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The contribution of the Teaching and Learning Research Initiative to building knowledge about teaching and learning: A review of tertiary sector projects 2003–2011

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Introduction

In early 2011 Robyn Baker, Director of the New Zealand Council for Educational Research (NZCER), commissioned a review of the 15 completed tertiary sector projects funded under the Teaching and Learning Research Initiative (TLRI) between 2003 and 2010. The review will be discussed at a symposium of experienced tertiary researchers in November 2011, which will identify research priorities for the field and the TLRI for the next few years. A summary report will be published on the TLRI website. It is worth noting that 21 of the 97 (22%) projects funded in the review period have been in the tertiary sector.

The tertiary review follows on from one on early years projects completed by Joce Nuttall (2010). In that review Nuttall provides an insightful analysis of the history and principles of TLRI, which is a useful background to this review. She identifies the "normative position" created by the TLRI guidelines on project acceptability, particularly those related to the concept of effectiveness which is central to economic rationalism, and how that normative position constrains the kinds of research that can and cannot be done within the TLRI (2010, p. 2). She highlights an epistemological tension underpinning the TLRI principles in the way knowledge and practice are separated; and the complexity required of TLRI researchers who have to generate knowledge, inform practice, as well as manage collaborations between researchers and practitioners (p. 3). Nuttall also examines a concern identified by the TLRI Advisory Board that TLRI funding was going to experienced researchers, which was raising concerns about how research capacity could grow. Full information about the TLRI can be found on the TLRI website: http://www.tlri.org.nz/

The research question for the tertiary review was: "What and how has the Teaching and Learning Research Initiative ("TLRI") contributed to cumulative knowledge about teaching and learning in the tertiary sector?" Four ideas that need to/might be considered were identified within that question:

1. One aim of the TLRI is to build *cumulative* knowledge about teaching and learning.
2. With this in mind, what is the evidence for TLRI projects identifying and addressing thematic concerns in the tertiary field nationally and internationally?
3. What evidence is there that the researchers are looking at the specifications of a fund such as the TLRI and using this to move the field forward and/or what evidence is there that the focus is on using the fund to move personal intellectual projects forward and/or some combination?
4. How has (or could) the programme shape/give affordance to individual and collective academic trajectories?

The review is organised in four sections. The first section outlines the methodology and methods used in the review; the second reports on findings from the analysis of the projects in response to the research questions and ideas that were considered; five propositions synthesised from the findings are discussed in more depth in a third section; and in the final one, conclusions are drawn recommendations made for symposium participants to consider.

What we did

This review is located in an interpretivist perspective (Denzin & Lincoln, 2005) and uses a case study design. The case is "a specific, unique, bounded system" (Stake, 2005, p. 445)—the 15 tertiary TLRI projects listed on the TLRI website as completed publications by mid 2011. It employs inductive analysis which Thomas (2006) suggests enables researchers to condense text data into a succinct summary format, establish links between research questions and summary findings drawn from the data, and generates a theory or model about the underlying structures of the raw data. The text data analysed consists of the reports published on the TLRI website (http://www.tlri.org.nz/post-school-publications); links are established between the information in the published reports and the research questions; and these links generate models, in the form of clusters and themes, of what was researched in the published reports and how this was done in order to answer the research questions. Content analysis is the specific form of inductive analysis used. Merriam (1988) characterises content analysis as a systematic procedure for describing the content of text, in this case TLRI reports. This form of inductive analysis often has a strong quantitative element and, certainly, the form used here relies heavily on counts of incidents and their interpretation.

The content of the published reports was analysed, firstly, to ascertain what the projects researched; whether coherent themes could be identified; if so, whether they contribute to the development of the tertiary teaching and learning field as a whole; and whether gaps could be identified to enable TLRI to plan for future development of the fund. Consequently, the analysis

was done in three stages. The first described distributions among institutions, sorted projects into preliminary clusters, identified primary and secondary foci of projects, and identified two major themes. The second gauged how well TLRI themes are represented in international literature. Two types of publications were used to address this. The first consisted of articles published by journals focusing generally on post-school learning and teaching between 2003 and 2011. The second type of publication considered was Further and Post-16 and Higher Education projects funded by the *Teaching and Learning Research Programme (TLRP)* in the United Kingdom. Of the journals, five were selected for analysis: three general journals dealing with tertiary learning and teaching and two more specialised journals focusing on emergent themes from the first stage of analysis. The three general journals were chosen because they are international journals, representative of teaching and learning in the post-school field, are widely available, and geographically dispersed between United Kingdom, United States and Australasian audiences. The analysis of journal content focused on titles and key words of articles (c.f. Haggis, 2009); in four cases the abstracts were read and in two the whole article. The third stage identified topics in the three general journals and the TLRP projects that seemed absent in the TLRI projects and so might be gaps in the TLRI portfolio that needed filling.

The published reports, secondly, were analysed to ascertain how these projects were moving the field forward methodologically. Publications from individual projects were analysed to identify the methodology, research design, data gathering and analysis methods used. These publications were then analysed, grouped into various types of publication, and frequency counts recorded as a way to establish the extent to which projects are building cumulative knowledge about tertiary teaching and learning. A second method used to explore this question was a citation search, designed to establish the extent to which findings from the projects were being used by other researchers and practitioners. We did a series of Google searches for each project using publication information we had, the project title, and each of the researchers' names. These searches enabled us to locate additional publications from individual projects, which were incorporated into the dissemination data. A Google search was chosen because it located more citation information than bibliographic tools such as Scopus and Web of Science. Descriptive statistics were then used to analyse these dissemination and citation data. As a final step, following Coolbear, Weir and Sellers (2009), each project was considered using the concept of Pasteur's Quadrant to establish whether it aspired to contribute both to knowledge about and practical application in tertiary teaching.

What was researched?

Stage 1: A descriptive analysis

This report focuses on 15 projects funded between 2003 and 2007. Table 1 details the 15 projects in the order they appear on the web site. In addition to the title it lists the researchers named on the web site, the year projects were funded, and for how long.

Table 1 **Key researchers, project titles, year of funding and duration of 15 tertiary projects**

Named researcher on web site	Name of project, year of funding and duration
Airini	Success for all: improving Māori and Pasifika student success in degree-level studies. 2006 for 2 years.
Anthony, Glenda, Kane, Ruth	The role of initial teacher education and beginning teacher induction in the preparation and retention of New Zealand secondary teachers. 2004 for 2 years.
Barton, Bill, Paterson, Judy	Teachers learning mathematics. 2006 for 1 year.
Chandler, Robyn	Who, what, how and why? Profiles, practices, pedagogies, and self-perception of adult literacy practitioners. 2003 for 1 year.
Coll, Richard	An exploration of the pedagogies employed to integrate knowledge in work-integrated learning in New Zealand tertiary educational institutions. 2007 for 1 year.
Gibson-van Marrewijk, Kelly	Addressing obstacles to success: improving student completion, retention, and achievement in science modules in applied health programmes, with particular attention to Māori. 2005 for 2 years.
Forret, Mike, Eames, Chris	Understanding learning communities in tertiary science and engineering education. 2004 for 2 years.
Margrain, Valerie	Effective teacher education practice. 2004 for 1 year.
Meyer,Luanna	Valid and practical assessment of learning outcomes. 2005 for 3 years.
McKinley, Elizabeth Grant, Barbara	Teaching and learning in the supervision of Māori doctoral students. 2007 for 2 years.
Naidoo, Kogi	Unlocking student learning: the impact of teaching and learning enhancement initiatives (TLEIs) on first-year university students. 2005 for 3 years.
Thomas, Mike	Analysing the transition from secondary to tertiary education in mathematics. 2007 for 2 years.
Stucki, Paora	Narrative of beginning Māori teachers: identifying forces that shape the first year of teaching. 2003 for 1 year.
Zepke, Nick	Improving Tertiary Student Outcomes in their first year of study. 2003 for 2 years.
Zepke, Nick	Learning environments and student engagement with learning in tertiary settings. 2007 for 2 years.

Table 1 shows that three tertiary projects were funded in each of 2003, 2004 and 2005; two were funded in 2006 and four in 2007. Five projects were funded for one year, two in 2003, one each in 2004, 2006 and 2007. Two projects, in 2005, were funded for three years while eight projects were funded for two years—one in each of 2003, 2005 and 2006; two were funded in 2004 and three in 2007.

All projects were awarded to nominated lead researchers who assembled research teams of varying size, with team members hailing from more than one organisational entity: five projects involved seven or more entities; the remainder between two and six. We use the term 'entity' advisedly because team members did not always belong to formal tertiary educational institutions (TEIs). One project, for example, was awarded to a non-formal community organisation (Canterbury Adult Education Network) and a number of team members were affiliated with schools or Māori organisations. Altogether eight tertiary entities were awarded projects. Table 2 names the lead entities, the number of projects they were awarded, and the period they were awarded for.

Table 2 **Entities awarded projects and over what time period**

Lead Entity	Number of projects	3 years	2 years	1 year
Auckland University	3		2	1
Massey University	4	1	3	
Cant. Ad. Ed Network	1			1
Waikato Inst of Tech	1		1	
Waikato University	3		2	1
Open Polytechnic	1			1
Victoria University	1	1		
Te Wānanga o Aotearoa	1			1

Four universities won 11 of the projects; three going to non-university TEIs and one to a community organisation. Two non-university projects had advisers from universities on their research teams; two used independent consultants. Of the eight universities in New Zealand, four were not lead entities, but all eight had a presence on various research teams. Of the four projects awarded to non-university entities, three were one year projects, one was a two year project. Universities won all but one of the multi-year projects.

We identified 21 lead researchers. Some of these were not acknowledged on the front page of the TLRI web-site list of projects, but could be identified from reports. Because projects reported members differently we cannot be sure that we have identified all. Of the 21 identified project leaders, 17 led or co-led a single project; two pairs of researchers co-led two projects. This spread of leadership suggests that there is no dominant researcher in the sector seeking TLRI funding. Some team members were experienced researchers; some were new—indicating potential for the

growth of research capacity. However, there were few examples of inexperienced researchers taking on new roles within or across these projects, which raises questions about whether the potential for growth of capability is being achieved to the extent TLRI might like. The spread of research topics is very wide. There is interest in teaching and learning mathematics and science, teacher education, retention, student engagement, Māori and Pasifika success, adult literacy, assessment and co-operative education. The temptation to find that there is little coherence in the projects is strong, especially as projects are scarcely connected by, for example, internal citations. Just three projects are cited in other TLRI projects: two were cited three times and one cited once.

However, the 15 projects can be banded in five broad clusters—an initial model of what was researched. Four projects were interested in improving learning and teaching in a specific discipline like mathematics, science and engineering; three researched improving teaching practices in diverse areas like adult literacy, assessment and integrated learning; three were interested in how to enhance student success by improving student retention and engagement, and through academic development; three were focused on improving Māori and Pasifika learning and success; two investigated teacher education and its effects on learning. Table 3 shows how one-year, two year and three year projects were distributed among the five clusters and lead entities.

Table 3 **Distribution of projects by research cluster**

	Teaching and learning in a specific discipline			Teacher education and its effects on learning			Student success			Improving Māori and Pasifika success			Teaching practice		
Years funded	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**	**1**	**2**	**3**
Auckland University		1									2				
Massey University					1			2	1						
Cant. Ad. Ed Network														1	
Waikato Inst of Technology		1													
Waikato University		2												1	
The Open Polytechnic					1										
Victoria University														1	
Te Wānanga o Aotearoa											1				

Even when grouped into the five clusters, the lack of coherence among the projects emerges in Table 3, which has the appearance of a scattergram. Clusters are supported very evenly and no organisational entity has a strong presence in any. The focus of university researchers similarly is

diverse, although Massey University researchers won all three of the projects in the student success cluster. All entities with more than one project have projects in two clusters.

But clusters are not watertight compartments. Some projects could have been assigned to more than one cluster. Projects did not have just a single focus; they also tended to have a secondary focus. Our decision to place projects into a certain cluster was guided by consideration of both the primary and a secondary focus. Table 4 details the primary and secondary focus of projects in every cluster.

This secondary focus of projects enabled us to identify two broad themes in a refined model of what was researched. The first can be identified as investigating ways to improve student success. In the second theme, projects were more concerned with improving teacher development through induction and professional development. One, 'assessment policies and practices to achieve learning outcomes', could find a place in either theme. The next section will investigate these themes in greater detail.

Table 4 **Primary and secondary focus of projects in five clusters**

Cluster	Primary focus	Secondary focus
Teaching and learning in a specific discipline	1. Mathematics	Professional development for teachers
	2. Mathematics	Improving transition from 2° to 3° education
	3. Sciences	Student success: retention in health courses
	4. Sciences and engineering	Building capacity in learning communities.
Teacher education and its effects on learners.	1. Initial & continuing ITE	Induction effects on beginning teachers
	2. Initial Teacher Ed	Assessment feedback for ITE distance learners
Achieving student success	1. Retention	Of first year tertiary students
	2. Student engagement	Of first time enrolled tertiary students
	3. Teaching & learning enhancements	Academic development and student success
Improving Māori and Pasifika success	1. Degree level success	Includes major focus on Pasifika success
	2. Doctoral supervision	Improving outcomes
	3. Beginning Māori teachers	Retention issues affecting new teachers
Teaching practice	1. Adult literacy	Literacy practitioners and practice
	2. Assessment	Policies and strategies for learning outcomes
	3. Integrated learning	Pedagogies for integrating knowledge and skills

Stage 2: Themes hand moving the field forward

A theme can be characterised as a distinct, recurring, and unifying quality or idea. With some provisos, the themes identified above meet this characterisation. Certainly each theme has recurring ideas that lends it coherence. However, the themes are not totally distinctive. Each has

some overlaps and ambiguities that smudge its distinctiveness. For example, while some projects focus almost exclusively on students and others on the teacher, a number consider both the teacher and the student. We assigned the projects researching students and their success to one theme; those focusing on teacher development we placed in the other. We made considered decisions about projects with a divided focus and allocated them to the theme best aligned, in our view, with the projects' research objectives. In most cases this was not difficult. One, 'assessment policies and practices to achieve learning outcomes', we felt was not easily located in either theme, and kept it separate.

Theme 1 focused on students and how to enhance their success. We thought that the secondary focus of eight projects identified the following sub-themes:

- Success for indigenous students;
- Practices to improve student success;
- Building capacity in learning communities;
- Providing feedback on student assessment in initial teacher education;
- Transitions from secondary to tertiary education;
- Improving student retention;
- Achieving student engagement;
- Enhancing experiences of doctoral students.

Theme 2 was about improving teacher development and learning through induction and academic development. We identified four sub-themes:

- Graduate induction into professional practice;
- Teachers improving their own subject knowledge;
- The impact of academic development on teaching and learning;
- Improving integrated learning.

We found the task of judging whether projects moved forward the tertiary education research field or individual research interests difficult to address and impossible to answer with certainty. We would expect that the projects helped both develop the field and individual research trajectories. To test this expectation we did a content analysis of the sub-themes using major journals covering the themes and projects funded by the United Kingdom's Teaching and Learning Research Programme (TLRP) in two tertiary areas: Further and Post-16 education, and higher education. We wanted to know whether, and to what extent, the sub-themes were addressed in the literature. If they were addressed, we felt the projects contributed, even if in a small way, to the development of the field. From the TLRP projects we were particularly interested in finding out to what extent political and social issues seemed to drive the projects.

Journals

Table 5 pictures the results of the content analysis for Theme 1 *achieving student success* in four journals. The first column contains the name of the journal, the second the number of articles

appearing in that journal between 2003 and 2011. The remaining columns give the number of articles appearing in the journal under each sub-theme.

Table 5 **Theme 1: Achieving student success 2003–2011**

Journal	Number of articles in issues 2003–2011	Success for indig'nous students	Practices to improve student success	Capacity building in learning comm'ties	Feedback on student ass'ment	Transition from secondary to tertiary education	Student retention	Student engage-ment	Doctoral experience
Journal of College Student Development	361	3	13	5	0	25	12	13	2
Teaching in Higher Education	331	6	39	11	8	1	4	6	16
Active Learning in Higher Education	147	0	56	1	7	3	4	7	3
Higher Education Research and Development	235	3	19	4	2	0	9	13	17
Totals	**1074**	**12 (1.1%)**	**127 (11.8%)**	**21 (1.9%)**	**17 (1.6%)**	**29 (2.7%)**	**29 (2.7%)**	**39 (3.6%)**	**38 (3.5%)**

All sub-themes were represented in the journals whose content was analysed. The eight sub-themes made up more than a quarter (29 percent) of the articles published in the journals. The broad sub-theme 'non-specific practices that improve student success' was well represented in all journals; 'success for indigenous students', 'feedback on student assessment' and 'capacity building in learning communities' were not. Some sub-themes were represented better in some journals than others. The American *Journal of College Student Development*, for example, published more on transitions from secondary school and student retention than the others while the UK's *Teaching in Higher Education* and Australia's *Higher Education and Development* published more on doctoral experiences than the other two.

Table 6 **Theme 2: Professional development of teachers 2003 -2011**

Journal	Number of articles in issues 2003–2011	Graduate induction into professional practice	Teachers improving own subject knowledge	Impact of academic development on teaching and learning	Improving integrated learning
International Journal of Academic Development	138	6 4.3%	2 1.4%	8 5.8%	0
Teaching in Higher Education	331	2 0.6%	6 1.8%	29 8.8%	8 2.4%
Active Learning in Higher Education	147	4 2.7%	0	9 6.1%	7 4.8%
Higher Education Research and Development	235	0	2 0.8%	12 5.1%	16 6.8%
Totals	**851**	**12 (1.4%)**	**10 (1.2%)**	**58 (6.8%)**	**31 (3.6%)**

Note. Percentages in brackets refer to percentage of papers in sub-themes across the four journals; percentages without brackets to the percentage of papers in the specific journal.

The sub-themes of Theme 2 are not as well represented in the content of the four journals as were the sub-themes for theme 1. The four sub-themes represented 13 percent of the total submissions for the four journals. But each sub-theme was represented to some degree, with the 'impact of academic development on teaching and learning' best represented, with it being the most common theme in three of the four journals. Nearly 9 percent of the articles published in *Teaching in Higher Education* were on this sub-theme while just over 5 percent of articles published in *Higher Education Research and Development* were. 'Teachers improving own subject knowledge' was least represented in the four journals with *Active Learning in Higher Education* not publishing an article on that sub-theme. Understandably, the specialist journal *International Journal of Academic Development* published the highest percentage of its articles on the theme 'impact of academic development on teaching and learning'.

'Assessment policies and practices to achieve learning outcomes' was not included under either theme. But articles addressing assessment practices with some reference to policy were found 43 times (5 percent) in the four journals: twice in the *International Journal of Academic Development*; 20 times in *Teaching in Higher Education*; 13 times in *Active Learning in Higher Education*; and eight times in *Higher Education Research and Development*. A special issue of *Higher Education Quarterly* in 2010, edited by the lead researcher of the project, was dedicated to this topic.

Teaching and Learning Research Programme projects

The TLRP had similar aims to TLRI: to generate knowledge that can be used in practice and to inform policy. During its 10 years of operations (1999–2009) it funded seven projects in Further and Post-16 Education, and 14 projects in Higher Education. Even though it aimed for projects to be practical, its project summaries suggest that projects were inspired by political and social issues of the day as well as those of the classroom. For example, five of 14 projects in higher education investigated aspects of widening participation, thus feeding into a then current political agenda. Two others investigated experiences of working class students, a related topic to widening participation, but also a politically important topic in its own right. Two projects of the seven in the Further and Post-16 area were also loosely aligned to the widening participation agenda: one focused on inclusion, the other on bilingual literacies. Of the 21 projects included in this analysis nine (43 percent) studied topics associated with a strong political agenda of the time.

The remaining 12 TLRP funded projects can be associated with three of the sub-themes in TLRI projects: practices to improve student success (eight projects); transitions, in the TLRP's case from Further to Higher Education (two projects); and improving integrated learning (two projects). However, the match with TLRI sub-themes is weak for two of the TLRP projects. One, impacts of policy on practice, could be allocated to the policy agendas noted in the paragraph above, while the other, how research impacts teaching practice, could be a sub-theme in its own right.

Stage 3: Potential for impact and action

This section looks at possible gaps in the TLRI work programme. To do this, it continues with content analysis, this time with three mainstream journals focused on learning and teaching: *Teaching in Higher Education*, *Active Learning in Higher Education and Higher Education Research and Development.* The purpose is to identify study areas in the literature not currently evident in TLRI projects that could help shape the future of the TLRI programme. Five recurring study areas were discovered that do not feature in the 15 TLRI projects under discussion. Table 7 tells that story.

Table 7 **Themes to shape the future of TLRI?**

Journal	Number of articles in issues 2003–2011	Teaching Using IT	Teaching International students	Impact of student evaluations on teaching	Work-based integrated learning	Teaching postgraduates (non-doctoral studies)
Teaching in Higher Education	331	17	9	8	5	5
Active Learning in Higher Education	147	23	2	2	4	2
Higher Education Research and Development	235	12	31	5	16	7
	713	**52 (7.3%)**	**42 (5.9%)**	**15 (2%)**	**25 (3.5%)**	**14 (2%)**

It seems to us that all these topic areas have potential importance for TLRI. Two, however, by virtue of the size of their representation, could become priority areas. These, 'teaching using IT' (7.3 percent) and 'teaching international students' (5.9 percent), seem worthy of special mention, particularly as both meet goals of the current policy scene in New Zealand. The policy related projects of the TLRP, largely absent in the TLRI, suggest a further possible gap.

How were these projects researched?

Stage 1: Description

The inductive analysis identified how each project team approached their research, with a focus on the methodology (theoretical base or paradigm), research design and methods (data gathering tools and data analysis approaches) used to answer the research aim, objectives and/or questions. Of the 15 projects only eight explicitly identified a theoretical base or paradigm, with five located as interpretive/qualitative, two as co-operative/participatory, one in socio-cultural theory, and one as using Kaupapa Māori and Pasifika research protocols (one project identified as both interpretivist/constructivist and as participatory). Twelve identified a specific research design: seven as case study, six as mixed methods, two as narrative enquiry and one as action research. (Four located in both mixed methods and case study designs). Mixed method and case study designs were spread across the one, two and three year projects. Interestingly, many projects identified either a theoretical base (three) or a research design (seven); only five identified both. Also of interest is that an assumption that the three year projects were more likely to have identified both a methodology and research design was not correct: three of the one year projects identified both but the two three year projects identified a research design only (Table 8).

Table 8 **Methodology and research design and project duration**

	Methodology	Research design	Both
One year	1	1	3
Two years	2	4	2
Three years	0	2	0

Data gathering methods focused heavily on surveys, focus groups and semi-structured interviews—each used in ten projects; document analysis in four; classroom observation and student results in three; practice/reflective journals, Small Group Instructional Diagnosis and evaluations (module, student, tutor, course, lecturer) were used in two projects; with methods such as stimulated recall, worksheets, emails, field notes and tickets out of class (a student feedback process) used in just one project. Surveys, interviews and focus groups were used in one, two and three year projects with five projects using all three data gathering methods—one one year project, three two year projects and one three year project—again demonstrating methods spread across project duration. (See Table 9, a model of how projects were done).

Data analysis methods were not well described across the projects. Five reports moved from data gathering methods to findings; others referred only briefly to analysis processes. In some projects we identified the kind of analysis actually used from the findings presented. Three types of analysis were identified. First, qualitative analysis included inductive approaches that identified themes, patterns, trends and categories (six projects); document analysis (two projects), cross case analysis, grounded theory coding, cross sectional indexing and deductive constant comparisons (one project). Second, descriptive statistics, included frequencies, means, correlations (five projects) and inferential statistics, the third type, included factor analysis, t-tests for dependent and independent means, MANOVA and least squares regression (four projects). In three projects all three types of data analysis were used.

Stage 2: How are similarities and differences in approaches to research moving the field forward methodologically?

From the descriptive analysis reported above it is apparent that there are many similarities between the projects. The most frequently used research paradigm, declared and undeclared, was interpretive/qualitative; no studies were located as positivist, post-positivist, feminist or critical theory studies, for example. (See Table 9). The research designs were predominantly case study and mixed methods; the most commonly used data gathering methods were surveys, focus groups and semi-structured interviews; and, understandably given these approaches to answering the research questions, where analysis methods were described they favoured qualitative methods. Descriptive statistics were used in five projects but often in a limited way, for example in one case study or for one set of data. Similarly, inferential statistics were used, albeit minimally, in four projects. However, some differences also emerged. One project used Kaupapa Māori and Pasifika

methodologies; two were positioned as participatory. Four used forms of document analysis as data gathering methods; three used classroom observations and student results; stimulated recall, journals, worksheets, small group instructional diagnosis and tickets out of class activities were also used. Individual projects used inferential statistics such as least squares regression, MANOVA, *t*-tests and factor analysis. The analysis suggests, however, that the emphasis on qualitative/interpretive approaches may not be moving the field forward methodologically.

Table 9 **Methodology, research design, data gathering and analysis methods**

Methodology		Research design		Data gathering methods		Data analysis methods	
Paradigm	**No. of projects**	**Type**	**No. of projects**	**Method**	**No. of projects**	**Method**	**No. of projects**
Interpretive/ qualitative	5	Case study	7	Survey	10	Qualitative	9
Co-operative/ participatory	2	Mixed methods	6	Focus groups	10	Descriptive statistics	5
Socio-cultural theory	1	Narrative enquiry	2	Semi-structured interviews	10	Inferential statistics	4
Kaupapa Māori/Pasifika protocols	1	Action research	1	Document analysis	4		
				Classroom observation	3		
				Student's results	3		

Note: One project identified as both interpretivist/constructivist and participatory. Four projects identified as both case study and mixed methods.

Stage 3: How have the projects contributed to cumulative knowledge?

To gauge the contribution these projects have made to cumulative knowledge, we conducted an analysis of how findings from the projects had been disseminated (Table 10). This revealed a total of 175 outputs from the fifteen projects, an average of almost 12 per project. However, we acknowledge that this is a minimum count, that there may be other outputs our searches did not locate. A total of 43 presentations were made within institutions from five different projects. These presentations were done in the participating institution in some cases—disseminating findings from the project to colleagues—and as invited presentations in other institutions which wanted to find out more about findings. One project generated 22 presentations. A total of 35 journal articles, predominantly international journals, were produced from seven projects; one project produced 12 articles and another 11 articles. Twelve projects presented full reports to the TLRI; 14 individual case studies from two projects are also available on the TLRI website. Eight projects generated a total of 21 international conference papers; and six projects generated 16 national conference papers. Four projects produced six international conference presentations; and

five projects produced nine national conference presentations. It is interesting to note that conferences, both international and national, drew more written papers than oral presentations. It is also worth noting that six projects used five different types of dissemination; two used four different types and four projects used three different types. For two projects we located only a report to the TLRI.

Table 10 **Project dissemination**

Journal article	Book chapter	Int'l conf paper	Nat'l conf paper	Int'l conf present'n	Nat'l conf present'n	Institution present'n/ seminar/ keynote	TLRI report	Case study	Other[a]
35	4	21	16	6	9	43	12	14	15

[a]Other includes 6 resource sheets, 1 book, 1 journal editorial, 1 toolkit, 1 annotated bibliography, 1 symposium, 1 literature review, 1 research note publication, 1 background paper, 1 summary document for senior managers and academic boards.

To get a sense of how these projects may be contributing to cumulative knowledge, nationally and internationally, we searched for, and did an analysis of, citations. It was difficult and time consuming to find the citations we did locate, and we wonder whether it would be valuable to expand the TLRI website to include such information about completed projects. Accordingly, we acknowledge that we will not have found every citation so what we present here should be understood as a minimum. Our search within the TLRI projects revealed only three projects cited in outputs from other TLRI projects included in this review: one was cited three times in outputs from two different projects; one was cited three times in outputs from one project; and one was cited once by another project. Of course, the fifteen projects may also be cited by TLRI tertiary projects not included in this review. Citations within other publications were more frequent, with each project being cited at least once in other work (Table 11). What emerges from the analysis is that the findings from these projects are being used to build knowledge: one project has been cited 81 times, five others between nine and 15 times, and seven projects have been cited between two and six times.

Table 11 **Citations for individual projects**

No. of citations of a project's publications	1	2	3	4	6	9	14	15	16	81
No. of projects with the specified number of citations	2	4	1	1	1	2	1	1	1	1

A third method of analysis was used to identify possible contributions to knowledge and practice. Coolbear, Weir and Sellers (2009) conducted a detailed analysis of 40 projects listed on the Ako Aotearoa website using Stokes' (1997) concept of Pasteurs' Quadrant. Projects were evaluated for

their contribution to fundamental understanding (seeking to push the boundaries of knowledge) and considerations of use (potential for practical application). Pasteur's Quadrant refers to projects that score highly on both of these contributions. As Coolbear et al. (2009, p. 2) argue, "it seems eminently reasonable for educational research to aspire to be in Pasteur's Quadrant". While we did not conduct the detailed rating analysis of methodological integrity and potential impact that Coolbear et al. did, our analysis revealed that, in line with TLRI principles and values, all of the fifteen projects aspired to contribute to both knowledge and practice (use) and, therefore, to be in Pasteur's Quadrant. More detailed analysis, beyond the scope of this non-evaluative project, would be needed to evaluate whether they all achieved that.

What might this mean?

The research question for the review was: "What and how has the Teaching and Learning Research Initiative ("TLRI") contributed to cumulative knowledge about teaching and learning in the tertiary sector?" Four tasks were identified to answer that question:

1. Whether the TLRI builds *cumulative* knowledge about teaching and learning.
2. The extent of evidence that TLRI projects identify and address thematic concerns in the tertiary field nationally and internationally.
3. The extent of evidence that the researchers use TLRI to move the field forward and/or to move personal intellectual projects forward and/or some combination.
4. How TLRI might shape/give affordance to individual and collective academic trajectories.

We address these tasks by way of propositions that synthesise the data discussed above.

TLRI projects contribute, to some extent, to building cumulative knowledge

Evidence from the dissemination of findings from the 15 projects (175 outputs) (Table 10) and from citations of these publications (167 found) (Table 11) suggests that projects are building cumulative knowledge in the field, both nationally and internationally and through a variety of dissemination methods. However, this has occurred in varying degrees across the projects, unlike Meade's (2010) finding that early childhood centres of innovation "achieved extraordinary levels of dissemination" (p. 15). For example, we located only one output for two of the projects but 40 for two others. But the single outputs from the two projects have both been cited by others: one has been cited twice, the other six times. Arguably, both have contributed to building cumulative knowledge. In both cases the single output was the TLRI report, which suggests these reports are a valuable dissemination tool. The answer to the question 'to what extent have the projects contributed to cumulative knowledge?' is: all, to some extent, but some more than others. Consideration needs to be given to what is expected from each project in order to ensure it builds cumulative knowledge.

A concern we have is that the projects are not building on one another in the way envisaged by TLRI. Applicants in 2011 were encouraged to "explicitly build on the learning from completed TLRI projects ..." (TLRI, 2011, p. 1). But our analysis revealed that only three of the 15 projects were referred to by other TLRI projects. This may be a reflection of the disparateness of the projects, the lack of coherence referred to above, or possibly that the 2003–2007 project timeframe was not long enough for cross-project referencing to have fully developed. It remains a concern and one that will need to be addressed.

One aim of the TLRI is "builds the capability of teachers to improve their teaching practice by learning from the findings of research ..." (TLRI, n.d.a.). We found it difficult to identify evidence that the projects were building practice in this way. Presentations and seminars done within institutions may impact on teaching practice. If so, the 43 presentations done about five of the projects may have improved teachers' practice. This is an important issue given the TLRI aim. It connects to the complexity required in TLRI projects identified by Nuttall (2010), and is shared with Ako Aotearoa. Coolbear et al. (2009, p. 1), writing about 118 vocational education projects, concluded: "... as with other research in tertiary education, the impact on practice appears to be negligible". Their analysis revealed two issues: "low methodological integrity" and "low potential to impact on practice" (p. 7). They suggest that projects "develop outputs with considerations of use in mind" (p. 8). The scholarship of teaching and learning (SoTL) literature is valuable here. For example, Haigh (2011) discusses issues of short lived, "wild flower" SoTL projects and identifies a wide variety of strategies to sustain, embed and up-scale changes in teaching practice. Thought needs to be given to how TLRI projects' impact on teachers' practice might be planned for, identified, quantified, evaluated and recorded.

TLRI projects largely mirror thematic concerns in the international literature consulted

We identified two broad themes organising the 15 TLRI publications in this review. Under the umbrella of one theme were projects investigating student success. This theme was well represented in the chosen literature with 29 percent of the four journals' contents addressing it. Individual sub-themes were represented variably, with the lowest representation being just over 1 percent and the highest almost 12 percent. Moreover, 12 of 21 TLRP funded projects in the UK aligned with three of the TLRI sub-themes: 'practices to improve student success', 'transitions from Further to Higher Education', and 'improving integrated learning'. While Haggis' (2009) content analysis of learning research did not identify the same sub-themes as we did for the TLRI studies, she found numerous articles in three prominent higher education journals discussing related categories about learning. For example, one of her sub-categories, 'approaches to learning', represented 15 percent, 10 percent and 7 percent of the content of her three journals between 2000 and 2009. Another, 'curriculum innovation', made up more than 7 percent, 15 percent and 30 percent of her journals' contents. While the student success theme was very well represented in the literature, the second theme, academic development, was less evident, with about 13 percent of acceptances for the four journals addressing it. But each sub-theme was

represented to some degree, with ‘impact of academic development on teaching and learning’ best represented. Assessment practice and policy, a project not integrated into either major theme, was also quite well represented, being addressed by about 5 percent of journal offerings. In summary, TLRI funded research mirrored that of the field. While this gives rise to satisfaction that TLRI research about tertiary learning and teaching is in step with that done internationally, it is also a reason for concern. This substantial alignment might suggest that there is a shortage of innovation, something desired by the TLRI.

Researchers are both moving the field forward and furthering their personal research agendas

We found evidence that published TLRI projects both moved the field forward and furthered personal research agendas. As observed in the discussion above, the themes identified for TLRI projects were in remarkable harmony with what was being published in journals between 2003 and 2011, and also aligned, to a slightly lesser degree, with TLRP projects. In that TLRI contributed to the work being published internationally, its programme helped move the field forward. Additionally, TLRI’s funding of projects relating to Māori and Pasifika learning make a contribution to the field not so evident elsewhere in the literature. However, the extent of TLRI’s contribution to moving the field forward is limited for a number of reasons. The lack of innovation has already been mentioned and gaps in the published TLRI portfolio will be discussed in a later section. We observed earlier a lack of coherence in the funding of projects. We referred to the data displaying the distribution of projects among clusters in Table 3 as a scatter-gram that lacked a central tendency. This lack of coherence and central tendency suggests that TLRI has also furthered personal research agendas. This is no bad thing. Researchers commonly have a personal interest in the topic they are researching. Funded research within prescribed parameters is available through government departments such as the Ministry of Education. It seems desirable to continue balancing the interests of the field and individuals.

The range of TLRI research methodologies, designs and methods is limited

The initial analysis revealed a limited range of methodologies, research designs and data gathering methods were used (Table 9). Comparisons were then made with Denzin and Lincoln’s (2005) description of the research process and Guba and Lincoln’s (2005) inquiry paradigms. Five of the seven projects that identified a research paradigm located in interpretivism, constructivism, and hermeneutics (Denzin & Lincoln, 2005). One, Kaupapa Māori and Pasifika protocols, fits their cultural studies category; and one, the co-operative participatory project, fits Guba and Lincoln’s (2005) participatory inquiry paradigm. None of the fifteen projects was located in the positivism, postpositivism, feminism, racialised discourses, critical theory and Marxist models, or queer theory (Denzin & Lincoln, 2005). Similarly, of Guba and Lincoln’s (2005) five inquiry paradigms only two are apparent: constructivism and participatory. Positivism, postpositivism and critical theory were not used. Case study and mixed methods dominated the research designs;

surveys, interviews and focus groups the data gathering methods. While these choices were appropriate for the projects' research questions, we need to ask whether this restricted range of methodologies, designs and methods is an issue; whether we potentially miss important information about tertiary teaching and learning by not using a wider variety of approaches. Might this limited range be influenced by the constraints imposed by the "normative position" identified by Nuttall (2010)? On the other hand research designs must appropriately address the research questions. Variety of design for variety's sake is not good research. A discussion point for the symposium is: how else might TLRI actively promote its strategic value of "new research paradigms and/or methodologies" (TLRI, n.d.b., p. 1) while maintaining the integrity of the link between research questions and research design?

Gaps in the TLRI portfolio afford opportunities for moving collective and personal academic trajectories forward

The content analysis of articles published in the three general post-school teaching journals revealed two major gaps in the published TLRI portfolio. One gap concerns the role of information technologies (IT) in teaching and learning. The strong presence of IT related research in learning and teaching is evident. During the years 2003–2011 7.3 percent of articles published in the three journals focused on IT related topics, mainly e-learning. A second major gap is the area of international student learning and teaching. Almost 6 percent of articles in the three general journals addressed this topic, most frequently in the Australasian journal. These gaps are important given that the proportion of articles published on the two gap topics is exceeded only by the sub-theme 'practices to improve student success'. While TLRI has funded as yet unpublished IT related research, it seems evident that more projects in these gap areas would afford opportunities to move collective and personal academic trajectories forward. Another gap in the TLRI portfolio was identified by analysing TLRP projects. Forty-three percent of projects funded in Further and Higher Education addressed subjects closely connected with policy agendas. Projects investigating how national and institutional policies affect learning and teaching could offer further opportunities for moving the field forward in New Zealand, in line with the TLRI strategic value (TLRI, n.d.b).

Recent work by Haggis (2009) and Haigh (2011) suggest yet other gaps in the TLRI portfolio of published research. Haggis in her content analysis identified six categories concerned with learning research in Higher Education. As we argued above, two of her categories matched the two themes identified in the TLRI projects. Three of her categories could be said to reveal gaps in the TLRI portfolio: cognitive psychology, critical perspectives, and discourse/writing. One of her categories, social context, is partially covered by various TLRI projects about improving success of Māori and Pasifika students, work integrated learning and student engagement. But TLRI could consider projects in all four categories as affording opportunities for development. Haigh (2011) considers scholarship of learning and teaching (SoTL) projects as capable of both improving learning and teaching and disseminating findings. While one of the major themes identified in the published projects addresses academic development issues, more well designed SoTL focussed

projects would seem well suited to afford opportunities to improve teaching and research trajectories on a collective and individual basis.

Points for discussion at the symposium

This review concludes with some discussion points for colleagues attending the symposium on November 22, 2011. These points emerge from the analyses conducted for this review. But we are aware that these analyses have limitations. The content analysis used only five journals from a large field and the method used to analyse journal content focused on titles and key words of articles, thus leaving selections open to interpretation. Similarly, the analysis of dissemination and citations drew on sources found in a Google search. Because of the limitations we see these recommendations as starting points for discussion, not as proposals to be accepted or rejected. Our recommendations also use the strategic, research and practice values contained in TLRI documents. In particular we draw on statements about the desirability of forward looking and innovative research. The points for discussion are:

- Consider ways to ensure projects build cumulative knowledge, especially between TLRI projects but also within disciplines, within New Zealand, across disciplines and countries.
- Discuss additional strategies TLRI can use to attract research proposals that address the strategic value of forward looking and innovative projects, including those which focus on policy and practice.
- Suggest ways TLRI projects could enhance the link between research and teaching by planning for, identifying, evaluating and reporting how they enable teachers to improve their teaching practice by learning from the project findings.
- Discuss the creation of a new funding category for SoTL projects, with requirements for well designed and disseminated SoTL projects to afford opportunities to improve individual and collective teaching.
- Propose processes to monitor bibliometric information (e.g. ongoing publications and citations) about project publications, and post such information on the TLRI website.
- Discuss the gaps in tertiary TLRI projects identified in this review (and/or others) to identify those which should be addressed in future TLRI projects.
- Propose ways that TLRI could encourage high quality innovative knowledge building and "new research paradigms and/or methodologies" while maintaining the integrity of the link between research questions and research design.
- Recommend ways TLRI could generate projects investigating the impact of national and institutional policies on learning and teaching.
- Discuss the possibility of a single theme each year and call foe requests for proposals.
- Discuss the possibility that TLRI commission research projects to address identified gaps in completed TLRI projects and/or specific educational issues.

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Appendix A: Summaries of the 15 reports (from the TLRI website)

1. Success for all: Improving Maori and Pasifika student success in degree-level studies

Funding Year: 2006 **Type:** 2 years

Organisation: University of Auckland

Principal Investigator

Dr Airini, Associate Dean, Equity, The University of Auckland Faculty of Education, with The University of Auckland Faculty of Education; the Faculty of Medical and Health Sciences; and the National Institute of Creative Arts and Industries, Careers Centre.

Research Team

Deidre Brown, Elana Curtis, Odie Johnson, Fred Luatua, Mona O'Shea, Te Oti Rakena, Gillian Reynolds, Pale Sauni, Angie Smith, To'aiga Su'a Huirua, Matt Tarawa, and Meryl Ulugia-Pua.

Partnerships

The University of Auckland, with the Faculty of Medical and Health Sciences; and the National Institute of Creative Arts and Industries, Careers Centre.

Project Aims

This evidence-based project targets Māori and Pasifika student success in degree-level tertiary education. The focus is on the ways in which nonlecture teaching and learning helps or hinders Māori and Pasifika student success in preparing for, or completing, degree-level studies. Good practice will be identified.

Research Questions

- What teaching practices in non-lecture contexts help or hinder Māori and Pasifika success in degree-level study?
- What changes does research in this area suggest are needed to teaching and university practices in order to best support Māori and Pasifika success in degree-level studies?

http://www.tlri.org.nz/success-all-improving-maori-and-pasifika-student-success-degree-level-studies

2. The role of initial teacher education and beginning-teacher induction in the preparation and retention of New Zealand secondary teachers

Funding Year: 2004 **Type**: 2 years

Organisation: Massey University

Research Team

Glenda Anthony and ***Ruth Kane***, with Universite du Quebec en Outaouais, Canada; University of Waikato; Auckland College of Education; Massey University; Ruth Mansell, independent consultant, Te Tari Puna Ora o Aotearoa/New Zealand Childcare Association; University of Otago; and Te Whare Wānanga o Awanuiārangi

Research Aims and Questions

The project aimed to:

i. explore how a national sample of secondary teachers' experiences of ITE contributed to their sense of preparedness and efficacy as they made the transition to the classroom and continued to inform their teacher learning and practice
ii. examine the effect of ITE and induction on the beginning teachers' experiences of becoming a teacher and early career path decisions
iii. provide exemplars of effective induction programmes that will inform the wider community as to what works, for whom, and in what context
iv. describe and explore the views of beginning teacher mentors or supervising teachers with respect to teachers' preparedness and developing capability.

http://www.tlri.org.nz/The%20role%20of%20initial%20teacher%20education%20

3. Teachers learning mathematics

Funding Year: 2006 **Year:** 1 year

Organisation: University of Auckland

Principal Investigators

Bill Barton and Judy Paterson

Research Team

Barbara Kensington-Miller, Hannah Bartholomew, Anne Blundell, Peter Radonich, Jason Florence, Anna Dumnov, Margaret de Boer, Linda Crisford, Yoko Raike, Anne Watson, and Deborah Ball

Partnerships

The University of Auckland, with eight secondary teachers from eight different schools in the Auckland region will work as part of a wider project in collaboration with teams lead by Deborah Ball, The University of Michigan; and Anne Watson, Oxford University

Project Aims and Objectives

The research questions were:

- What developments will a teacher be able to make in their own mathematical knowledge while teaching?
- What do these teachers think about its worthwhileness and practicality as ongoing professional development?
- What do these teachers have to say about the importance

A sub-aim of the project was to further induct the teacher-researchers into research practice. The project sought to understand how teachers can engage in the learning of mathematics to enhance their teaching as part of their professional lives. It gave a group of teachers the opportunity to undertake such learning in a supported fashion, and to reflect on and investigate for themselves its effect.

http://www.tlri.org.nz/teachers-learning-mathematics/

4. Who, what, how, and why? Profiles, practices, pedagogies, and self-perception of adult literacy practitioners

Funding Year: 2003 **Type:** 1 year

Organisation: Canterbury Adult Basic Education Research Network (CABERN), Christchurch

Research Team

Robyn Chandler, Robert Tobias, with Vivienne Boyd, Julie Cates, Kellie Shanahan, and Cathy Solomon

Research Aims

i. understand more about the backgrounds, characteristics, motivations, and training of adult literacy practitioners
ii. understand more about the nature of their literacy practices in the various contexts

iii. understand more about their aspirations, their perceptions of positive and negative aspects of their practices and of the contexts within which they work.

http://www.tlri.org.nz/Who%20what%20how%20and%20why

5. An exploration of the pedagogies employed to integrate knowledge in work-integrated learning in New Zealand tertiary educational institutions

Funding Year: 2007 **Type:** 1 year

Organisation: University of Waikato

Research Team

Richard Coll, Research Director, Science & Engineering, University of Waikato, with Chris Eames, Levinia Paku, Mark Lay, Diana Ayling,Dave Hodges, Shiu Ram, Ravi Bhat, Jenny Fleming, Lesley Ferkins, Cindy Wiersma, and Andrew Martin

Partnerships

AUT, Massey University, Unitec, New Zealand Association of Cooperative Education, and the University of Waikato

Brief description

Work-integrated learning or co-operative education is an educational strategy in which students undertake conventional academic learning at a higher educational institution combined with some time spent in a workplace relevant to their programme of study and career aims (Groenewald, 2004). A key aspect of work-integrated learning is the notion that it entails the integration of knowledge and skills gained in the higher education institution and in the workplace. This has two features—the student takes what he or she has learnt on campus into the workplace when going on a work placement, and likewise what they learn in the workplace becomes related to, or incorporated into, the next phase of academic learning when the student returns to study after completing a work placement.

Research Question

This TLRI project focused on learning in work-integrated learning programmes in higher education institutions. We sought to investigate the question:

What pedagogical approaches are used in New Zealand work-integrated learning/co-operative education programmes in terms of integration of student knowledge, and what impact do these have on student learning?

http://www.tlri.org.nz/An%20exploration%20of%20the%20pedagogies

6. **Addressing obstacles to success: Improving student completion, retention, and achievement in science modules in applied health programmes, with particular attention to Maori**

Funding Year: 2005 **Type:** 2 years

Organisation: Waikato Institute of Technology

Research team

Kelly Gibson-van Marrewijk, Jane Stewart,Gudrun Dannenfeldt, Kevin Stewart, and Jackie McHaffie with Rose Hipkins, the New Zealand Council for Educational Research

Aims and Objectives

This research aimed to find new ways of teaching the necessary science knowledge in undergraduate degree programmes for midwifery and nursing, without creating an obstacle to overall programme success. Helping students to see clearer connections between their science learning and their goal of becoming midwives or nurses became central. We sought ways to support students to make links between theory and practice. We aimed to contextualise the science teaching modules by using rich narratives of practice. We anticipated that their effective use would require a change from traditional teaching, which tends to leave students to create theory–practice links for themselves.

http://www.tlri.org.nz/Addressing%20obstacles%20to%20success

7. **Understanding and enhancing learning communities in tertiary education in science and engineering**

Funding Year: 2004 **Type:** 2 years

Organisation: University of Waikato

Research Team

Mike Forret, Chris Eames, and Richard Coll Centre for Science and Technology Education Research, University of Waikato with Alison Campbell, Tom Cronje, Kevin Stewart, David Dodd, Heather Stonyer, Jim Clark, Crispin Maclean, Rainer Kunnemeyer, and Michele Prinsep

Aims and Objectives

This project aims to build upon current research in the area of teaching and learning at tertiary level. The aims are to:

- contribute to an understanding of the nature of learning communities in tertiary science and engineering and how they work to enhance teaching and student achievement
- understand how the nature of the learning community might differ for teachers teaching different levels of students, and for learners over their time of participation in that community
- build capability in educational research for tertiary science and engineering lecturers by involving them in the research process
- investigate the use of a sociocultural view of learning to understand teaching and learning in higher education.

http://www.tlri.org.nz/Understanding%20and%20enhancing%20learning%20communities

8. Effective teacher-education practice: The impact of written assessment "feedback" for distance learners

Funding Year: 2004 **Type: 1:** Year

Organisation: The Open Polytechnic of New Zealand

Research Team:
Valarie Margrain, Trish Muirhead, Angela Edlin, Liz Everris, Jenny McClew, The Open Polytechnic of New Zealand. Anne Meade, Anne Meade Associates.

Brief Description
The overall aim of this project is to investigate the role that lecturers' written assessment feedback to student teachers plays in student learning. It aims to add to the knowledge base about tertiary teaching and learning, in particular formative assessment practice in distance/flexible education; enhance the links between educational research and distance/flexible teaching practices; and build research capability among lecturers involved in an early childhood teacher education programme.

Research Questions
- How do the extent and timing of assessment feedback to distance learners support study and extend learning?
- What is the nature of the feedback that students find most effective in motivating continued study and/or extending their learning?
- Why is this particular kind of feedback most effective?

- Is there a link between the characteristics of students (for example, their level of study or on-job experience) and their perceptions of the effectiveness of different feedback strategies for supporting study and/or extending their learning?

http://www.tlri.org.nz/Effective%20teacher-education%20practice

9. Valid and practical tertiary assessment of learning outcomes

Funding Year: 2005 **Type:** 3 years

Organisation: Victoria University of Wellington

Principal Investigator
Professor Luanna Meyer

Partnerships
Victoria University of Wellington, with Massey University, Te Whare Wānanga o Awanuiārangi, and Manukau Institute of Technology

Project Aims
This research will investigate policy and strategies for the assessment of student learning outcomes across a wide range of tertiary institutions. The research team will include tertiary lecturers and researchers in various disciplines and professional programmes, and participants in the research will be tertiary practitioners, students, and tertiary leaders. The purpose of the project is to better understand and support evidence-based, valid, and practicable assessment strategies to enhance the teaching and learning process.

http://www.tlri.org.nz/valid-and-practical-tertiary-assessment-learning-outcomes

10.Teaching and learning in the supervision of Maori doctoral students
Principal Investigators

- Associate Professor Elizabeth McKinley, Ngāti Kahungunu ki Wairarapa/Kaitahu (The University of Auckland)
- Dr Barbara Grant (The University of Auckland)

Associate Investigators

- Professor Sue Middleton (Waikato University)
- Dr Kathie Irwin, Rakaipaaka, Ngati Kahungunu, Ngati Porou (Te Puni Kōkiri)

- Emeritus Professor Les R. Tumoana Williams, Rongowhakaata, Ngāti Maru (Ngā Pae o Te Māramatanga)

Acknowledgments
Advisory Group:
- Assoc Prof Pare Keiha (AUT University)
- Matiu Ratima (The University of Auckland)
- Dr Adreanne Ormond (Ngā Pae o Te Māramatanga)

Focus of Research
The primary goal for the research was to enhance our understanding of the supervision of Māori doctoral candidates (from both students' and supervisors' perspectives) so as to improve outcomes for those candidates and their institutions.

Research Questions
- How do Māori doctoral students and their supervisors work together as teachers and learners in supervision?
- How can supervision capability be improved to support better outcomes for Māori doctoral students and their institutions?

http://www.tlri.org.nz/teaching-and-learning-supervision-maori-doctoral-students

11. Unlocking student learning: The impact of Teaching and Learning Enhancement Initiatives (TLEIs) on first-year university students

Funding Year: 2005 **Type:** 3 years

Organisation: Massey University

Principal Investigator
Kogi Naidoo, Massey University

Research Team
Sam Richardson, Gordon Suddaby, Dr Fay Patel, Duncan O'Hara, and Anna Weatherston, (Massey University); Neil Haigh, Alison Kirkness, Lindsay Neill (AUT); Clare Churcher, Peter Gossman, Alison Kuiper (Lincoln University); Sarah Stein, Terry Scott, and Paul Yates (University of Otago); Alison Holmes, Billy O'Steen, and Richard Scragg (University of Canterbury); Lorraine Stefani, Simon Holdaway (University of Auckland); Kathryn Sutherland, Tom Angelo, Allan Sylvester, Simon Park, and Val Hooper (Victoria University).

Partnerships

Massey University, in partnership with Victoria University of Wellington, University of Otago, Lincoln University, Auckland University of Technology, University of Canterbury, University of Waikato, and The University of Auckland

Project Aims

This research will focus on the provision of academic development and its impact on the success of first-year student learning at all universities in New Zealand. It will harness the experience and expertise of academic developers and teachers as partners. The goal of the project is to increase students' learning and success in targeted large first-year classes through the development and implementation of Teaching and Learning Enhancement Initiatives (TLEIs) that make a difference to student learning and success. The study will empirically identify a range of academic development strategies and approaches that directly enhance student success and learning outcomes.

http://www.tlri.org.nz/unlocking-student-learning-impact-teaching-and-learning-enhancement-initiatives-tleis-first-year-uni

12.Analysing the transition from secondary to tertiary education in mathematics

Funding Year: 2007 **Type:** 2 years

Organisation: University of Auckland

Research Team

Mike Thomas, The University of Auckland and Sergiy Klymchul, Auckland University of Technology

Partnerships

The University of Auckland, Auckland University of Technology, with Mt Albert Grammar and Epsom Girls Grammar schools

Project Aims

This project will investigate secondary and tertiary mathematics education and provide evidence of whether key differences exist. Any differences that are discovered will be described qualitatively. It aims to examine the influence of a number of key factors in the transition from secondary to tertiary mathematics education, and consider how to smooth this transition. It will identify and analyse the reasons for any differences at the two levels

and explore ways to enrich mathematics teaching and learning, employing ideas from both secondary and tertiary educators.

http://www.tlri.org.nz/analysing-transition-secondary-tertiary-education-mathematics-0

13.Narratives of beginning Maori teachers:Identifying forces that shape the first year of teaching

Funding Year: 2003 **Type:** 1 year

Research Team

Paora Stucki, Areta Kahu, Heeni Jenkins, and Pip Bruce-Ferguson, Te Wānanga o Aotearoa Bachelor of Teaching (Primary) lecturers and their ex-students, with ***Ruth Kane*** from Massey University as adviser.

Brief Description

This research aimed to address directly the lack of evidence based research within New Zealand that focuses specifically on making explicit and theorising the experiences of beginning Māori teachers in primary school classrooms. It sought to advance and extend the current body of knowledge on the experiences of beginning teachers in schools, and contribute to improvements in initial teacher education programmes generally.

http://www.tlri.org.nz/Narratives%20of%20beginning%20Maori%20teachers

14.Improving tertiary student outcomes in their first year of study

Funding Year: 2003 **Type**: 2 years

Organisation: Massey University

Research Team

Nick Zepke, Linda Leach, and Tom Prebble in partnership with Northland Polytechnic, Manukau Institute of Technology, Waikato University, Universal College of Learning, Wellington Institute of Technology, and Christchurch College of Education.

Aims of the Project

We asked: “What can New Zealand TEIs and their teachers do to adapt their current processes and practices to improve retention, persistence, and completion of diverse students in their first year?” Our project aimed to:

- identify policies, processes, and teaching/learning approaches used by TEIs to improve the outcomes of diverse first-year students;
- ask second-time students whether they had ever considered withdrawing from study and, if they had, what enabled them to stay;
- find out what teachers and administrators of first-time students thought caused early student departure and what could be done about it;
- synthesise the data to develop ideas for improving tertiary student outcomes develop a partnership with TEI practitioners to validate the synthesis as suitable for practice;
  in partnership with practitioners, develop and disseminate guidelines for future practice.

http://www.tlri.org.nz/improving-tertiary-student-outcomes-their-first-year-study

15.Learning environments and student engagement with their learning in tertiary settings

Funding Year: 2007 **Type:** 2 years

Organisation: Massey University

Research Team
Nick Zepke and Linda Leach

Partnerships
Massey University, with nine partners including one wānanga, two universities, four polytechnics, one PTE, and one large community provider

Project Aims
This project investigates student engagement with their learning process across the range of providers in tertiary settings and gauges the importance and nature of environmental influences on that engagement. The project has four phases: the first completes a literature review to inform the process; the second adapts international survey instruments on learning climate and student engagement to the New Zealand tertiary climate; the third surveys tertiary teachers to identify their approaches to achieving student engagement; and the fourth interviews selected students in order to follow up key findings identified in the student survey. The findings will provide insight into ways to create learning environments that engage learners.

http://www.tlri.org.nz/learning-environments-and-student-engagement-their-learning-tertiary-settings