discussion, the tools and the design of the professional learning and development and the models were used specifically in developing a framework for the research analysis.

### The intervention

The intervention that was connected with the research was presented through a series of three full-day workshops and included follow-up visits in three schools. The series of workshops was run in three different towns; approximately 40 teachers participated. The workshops, spaced approximately six weeks apart, all had the same structure:

First half of morning	Focus on the NZC	Teaching as inquiry cycle overlay
Second half of morning	Focus on <i>The English Language Learning Progressions</i>	
Afternoon	Focus on model units of work which incorporate ideas from the NZC and <i>The English Language Learning Progressions</i>	

I used the ideas and models that describe different conceptualisations of knowledge to inform the content, the tools and the design of the professional learning project. I chose to integrate discussions about knowledge and ESOL teaching and learning into the professional learning opportunities that I was offering teachers. I also chose to develop my own illustrations of ways in which different conceptualisations of knowledge could be incorporated in multi-level model units of work that ESOL teachers could adapt. The workshops were developed through the year, in response to developing conceptualisations of knowledge (both the teachers'

and my own). Evidence of the effect of the professional learning and development was gathered from teachers as we proceeded.

I wanted to provide some space within the planned professional learning for teachers to discuss epistemological ideas in relation to the NZC and ESOL. I wanted the teachers to explore the potential for 'doing' ESOL teaching and learning differently by seeing what is offered in the curriculum through the vision, principles, values, key competencies and statement on learning areas and language (p. 16). In each of the workshops we focused on one aspect of the curriculum, relating it to teaching English language learners, using activities developed in response to ideas and models described earlier. For example, drawing from Gilbert's ideas relating to reproductive and performative views of learning, distinguishing between learning as a noun and learning as a verb (see Figure 1). In one session, I asked all the participants to learn some phrases in the home language of one of their students. Throughout the day, they kept a record of their reflections about how they used (or did not use) the key competencies to learn the language.

In response to thinking about Hofer's dimensions of knowledge, I was wondering whether, by using the new *English Language Learning Progressions* (Ministry of Education, 2008), teachers would notice student needs and track achievement with more evidence-based understanding of the complexity of students' language learning. Would this process enable them to use that individualised information to meet diverse individual needs? During and between the workshops, the teachers were asked to analyse the needs of five students, using the *English Language Learning Progressions*. Using the model of the 'teaching as inquiry' cycle from the NZC (Ministry of Education, 2007), teachers were asked to think about meeting the particular English language learning needs of those five students and how to adapt teaching material to meet those needs. At the second and third workshops, teachers were asked to report on their inquiry. While the collection of individual student data was not part of this research, teachers were able to reflect on the process.

Draft teaching material was developed for multi-level units of work, designed to cater for students of different ages, stages and backgrounds within a class. The units were informed by the models of personal epistemology described in the earlier section. The materials were provided in electronic form so that they could be adapted by the teachers. They were developed in collaboration with education for sustainability so the materials had cross-curricular contexts and learning outcomes that allowed students to engage in critical thinking. By the third workshop, the Māori adviser and two teachers from different schools had been drawn into the design team for the 'Taonga' unit, responding to teachers' identified needs and the needs of their identified students. These units were co-presented and modeled for the teachers. The teachers were then invited to reflect on how they might adapt the units to address their students' learning strengths and needs. A few of the participants were to be observed teaching these units and interviewed as a means of data collection. Other teachers' written reflections would be collected.

The short titles of the topics of the units were: 'Bananas', 'Energy' and 'Taonga'. They had achievement objectives from social sciences, science and English as well as objectives relating to key competencies and values from the NZC. They also had language learning objectives from the *English Language Learning Progressions* (Ministry of Education, 2008). For the third model unit, the topic was developed to support a need that the teachers in Nelson identified—to acknowledge the principle of the Treaty of Waitangi in their teaching.

One activity from the 'Bananas' unit exemplifies the types of knowledge building that the model units attempted to enable. This adapted Banana Game activity (Banana Link, 2006) came towards the end of the unit, after ideas and language about trade and banana production had been built. The students were asked to take on roles of people from different occupations within the banana trade and argue for a proportion of the cost of a banana. The banana was valued at 60c and the participants (plantation workers, plantation owners, shippers, importers and supermarket owners) worked through a 'jigsaw' co-operative reading and discussion process. Firstly they worked with others of their own occupation to decide on the proportion that they thought they should earn. Then they had to split into cross-sector groups to come to an agreement about proportions of earnings, leading to further discussions about fair trade.

In addition, I taught two of the model units in different schools and recorded my reflections of that experience.

## Research participants

There were 30 participants in the professional learning and development initiative. Ethical approval was sought and given for the research that sat with this initiative. The teachers were given the opportunity to participate in the research with assurances of confidentiality. There were 20 teachers who consented to participate in the research and who provided sufficient material to be considered in the data collection. From this group of 20 participants, three were observed and interviewed in two schools.

## Research methods

Methods used for collecting data from the participating teachers included:

- written feedback from the 20 teachers participating in the workshops including:
  - pre- and post-initiative questionnaires about ideas relating to knowledge, teaching and learning
  - written reflections about how teachers felt they were responding to the NZC principles in their classroom programmes
  - written comments after teachers had gone back to school and trialled the units of work with class(es).
- semi-structured interviews that aimed to capture shifts in conceptualisations about knowledge and the NZC. Interviews with three teachers (Linda, Jan and Jill), were recorded and transcribed, one as an individual interview and one with two teachers together
- recorded oral reports on the inquiry process given at the beginning of the second and third workshops, incorporating reflections on the use of *The English Language Learning Progressions* and adaptations of the model units of work
- my reflections from observations in relation to pedagogical approaches of lessons with the three teachers, one a lesson with Linda and the other a lesson that was co-taught by Jan and Jill
- my ongoing reflective journal relating to my own explorations about conceptualisations of knowledge and how that might have an effect on the professional learning and development initiative.

Data were analysed using a framework that drew on ideas from several of the epistemological models explored as part of the project. This framework incorporates aspects of Hofer's dimensions of learning and Gilbert's ideas relating to reproductive and performative views of learning, distinguishing between learning as a noun and learning as a verb (see Figure 1). Also, the analytical framework makes connections with curriculum and ESOL contexts for teaching and learning to distinguish how these might be characterised within reproductive and performative views of thinking.

Figure 6 Analytical framework			
		<b>Reproductive</b> Knowledge as a noun; 'stuff'	<b>Performative</b> Knowledge as a verb; learning and using for a purpose
Knowledge	Certainty	Absolute truth, fixed or right way, fixed view	Tentative, evolving, fluid, contextual, to be replaced
	Simplicity	Discrete facts or information, accumulation	Relative, contingent, complex, interrelated, multiple, varied
	Source/authority	External, teacher as expert, PD adviser as expert, textbook as authority, assessment driven	Internal, actively constructed in interaction with environment and others,  self-generation, from the students' needs, not singular, many sources, changing sources/ authority
Context	Curriculum	Documents: prescription, content ready-made activities, NCEA assessment criteria in literacy & ESOL standards and activities, everyone does the same	Curriculum in practice: relating to process and application, contestable, developing  NZC 'front end': key competencies, values, school based, responsive to individuals
	ESOL learning	Isolated & discrete, passive, regurgitation, English distinct from other languages (English only environment), English grammar & vocabulary	Does things, language for more learning, purposefully developing language for and across contexts,  meta-cognitive, to be critiqued, ongoing, language for context, drawing on cultural and linguistic experiences in other languages

The analytical framework is a reference for me to apply to teachers' written and oral responses, interviews and observations, to uncover epistemological assumptions in what the teachers say and think. The descriptors need to be viewed as partial and tentative, open to expansion and elaboration, but they provide a useful tool to try and understand and analyse epistemological understandings.

## Findings

The findings are reported in two sections, the first relating to the whole group of 20 teachers, and the second to the thinking of the three specific teachers.

### Whole group

Written comments and oral reports after having taught the 'Bananas' unit contained the following comments. 'The noise of the discussion nearly lifted the roof off the classroom' (Anne). '[The students] got involved and really enjoyed it, especially the role play' (Christine). 'It generated plenty of economics discussion' (Mary).

I walked past [the other teacher's] room one day and you had all the students arguing over how much money each worker should get and that's quite extraordinary 'cause those students don't usually have opinions and the knowledge to argue over things that don't involve their own lives. (Jill)

Some teachers reported high levels of engagement, or signalled that the levels of engagement were higher than usual. They also described situations in which students were exploring ideas from different perspectives. These were things that some of the teachers said students had not really done before. However, does this

reporting of student participation in different types of learning activity, and by implication changed teaching practices (at least in the context of the professional learning initiative), signify epistemological developments for teachers?

At first reading, these comments may be seen to merely describe activity in the classroom. However, they also indicate that teachers are starting to see possibilities for ESOL teaching and learning that they may not have seen before. For example, Anne and Jill were excited by the active engagement of English language learners in discussion and debate. The tone of their responses indicated that the noise of the classroom was being seen as a positive feature, not a negative. For these teachers, this activity appears to reflect a change from the norm or what they would expect to see in ESOL classes—supported by Jill’s comment that students’ constructive argument was ‘quite extraordinary’. She appeared to have been taken by the fact that students had developed sufficient language and understanding of context to argue about ideas outside of their own experiences. Mary likewise observed the capacity of students to engage in discussion in a context relating to another subject, economics. From teacher responses it appeared that the activities from the ‘Bananas’ and ‘Energy’ units engaged teachers in thinking about their teaching and about the experiences and needs of students in respect of English language learning and in seeing possibilities for different types of language teaching activities. Also, teachers recognised abilities in students that they had not seen before.

Sixteen of the 20 teachers reported using one of the units, ‘Bananas’ or ‘Energy’, with their classes. Two teachers went beyond this and adapted one of their own units or created a new unit of work, drawing on some of the ideas from the professional learning initiative. All 16 teachers described adaptations that they had made or would make in the future, in relation to their students’ needs. Examples include: ‘I would pre-teach some more economics ideas and language’ (Tony) and ‘I would get some current sources about energy so that my students could go on to develop the Energy topic for their research’ (Brent). These responses reveal a willingness on the part of the majority of teachers to try a different approach to planning and teaching ESOL classes. Also, they reveal epistemological understandings held by teachers and tensions therein.

Focusing on the idea of the ‘source’ of knowledge, as described in Figure 6, teacher comments show that teachers see themselves as a (if not ‘the’) source of knowledge for their students and as the authority in the classroom, the one responsible for defining what should be learnt and how it should be learnt. Tony, for example, talks of pre-teaching some more economics ideas, the implication being that the teacher is defining and presenting to students that which is important. Brent sees himself as the one who will and should select the sources about energy for the students. These ideas could be seen as representing a reproductive model, where the teacher provides sources and information and the students use what the teacher provides.

However, it is not this simple. The performative model does not exclude the provision of information or ‘stuff’ by teachers as a facet of teaching and learning. After all, ideas are not generated in a vacuum and teachers, along with others, are sources of information. A performative view emphasises the use and application of ideas and skills to generate new ideas, and the role of students as active participants in the process. Brent appears to want the students to do something with the sources that he would provide. In proposing to provide the sources about energy, he may just be fast-tracking the need for students to find these so that, within limited time, they can get on with their own enquiries and a generative component in the unit of work. He may be narrowing the field to a limited range of sources, but intending an emphasis on the students processing ideas and generating their own ideas from a range of sources. Also, he may be suggesting that students should do their research for an English achievement standard in a science context (energy). This challenges ideas about language learning as isolated, discrete, passive and focused on language per se. By focusing on ‘energy’ as a context, this teacher may be revealing thinking that is more consistent with a performative view of language learning than with a reproductive view. Tony is similarly locating language learning within a context of school subject, in this case economics, and assimilating ideas from contexts outside of English language into the teaching of ESOL as valuable contexts and learning.

The responses of teachers also reveal ideas relating to the complexity and certainty of knowledge. For example, Jill’s reactions to the discussion and argument that is taking place, and her endorsement of this, shows an appreciation that knowledge is neither fixed, nor simple. She supports students having their own opinions

and engaging with contestable ideas. However, not all teachers may be comfortable with managing situations where students present opinions and may make claims that are culturally unacceptable in the New Zealand context (as gleaned from the description from two teachers of situations where they had chosen to shut down the conversation rather than address sensitive topics). Also, several teachers described challenges in negotiating expectations by students for teaching in ESOL classes to take a particular form and responding to questions about why they were studying about bananas, or energy, or other topics that were 'outside' the expected focus on English language items.

Some of the participating teachers clearly saw value in contextuality in language learning and in a more performative approach. However, some resisted a construction of ESOL as learning in contexts where the ESOL teacher was not an authority—one teacher said 'I am not a science teacher'. This appears to reflect a fixed notion of what ESOL is about, and what ESOL teachers do. This idea of what ESOL is, relates to there being a body of knowledge that should be taught and there being a right way of doing it (which isn't through science or other curriculum contexts). It is not clear exactly what this teacher thought ESOL teaching and learning was about, but it is clear that the teacher is resisting some ideas presented in the intervention that emphasised ESOL as learning in context for a purpose relating to use outside her classroom. Another example of the packaging of learning into 'silos' or discrete disciplines is when a teacher, who is both an ESOL and a science teacher, said that when she teaches the science class she teaches science, not language. She teaches language in the ESOL class. This comment may be aimed at helping students to make sense of what they are learning by locating it within a disciplinary structure but it may also show adherence to those disciplinary structures and resistance to attempts to integrate learning across discipline borders. It may reflect the potency of these within the secondary system, where knowledge is framed and located within conventional subject or discipline boundaries.

In their written responses to the pre- and post-initiative questionnaires, participating teachers made comments that, on the surface, would signal a developing performative view of teaching and learning and shifting epistemological understanding. In response to the initial questionnaire, Alexa, Suki and Brent, for example, variously described ideas of knowledge as information, as a 'bank of data' (Brent) and learning as the acquisition of information and 'retaining knowledge' (Suki), as well as describing knowledge and learning more in terms of experience and acquisition of tools to process information. In their later responses (post-questionnaire) the emphasis was different. They added ideas signalling understandings of knowledge more as process and learning as empowerment. For example, Alexa mentions teaching as helping students "'discover" learning as a fun activity' and the role of education being to "'question" and think critically about values'. Similarly Suki describes education as being about learning where and how to access information and being able to analyse critically. Brent describes knowledge in terms of problem solving and ability to 'interact with people' and 'cope with diversity'. Learning is described in meta-cognitive terms as 'learning how to learn' and extending beyond the classroom to being able to 'keep on learning' and to 'adapt to an ever-changing society'.

Questions remain about (a) whether participants' responses may reflect what they thought I, the leader of the professional learning, might want to hear as opposed to what they really think, and (b) whether the teachers think and believe these ideas are important enough to translate into practice. Answering these questions is beyond the scope of this project. However, it is clear from the data that all the participants were sensitised to ideas relating to what ESOL teaching and learning is about and that this sensitisation saw many shifts in understanding toward a more performative view of teaching and learning in ESOL. This is not to say that all fully embraced all the ideas and approaches to ESOL teaching and learning that were presented in the pedagogical initiative.

So far, the analysis has focused on teachers' epistemological understandings in the context of their work with students in schools. What, though, of their understandings from their positions as learners? The teachers' responses in their planning for teaching suggest that some are more comfortable than others with learning in an environment that encourages autonomy and creative involvement, rather than being told precisely what to do.

Teachers developed and taught their own units of work, drawing on the models that were provided. Some took up these models as they were, making no or few changes, and others adapted the model units to a greater extent to meet the identified needs of their students. All discussed adaptations that they would make in future. However, only 2 out of 20 teachers embraced the opportunity to create their own units on completely different topics to those provided by the models and in response to identified language learning needs, students' interests and in the context of learning in other subjects.

The units of work were deliberately created to model and exemplify ideas about teaching ESOL in relation to the ideas in the NZC. It was clearly within the expectations of the professional learning that teachers would use the model units or adapt the ideas to create their own units. How, though, can we interpret the differential uptake that occurred? It could be seen in a pragmatic sense as being about teachers managing busy lives, taking what they are given and using the units as ready-prepared materials, either with adaptations or without. In an epistemological sense, the differential uptake could be interpreted as reflecting different relations to authority and autonomy. Drawing on Hofer's ideas, it might be that those teachers who used the units unchanged were relying on external authority, in this case the professional learning leader, to provide and sanction the units of work and indicate what should be taught and how it could be taught. Those teachers who developed their own units might be seen as locating authority internally and actively constructing ideas and approaches to teaching and learning ESOL—drawing on, but not bound by, models from an external source. The data does not allow a definite conclusion but none or all of these explanations are possible.

## Individual cases

Two cases, involving three teachers, are briefly discussed. These cases provide contrasting examples of teachers with different ideas about knowledge, teaching and learning in ESOL, and different shifts in understandings evidenced in interviews and observed practice. The teachers were interviewed when they were in the middle of teaching the model units. They were also observed teaching a lesson. The data is brief and represents a moment in time. Thus, the interpretations made cannot be generalised beyond that moment or extended to other contexts or participants. Jan and Jill were both relatively experienced teachers of ESOL in secondary schools. Linda was new to teaching ESOL in schools.

## Jan and Jill

Jan and Jill engaged with different examples of units and seemed excited by the opportunities to do things differently. Jan indicated:

... when we got into Fair Trade, I got very inspired by it ... it was actually really interesting and exciting seeing the different levels ... I've not had something like that before that I've actually been able to [do]. This is the first topic I've done that I can do at different levels at the same time.

What triggered this was the opportunity in the professional learning to see how assessments at different levels could be used concurrently. While the examples of using assessment activities at different levels for different students within the same contexts provided tools, the opportunity to use these assessment activities seems to have encouraged Jan to address ideas relating to multiplicity of learner needs and teacher responses to identified needs. She has taken herself beyond a stance that one size fits all.

In their comments, Jan and Jill focus on ideas relating to diversity of students' experiences and needs. Jan, for example, seemed excited by possibilities for making connections to students' own lives and providing opportunities for students to debate matters of significance to them personally. In talking about different students they have taught, Jan and Jill described a realisation that learning is more than content and getting good grades and that, as teachers, they need to educate for broader understanding and communication in a range of contexts. Jan gave an example of teaching in a way that she 'never would have taught' earlier.

We hadn't really had anything much about the curriculum at school. As a result of the workshops we have started looking at ideas in the curriculum about values and competencies. We got to words like *equity* and the students

didn't know what it meant so I got them to look it up in the dictionary and the students found *fairness* and said they didn't know what that meant so I talked about soccer and gave an example of a ref letting [our rival school] get away with things but not our school. They said "That's not fair."

This is a performative view, where learning is viewed as more than knowledge acquisition, more than 'just learning what you need to pass the exam' (Jan). They saw part of their role being to help students shift in their learning from an exam output to a broader life focus. They intimated that in their teaching they had always had a concern for learners, but that in the course of the professional learning their ideas about what ESOL teachers and learners should 'be' and 'do' had changed. Their ideas about what it means to be student-centred had shifted.

Jan and Jill grappled with ideas related to epistemological understandings of students. They recognised how students' views of themselves and teachers influence classroom participation. Jan indicated that 'a lot of my students ... don't like cooperative learning ... so I think they are taught the teacher is the expert, to [defer] to the teacher and they are resistant to cooperative learning'. They are showing a critical awareness of conflicts for students in relation to some of the epistemological underpinnings of the New Zealand education system and also with their home countries. Perhaps most importantly though, Jan and Jill are grappling with how they can help students by providing scaffolds and opportunities for students to engage interactively and see learning as more than content acquisition and exam success.

Some months after participation in the professional learning, Jill signalled that involvement had made her think and teach differently. She said that, 'I would never have taught like that a few years ago'. From the context of that conversation, what she meant when she said 'teaching like that' could be construed as referring to one or more approaches: grappling with values and abstract concepts, embedding language learning in content beyond language skills, getting engagement of students in thinking critically and debating ideas, encouraging students to be more autonomous and involved in their learning. Jill is showing more than sensitisation to ideas from the professional learning. There appears to have been a shift in her epistemological understanding to a more performative stance, which is being translated into new teaching and learning activities and expectations for student engagement and involvement in ESOL learning. The extent of the shifts in thinking and practice are not clear, but it is clear that there have been shifts in practice as well as in thinking.

## Linda

Linda was taken with the idea of teaching ESOL in the context of a topic about bananas and fair trade. She indicated that she would never have thought of doing that and she was open to the idea of teaching this way. She seemed to like the ideas, but disjunction between rhetoric and practice suggests that she may not have made much of an epistemological shift in the course of the professional learning. For example, when asked what she would want students to be doing in an ESOL class, she responded: 'Well, working well together. Student centred learning I think is quite important. Yeah, well I'd expect that they'd be doing that and also, aah, just working well, you know, being good, good students basically'. This is elaborated further with explanation relating to how she would like to be seen as teaching.

I would be well organised and produce a good lesson, good flowing lesson appropriate to the learners and also a sort of variety of work as well because even in the one class you have different abilities, so you need to set up extra activities for the ones who are sort of more advanced.

There is an evident appreciation of points that were a focus of the professional learning, relating to variety of work, catering for different abilities, planning in relation to student needs and in relation to a range of learning outcomes. Ideas that were explored in professional learning are repeated back. However, in deeper discussion, it becomes evident that the ideas may represent an ideal and not be matched in practice.

When asked about changes that had been made in relation to the curriculum, Linda signalled that she had been trying to bring in the key competencies, but 'it's still a work in progress ... to be honest, I haven't spent a lot of time thinking about those but I know I should be'. There is awareness that there is something about the key competencies that may need attention, but little sense of ownership or indication of transferral into practice.

This disjunction between awareness and practice is similarly indicated in accounts of what ESOL is about and what students need from ESOL. Linda indicates this is 'well, two-fold. Just improve their English generally, you know skills generally, but also for mainstream, yeah the subjects they're doing out of school, you know, science or maths, or mainstream English'. There is recognition that ESOL learning may apply across contexts but it is a generalised idea and there is no real evidence of grappling with this in relation to planning and articulating these ideas to the students. In practice, she moved from teaching isolated English skills to teaching the content of the economics-related 'Bananas' topic. This suggests that Linda maintained a reproductive view of knowledge, teaching and learning. Although Linda made some shifts in recognising different possibilities for ESOL teaching, this does not seem to equate with a shifting epistemological stance.

## Final discussion

In this final discussion, I address variations on the research questions that guided the overall TLRI project and look ahead to possibilities for further epistemological explorations in my work.

### How are shifts in conceptualisations of knowledge and learning interpreted in relation to ESOL?

The main ideas that are developed in relation to teaching and learning in ESOL are informed by notions relating to knowledge as a noun (stuff to be acquired) or as a verb (to perform or achieve something). One idea of the professional learning was to encourage ESOL teachers to focus on and identify individual students' language learning needs and to plan in response to these identified needs, rather than teaching to a one-size-fits all model. There was a generative, student-centred approach in the work with teachers. Also, the professional learning focused on supporting learners to develop competencies for learning and using language in contexts that can be transferred outside the ESOL classroom, rather than teaching the language itself as an isolated, precise and finite body of knowledge. This is consistent with notions of language for learning and with the principles and values of the NZC. It reflects a twenty-first century discourse related to 'languaging' ideas. Thus, the units of work had cross-curricular contexts and the language teaching was to help students develop ideas and critical thinking.

Shifts in conceptualisations of knowledge are identified according to an analytical framework that distinguishes reproductive and performative understandings relating to teaching and learning in ESOL. The framework enabled an analysis of shifts, drawn from what has been said and observed. There are two levels of shifts being interpreted—how I understand knowledge and learning, as well as how teachers understand it.

### How do these conceptualisations affect the way the NZC is interpreted and implemented within an ESOL professional learning initiative?

The professional learning initiative incorporated a number of recurring activities that were designed to encourage engagement with ideas relating to teaching and learning as reproductive and/or performative practice. In particular, a performative element was emphasised within the initiative. Central to this was the development and modelling of units of work that provided ideas for (a) learning language for a purpose and within the context of different learning areas, (b) multi-level teaching and learning, (c) drawing on and affirming students' own knowledge bases and building from this, and (d) helping students to take responsibility for their own learning. Teachers used these units and adapted them to meet the identified needs of their students as a means of getting them to think critically about their teaching and learning and the ideas to which they were introduced in the professional learning.

## What are the characteristics of this initiative that were effective for shifting ESOL teachers' conceptualisations of knowledge and learning?

Central to the initiative was the development and modelling of multi-level units of work which, on reflection, was a key driver in encouraging teachers to think about what and how they taught, and to effect change in their teaching. The idea was that activities within units would be developed to scaffold students' language learning differently so that all could engage with rich concepts or 'big ideas'. What may have been a key factor was the expectation that teachers would use complete units. According to teachers' feedback, the activities within the units led students to a greater depth of thinking and richness of language use than they expected. These units were designed to respond to difference, partly as identified through the *English Language Learning Progressions*, so that teachers could identify where students were 'at' in respect of language learning progressions. The exercise of identifying students' needs and using that information to direct teaching and monitor progress was evident in the written and oral reports from teachers. At the time of writing, I am still getting feedback through emails about the professional learning and development series, indicating that the teachers' engagement with ideas had some longevity.

By modelling the units rather than just talking about how to plan differently, teachers had an opportunity to engage with ideas in ways that were meaningful and connected with their teaching and particular classes and students. Opportunities were provided to process the ideas relating to what teaching and learning is about in ESOL. There was also a teacher-research aspect to the professional learning initiative, where teachers were asked to go from the workshops to develop units further in response to identified students' needs, implement these units with classes and then to reflect on and discuss these at the next workshop. This approach supported and enabled teachers to see what was possible and to act on new learning, albeit with the support being limited by time and other practical constraints.

It is my impression that the uptake of the units, which embodied performative notions, was significantly higher than in past professional learning initiatives. As reported by some of the teachers in the above analysis, there was evidence of sensitising to new or different ideas about teaching and learning in ESOL and of shifts in practice by some. The shifts in thinking and practice were varied and could have been influenced by a range of personal and structural factors, including teaching experience and confidence, teacher conceptions of ESOL and their ideas about what ESOL teachers 'do', curriculum and assessment drivers and school-based approaches to curriculum and curriculum implementation. We cannot tell from the data which or how many teachers would go on to make significant changes in their ESOL teaching. However, it is heartening that some report having been propelled to change their practice in ways that support more integrated, multi-level teaching and to look at and think about students' learning needs differently.

Working with colleagues and teachers in the development of the units that were used to model different teaching and learning approaches helped to give an authentic and cross-curricula focus. Language demands were contextualised in different curriculum learning areas. It was also possible to look at concepts within a unit of work in ways that would not have been envisaged without the input of advisers from the other areas. This wider expertise and input enabled teachers in the professional learning programme to plan for deeper conceptual understanding and related language learning—the language needed to be built in order to learn and understand the concepts; for example, 'fairness', 'equity', 'sustainability', 'renewable and non renewable energy'. Also, two teachers were involved in the planning of the third model unit, the 'Taonga' unit. This unit was developed in response to comments by teachers in the first workshop that they did not think that they were addressing the Treaty of Waitangi principle that is outlined in the NZC. Drawing practising teachers into the planning process added to the credibility and authenticity of the unit.

The workshops were organised to provide opportunities for teachers to discuss the NZC and to identify for themselves the things that they felt were strengths and weaknesses in their teaching relating to the NZC principles and the key competencies. In focusing on the principles that underpin all aspects of what goes on in schools and the key competencies that need to be developed through all learning areas, participating teachers were invited to engage with an aspect of the curriculum that asks teachers to think differently about teaching and learning. These aspects of the curriculum are grounded in a twenty-first century discourse. These ideas

were returned to in each subsequent workshop, with opportunities for the teachers to discuss how they were making changes and addressing what they had identified as shortfalls. This provided impetus for teachers to relate discussions about broader curriculum philosophical and epistemological understandings to their own ESOL teaching.

## How does engaging with conceptualisations of knowledge and learning in the professional learning initiative influence ESOL teachers' interpretations of the NZC?

ESOL teachers have been influenced to think differently about the NZC and about teaching and learning in ESOL. The responses vary from sensitising and increased awareness, to questioning and challenging, to acting and to changing teaching and learning practices in classrooms. There is both resistance to, and uptake of, ideas evidenced in the data collected. Individuals were keen on some new ideas and resisted others in respect of NZC and the implications for practice.

One thing that became evident from working with teachers was the tension between the NZC and the National Certificate in Educational Achievement (NCEA), between the official national curriculum and the de facto curriculum of assessment requirements for qualifications. In theory, NCEA should be able to map with the curriculum. NCEA has the flexibility to do this. However, it appears that school structures and teachers' perspectives and expectations of curriculum are somehow operating together and in ways that mean that more flexible arrangements for teaching and possibilities for teaching (and learning) differently in ESOL are not fully captured, valued and supported. This is not to say that individual teachers are necessarily resistant to new ideas, but that broader structures, systems and political imperatives influence ideas about what is possible and what is desirable in ESOL teaching and learning and how the NZC is interpreted in practice.

In terms of my own understanding of the NZC, by engaging with conceptualisations of knowledge through the project and in the development of a pedagogical initiative, I have been able to better understand the complexities of curriculum. This has been facilitated by exposure to, and use of, different theoretical lenses. I feel I have a more critical understanding of curriculum and the forces that play out for practitioners, including myself as a teacher educator, as we make decisions around the curriculum in practice. Teaching practitioners have agency, but this is bounded agency, located and sanctioned within broader institutional and policy arrangements.

## Looking ahead

This initiative has been framed by models of personal epistemologies. These, though, are not the only ways of exploring epistemological understandings. I am conscious that there are perspectives that focus on broader cultural understandings and ways of knowing, and that raise issues of power, hegemony and social justice. This leads me to want to explore ideas grounded in equity concerns. The 'epistemological pluralism' position described by Andreotti (see Figure 5), for example, is one that I feel provides a challenge for me for the future. The ideas of 'epistemological pluralism' push my thinking further in respect of social justice and of teaching as political action to reshape change, not just adapt to change. As with many people, my sense of social justice can become latent at times. From the theoretical debates and discussions in this TLRI project experience, social issues related to education have been reinforced and brought to the fore. I have an impetus to bring back ideas that I have had in the past but that have become lost causes. I have a stronger foundation on which to re-introduce them.

For me, personal challenges have been presented in relation to my future practice and political action. These relate broadly to my practice as a teacher educator, extending beyond the context of the TLRI initiative. I am asking questions about power relations and hegemony, and about the pre-eminent position of English as the language of international trade and communication and how this might undermine or devalue other languages. Learning English is seen as a way forward in the world, but does this support cultural and linguistic

pluralism? What are the implications for individuals and communities who communicate in languages other than English? There may be multiple responses to these questions. I am drawn to ask questions and want to include ESOL teachers and their students in this questioning.

The following are examples of how my questioning draws me towards future actions:

1. How can I support schools to support bilingual students whose bilingualism is not being recognised, valued and used?
2. How can I further help teachers use and interweave their students' knowledge and experience of the world?
3. How can I help teachers support students given the huge complexity of different language backgrounds, different ages, varying length of time in New Zealand, cultural differences and learning in different learning areas?
4. How do we provide a bridge for students adjusting to a new education system, as well as a new country?

In asking myself these questions, I also need to beware of advocating a new orthodoxy or fixed way of teaching and learning ESOL, which is contrary to a pluralistic position.

I have come increasingly to the view that it is important for ESOL teachers to engage in professional discussions with other teachers and leaders in schools and wider communities about what is valued and what could and should be valued to support students from diverse cultural and linguistic backgrounds. I am led to think that unless teachers talk about beliefs and get to an epistemological level of discussion, there cannot and will not be impetus to make real change in teaching and learning. While this may contribute to dissonance, the dissonance may be necessary and valuable as a way of stimulating deep and critical discussion and professional learning. Similarly it is important for teacher educators to engage with these ideas. Looking ahead, these are avenues for me to explore, building on the learning from this TLRI project.

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