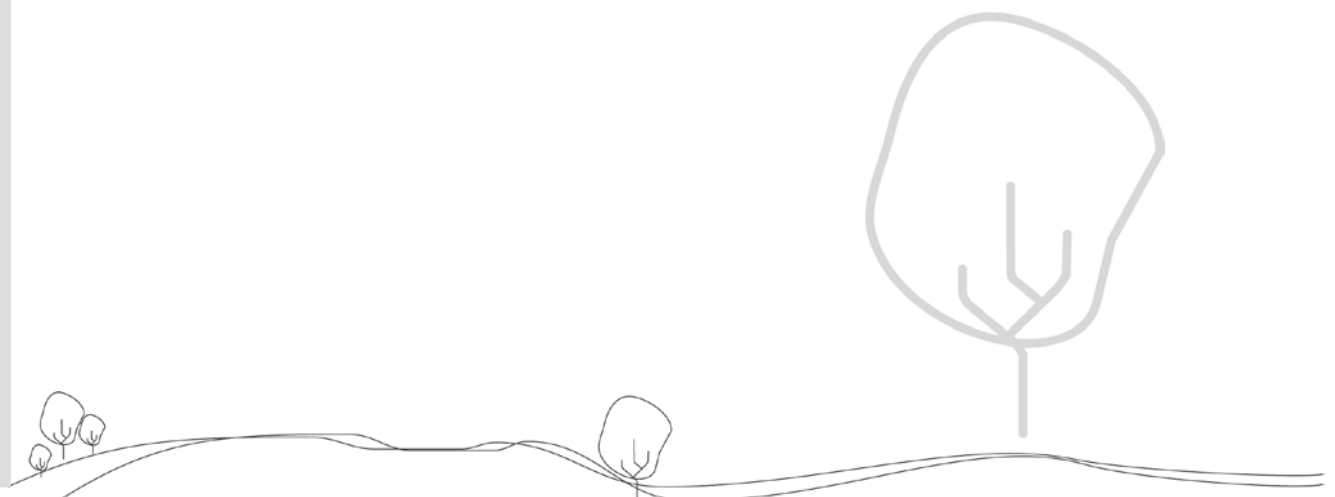




# Key learning competencies across place and time: Kimihia te ara tōtika, hei oranga mō to ao

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# 1. Aims, objectives, and research questions

## **Background to the project: Two curriculum documents in Aotearoa New Zealand**

The overarching aim of this research in the proposal was the following:

In a number of early childhood centres and early years school classrooms that have already begun to explore in this area, to investigate effective pedagogy designed to develop five learning competencies over time.

This project was developed in response to curriculum reform in Aotearoa New Zealand. When the project began, the Ministry of Education was undergoing a review of the school curriculum. This review began in 2001 with a *Curriculum Stocktake Report* (Ministry of Education, 2002) and continued throughout 2005 and 2006. The draft New Zealand curriculum was published in 2006 (Ministry of Education, 2006), and after further feedback the final document was published in November 2007 (Ministry of Education, 2007). Justine Rutherford (2005) and Sandra Cubitt (2006) provide an overview of this curriculum review process.

## **Background to the project: Learning competencies, key competencies, and learning dispositions**

The school curriculum review included the development of five key competencies for the school curriculum. These were aligned with the five curriculum strands in the early childhood national curriculum, *Te Whāriki* (Ministry of Education, 1996) in a diagram on page 42 entitled *The key competencies: Cross-sector alignment*. It is reproduced here as Figure 1.

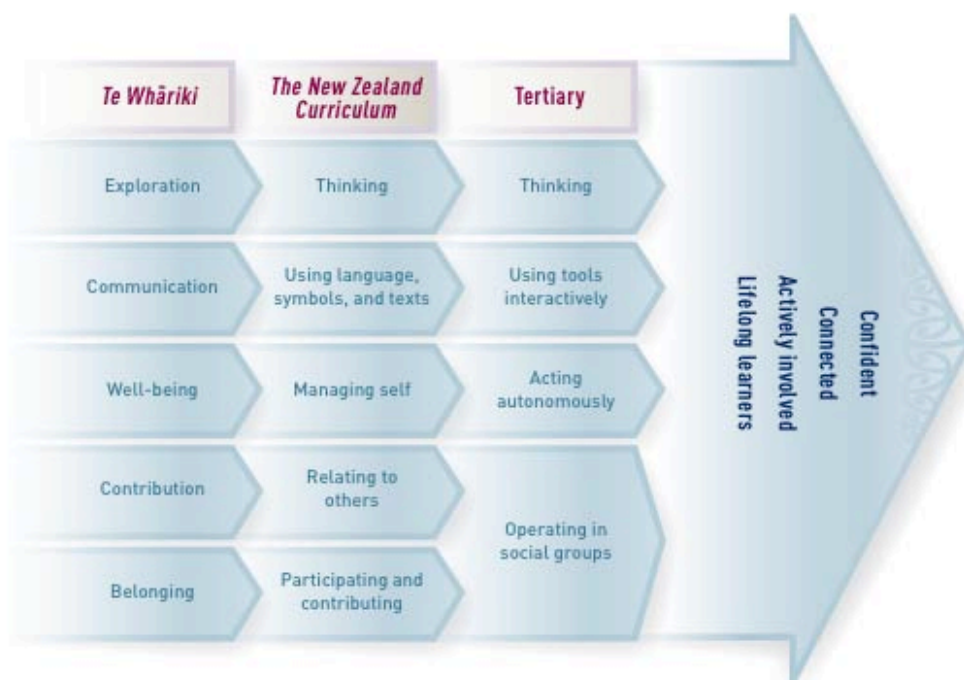
*Learning competencies* in the title of this project is a composite term for the key competencies in *The New Zealand (school) Curriculum* (Ministry of Education, 2007, pp. 12–13) and learning dispositions in *Te Whāriki*, the national early childhood curriculum (p. 44). In the discussion in this report all three terms will be used, depending on which term is most appropriate to the context. Key competencies is used when early-years schooling is discussed; learning dispositions is used when the context is early childhood education (settings for the under-fives), and learning competencies is used for generic situations covering both early-years schooling and early childhood education.

The *Te Whāriki* document summarises the learning outcomes in the early childhood curriculum as working theories and learning dispositions. It states that knowledge, skills, and attitudes combine together to form a child’s “working theory” and help the child develop dispositions that encourage learning. There are five named key competencies in the school document: *thinking, using language, symbols and texts, managing self, relating to others, and participating and contributing*. The five strands in *Te Whāriki* do not include five named learning dispositions: a range of learning dispositions is included in the indicative outcomes under the sections that elaborate on the strands of exploration, communication, well-being, contribution, and belonging. Early childhood teachers have been working with learning dispositions for some time, as the early childhood resource *Kei tua o te pae* (Ministry of Education, 2004, 2007, in press) illustrates.

Figure 1 **The key competencies. Cross-sector alignment (Ministry of Education, 2007, p. 42)**

**The key competencies: Cross-sector alignment**

This diagram suggests how the tertiary competencies align with those of *Te Whāriki* and *The New Zealand Curriculum*:



Key competencies and learning dispositions, as described in the two curriculum documents and as defined in this research project, include three aspects: sensitivity to occasion, inclination and ability (Perkins, Jay, & Tishman, 1993, used this triad to describe *thinking* dispositions)—sometimes called being ready, willing, and able (Carr, 2001). They are very similar categories of outcome, best illustrated by aligning quotes from the two documents (Table 1).

Table 1 ***The New Zealand Curriculum and Te Whāriki: Parallel texts on key competencies and learning dispositions.***

The New Zealand Curriculum (2007) The key competencies (pp. 12–13)	Te Whāriki (1996) Learning outcomes (pp. 44–45)
More complex than skills, the competencies draw also on knowledge, attitudes, and values in ways that lead to action . . . (p. 12)	In early childhood, holistic, active learning and the total process of learning are emphasised. Knowledge, skills, and attitudes are closely linked. These three aspects combine together to form a child’s “working theory” and help the child to develop dispositions that encourage learning. (p. 44)
As they develop the competencies, successful learners are also motivated to use them, recognising when and how to do so and why. (p. 12)	An example of a learning disposition is the disposition to be curious. It may be characterised by: an inclination to enjoy puzzling over events; the skills to ask questions about them in different ways; and an understanding of when is the most appropriate time to ask questions. (p. 44)
The competencies continue to develop over time, shaped by interactions with people, places, ideas and things. (p. 12)	Children learn through responsive and reciprocal relationships with people, places, and things. (p. 43)
They are not separate or stand-alone. They are the key to learning in every learning area. (p. 12)	Dispositions provide a framework for developing working theories and expertise about a range of topics, activities and materials that children and adults in each early childhood service engage with. (p. 45)
Opportunities to develop the key competencies occur in social contexts. People adopt and adapt practices that they see used and valued by those closest to them, and they make these practices part of their own identity and expertise. (p. 12)	Dispositions to learn develop when children are immersed in an environment that is characterised by well-being and trust, belonging and purposeful activity, contributing and collaborating, communicating and representing, and exploring and guided participation. (p. 45)

## **Background to the project: Prior research by teachers**

Early in the curriculum review process it became apparent that this alignment between the two sectors (early childhood and school) would be developed. Margaret Carr and Sally Peters were invited by the Ministry of Education to explore aspects of the alignment, and in 2004 a one-year research programme was carried out by teacher-researchers and university (Waikato and Canterbury) facilitators. Nine projects explored practice that would now enable teachers and communities to describe aligned learning pathways across the early childhood and school sectors (Carr & Peters, 2005; Peters, 2005). In those projects, the composite term “learning competencies” was introduced. Many of the teachers in this Final Report’s 2005-2007 project were also involved in the 2004 projects.

Many writers are researching or writing about dispositional aspects of learning from a number of perspectives—and using a number of names: intellectual habits (Sizer, 1992), mindsets (Dweck,

2006), patterns of strategic action (Pollard & Filer, 1999), habits of mind (Costa & Kallick, 2000), thinking dispositions (Perkins et al., 1993; Ritchhart, 2002), learning dispositions (Carr, 2001), and learning power (Claxton, 2002).

### **Aim one: A theoretical understanding of learning dispositions and key competencies**

The first aim of this project was to contribute to a theoretical understanding of learning dispositions and key competencies. The texts in Table 1 indicate that they have been ecologically framed (a close connection between the individual and the environment): they include when, how, and why to use the skills or abilities associated with them; they are shaped by interactions with people, places, ideas, and things; they are integrated with the content in learning areas; and they are closely connected to social contexts. So theoretical ideas from writers like Urie Bronfenbrenner (1979) and Sasha Barab and Wolf-Michael Roth (2006) are relevant.

The term “key competencies” is borrowed from an OECD DeSeCo (Definition and Selection of Competencies) project (Rychen & Salganik, 2003) who also support this perspective. An ecological framing is summarised by Barab and Roth (2006) in terms of what it means to know: knowing is “participation in rich contexts where one gains an appreciation for both the content and the situations in which it has value” (p. 3). They state that what it means to know includes the following:

- a) knowing is an activity—not a thing
- b) knowing is always contextualized—not abstract
- c) knowing is reciprocally constructed in the individual–environment interaction—not objectively defined or subjectively created
- d) knowing is a functional stance on the interaction (connected to an intention)—not a “truth”.

The curriculum documents—and the literature—thus set out learning dispositions and key competencies as ecologically framed, situated (Lave, 1996) and distributed (Salomon, 1993).

The objectives for this aim were to contribute to the theoretical literature on key competencies and learning dispositions, and to delineate key features of learning competencies (learning dispositions and key competencies) in a range of settings.

During the school curriculum review process the names of the key competencies were changed by the curriculum writers. In the 2007 document the earlier “making meaning” was changed to *using language, symbols and texts*; and the earlier “participating” or “belonging” was changed to *participating and contributing*. As will become clear in the findings in this report, teacher-researchers in schools developed local interpretations of the key competencies from their experience in practice and in dialogue with students, colleagues and sometimes families. Similarly, the early childhood teacher-researchers continued to develop their understandings of learning dispositions in ways that broadly aligned them to the key competencies: *thinking* as

recognising and constructing exploration of the world and responding positively to difficulty or failure along the way; *using language, symbols and texts* as (multi-modal) communicating; *managing self* as an holistic competency to do with well-being; *relating to others* as relating to others and making a contribution to the community; and *participating and contributing* as learning dispositions to do with belonging. In the early childhood curriculum, relating to others and making a contribution are combined in the curriculum strand, Contribution. Table 5 and the associated text illustrates the early childhood discussions around learning dispositions in one context. For the teacher-researchers in early childhood centres and in schools, these learning dispositions and key competencies intersect and intertwine.

## **Aim two: Enhancing learning dispositions and key competencies**

The second aim was to find out more about how teachers enhance learning dispositions and key competencies. Classroom research from New Zealand by Jane McChesney (2004) was relevant here. McChesney used a sociocultural approach to explore mathematics learning in secondary school classrooms. She described the learning of number sense as distributed across classroom interactions, social norms, and cognitive and technological tools, and she researched the role of the teacher in all of this. This is somewhat reminiscent of the principle in *Te Whāriki* that children learn through responsive and reciprocal relationships with people, places, and things and of the new school curriculum comment that, “The competencies continue to develop over time, shaped by interactions with people, places, ideas and things” (Table 1; Ministry of Education, 2007, p. 12). The literature names these people, places, ideas, and things as the “opportunities to learn” (Gee, 2003) or “affordance networks” (Barab & Roth, 2006). The objective for this aim was to investigate the opportunities to learn and the affordance networks that contribute to learning dispositions and key competencies. What do they look like in five diverse sites, and how do learners respond to them?

In a commentary on learning outcomes in curriculum, Hargreaves and Moore (2000) argued strongly for high discretion granted to teachers and local initiatives: “these possibilities include fostering stronger collegiality among teachers, and democratic inclusion of pupils and parents in the teaching and learning process” (p. 27). Therefore we were interested in this project as not only researching learning competencies in five sites, but also recognising and documenting the processes of collegiality and democracy in teaching and learning that are required as teachers make learning competencies their own. These discussions are included throughout, but especially in the Findings for Research Question Two.

## **Aim three: Continuity and progress of learning dispositions and key competencies**

The third aim was to explore progress or continuity. How do learning competencies progress, improve, or develop over time? If key competencies are situated in local contexts, then what does it mean to say that they have progressed, improved, or developed when local contexts change?

The analysis of change over time, or “transformation” of participation (Rogoff, 2003), or trajectories of learning (Wenger, 1998), is not just a matter of observation; it will need a theoretical framework informed by research. Rogoff and Wenger do not give clear guidance on this. Nor do Rychen & Salganik (2003). There is an extensive literature on the transfer of learning, and we have not summarised it here. We were interested in the continuity and transfer of key competencies and learning dispositions. The objectives for this aim were to investigate case studies of the development of learning competencies over time and to develop a way of conceptualising their growth or increasing strength.

## **Research questions**

In a range of schools and early childhood settings that have already displayed initiative in teaching learning dispositions and key competencies, what do the children do in these diverse contexts when they are apparently managing self, relating, making meaning, thinking, and participating in desirable ways? How do children interpret these actions?

How do teachers in a range of contexts enhance continuity and growth in five domains of learning competencies: managing self, relating, making meaning, thinking, and participating? How do they interpret these actions?

How do teachers enhance continuity in learning competencies over time, within and across settings? How do they interpret that continuity?

## 2. Research design and methodologies

### Practitioner inquiry

(W)e use the term practitioner inquiry to refer to the array of educational research genres where the practitioner is the researcher, the professional context is the research site, and practice itself is the focus of study. (Cochran-Smith & Donnell, 2006 p. 503)

This was an action research project (Kemmis & McTaggart, 2000), one of this array of educational research genres. Action research is commonly used to describe collaborations among school-based teachers and other educators, university-based colleagues, and sometimes parents and community-based activists (p. 504). Action research can “connote any individual or joint effort to produce some kind of curricular or schooling change” (p. 504); it can also be critical and emancipatory. Reflexivity is characteristic of action research (p. 504).

Frequently, action project designs are described in terms of a spiral of self-reflective cycles or steps, and one of the criteria of success is whether participants have developed a stronger and more authentic sense of understanding and development in their practices, and the situations in which they practice (Kemmis & McTaggart, 2000, p. 595). Many teachers teach intuitively, and an opportunity to reflect on their implicit practices is enlightening and helpful. However, practitioner research, in collaboration with university researchers (and, in this case, three coordinators who were also university researchers) also has a capacity to construct theory and to contribute to an understanding of knowing and learning that goes beyond the local. Our assumption was that “practitioners are among those who have the authority to construct Knowledge (with a capital K) about teaching and learning” (Cochran-Smith & Donnell, 2006 p. 508). In this project, for instance, teacher researchers developed a particularly powerful metaphor of teaching and learning, and a dynamic network of “big ideas” was developed from all of the work by the research team.

Marilyn Cochran-Smith and Kelly Donnell (2006) note that “serious challenges to the idea (of practitioner research) have been levelled by university-based researchers and others since at least the 1950s” (p. 504). They list: (a) the knowledge critique (practical knowledge or craft knowledge is different to formal or theoretical knowledge) (b) the methods critique (practitioners’ capacity to conduct research on their own professional contexts is challenged), (c) the science critique (scientifically based research is held to be the authority for educational policy: comparison among alternatives, cross-site analyses, controlling and testing for the effect of particular variables, standardised tests—the “effectiveness paradigm”), (d) the political critique (practitioner research ought to be always primarily about issues related to power, equity and access) and (e) the personal

or professional development critique (practitioner research is conceptualised as a vehicle for personal or professional development rather than as a mode of knowledge generation or critical praxis). However, we agree with the authors that action research or practitioner inquiry can interrupt traditions and blur traditional boundaries. They ask whether it is possible or desirable to do research that privileges the role of neither practitioner nor researcher, but instead forges a new role out of their intersections.

Certainly, notions of validity in practitioner research tend to be different from the traditional. Anderson and Herr (1999; also taken up by Carr et al., 1999) write about criteria for the validity of practitioner inquiry as: democratic (finding ways to include a range of stake-holders and perspectives), outcome (resolving problems—or, in our case, dilemmas, and deepening their understanding of their practice), process (data collection and analysis methods), catalytic (keeping the practitioners interested and excited) and dialogic (critical and reflective discussion for analysing practice). All of these validity processes emerged in some way or another during this project. They are critical for developing tools of travel: ideas and resources that are useful for other teachers. These “tools of travel” include ways to listen to other perspectives and the value of doing so, collaborative pathways towards consensus about dilemmas that assist other practitioners to question their assumptions, data collection and analysis methods of value to teachers, ways in which even small action research projects can be “catalytic”, documented discussions about practice together with provocations and working theories as starting points, and artefacts that assist practitioners to find ways to include a range of stake-holders, to resolve problems and to keep teachers interested and excited.

## **Teacher learning**

This research was primarily designed to develop ideas and examples that would be accessible and useful for other teachers in early childhood and school settings. This means we need to outline our assumptions about teacher learning. A useful background on the assumptions that underpin this project is provided by Peter Kelly (2006). He compares the literature on teacher knowledge and teacher knowing, and argues for “teacher knowing”. He says:

Lave and Wenger (1991), Wenger (1998) and Billett (2001) argue for a view of both coming to know and knowing-in-practice as processes which, rather than lying entirely with the individual, are distributed across all participants in professional practice (including in this case teachers and students) and which relate to both the conceptual and the physical resources available. (p. 509)

This view of teaching is consistent with the view of key competencies and learning dispositions as situated and distributed. Kelly includes ideas about teacher learning also being ecologically framed and he comments on the importance of “affordance networks” in the environment. He defines affordances in the context of school practices: “Affordances are the participants’ (often shared) expectations of the kind of things which can be said, thought or done during their engagement in particular social practices” (p. 510). He adds:



These ideas provide the basis for a more complex view of teacher learning and student learning as outcomes of a dynamic relationship between teachers' and students' conceptual resources, the physical resources available, and the affordances and constraints of the classroom. (p. 510)

He describes two alternative views of the relationship between research and teacher learning. In the first of these, an instrumental view:

Researchers and government inspectors survey expert teachers to discover good practice. These ideas are distilled and presented to other teachers to apply in their own classrooms, and expert teachers demonstrate how this might be done. (p. 512)

In the second view, which Kelly writes is based on problems and which we came to call in this project a "dilemma-based" view:

Decision-making is collective and inclusive and .... an important vehicle for school improvement is collaborative practitioner enquiry.... Expert teachers will be those who engage fully in reflective, discursive, collaborative and inclusive practices to improve their work with colleagues and students. Expert students will be those who become able to do the things which count through collaborative activity and discussion, and who can therefore engage in different ways of knowing.

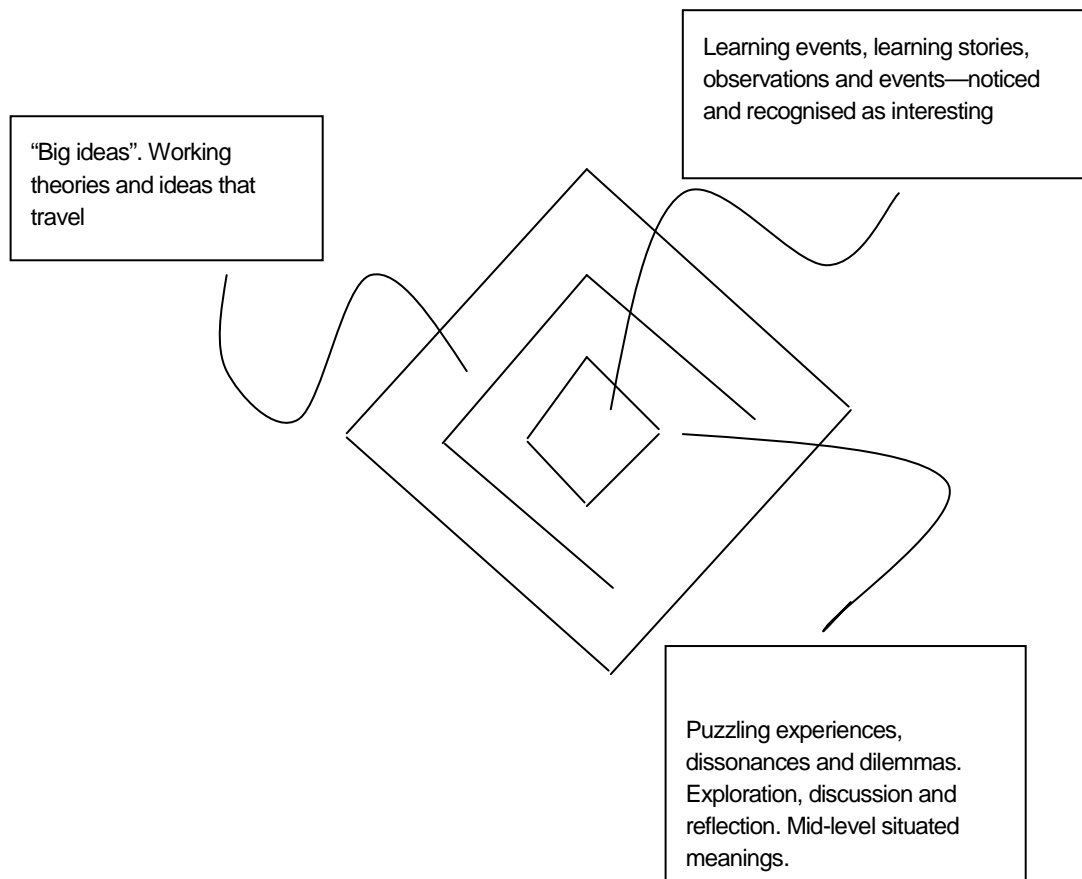
This project was characterised by reflective and collaborative processes about a range of dilemmas or dissonances that these teacher researchers were interested in tackling. The project is therefore about the dilemmas, and about—in five sites—the constructing and reconstructing of teachers' knowing through practitioner inquiry. It is not about identifying what expert teachers look like, although there are some findings about categories of expertise that were valued in particular settings. The project provided contexts and opportunities for teachers to discuss together (a) within sites, (b) with a co-ordinator, (c) with a university researcher, (d) across a research team of one or two key practitioners within one site, a co-ordinator and university researchers, and/or (e) across the entire research team.

## **The design of the project**

Figure 2 is the centrepiece of another diagram (Figure 9) that summarises the findings of this project (see chapter 6). It is also about the design of the project. In the centre are the moments and events of interest to teacher researchers (or brought to their attention by observing or participating researchers, or students, or families). Some of these raise dilemmas or dissonances that are puzzling enough to warrant some discussion and reflection, with the aim of resolving the dilemmas or improving the education at this site. The reflections develop what James Gee (1997) has called "mid-level situated meanings". Mid-level situated meanings are discussed further in chapter 6. Some of these "mid-level" ideas can develop into working theories and "big ideas". Lee Shulman and Judith Shulman (2004) comment that "As so often happens ... theoretical work was stimulated by a specific set of puzzling experiences" (p. 258) and "A central conjecture of our model [of how and what teachers learn] is that reflection is the key to teacher learning and

development” (p. 264). In our case this theoretical work developed in reciprocal and responsive interactions both in and beyond the teaching team in any one site, and in the writing of working papers. The working papers assisted in the articulation of ideas, and they provide a concrete resource for assisting the ideas to travel.<sup>1</sup>

Figure 2 **The design of the project**



## Method

### Research sites

The research was carried out in five sites: two childcare centres in Christchurch (Aratupu Preschool and Nursery and the New Brighton Community Preschool and Nursery Incorporated), early years classrooms in two schools in Christchurch (Parkview School and Discovery 1 School), and a primary school in Rotorua (Rotorua Primary School).

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<sup>1</sup> The working papers are listed in Appendix 9.

Aratupu Preschool and Nursery is a community-based early childhood centre situated in Papanui, Christchurch. The centre is one of several services offered by the Christchurch Methodist Mission alongside social work services, advocacy, budgeting and food bank services, and aged care. Aratupu provides education and care for children aged 0–6 years and aims to meet the needs of the local community, who are predominantly young single women-led families who rely on a benefit for their source of income. The roll at Aratupu comprises approximately 50–60 percent Māori children, with the remainder consisting of Pākehā, Asian, Samoan, and Cook Island children. The centre is licensed for 8 under-two and 31 over-two-year-olds.

New Brighton Community Preschool and Nursery Incorporated is a community-based early childhood centre, which has been operating since 1979 in a seaside community in Christchurch. The centre provides care and education for a lower socioeconomic community, which has a high transient population. The centre has both nursery and preschool areas with a maximum role of 9 infants and toddlers and 30 preschool-aged children attending at one time. Part-time enrolments mean they have about 95 children on their roll. Approximately 72 percent of the children are European/Pākehā and 20 percent are Māori.

Parkview School is a Years 0–8, decile 4 school in Parklands, Christchurch. The school community is varied both ethnically and socioeconomically. The school roll is around 280, with approximately 78 percent New Zealand European/Pākehā and 14 percent Māori.

Discovery 1 School is a Years 0–8 decile 6 school situated in the heart of the Central Business District of Christchurch. The school roll is about 175. Approximately 82 percent of children identify as European/Pākehā and 9 percent as Māori.

Rotorua Primary is a co-educational state primary school that caters for Year 0–8 students. The school is located in the heart of the Rotorua central business district in close proximity to Lake Rotorua. The school roll is about 260, with 97 percent of the children at the school identifying as Māori. Seven Māori bilingual classrooms and five English-medium classrooms operate in the school. The school is built on tribal land that was gifted by Ngati Whakaue chief Rotohiko Haupapa for the expressed purposes of education.

## Participants

Teacher researchers from the three schools and two early childhood centres in Christchurch and Rotorua worked in partnership with Margaret Carr and Sally Peters, from the University of Waikato, who, as the project directors, provided research assistance and advice. Three research co-ordinators (from University of Canterbury and University of Waikato) who already had a relationship with the teachers were invited to participate because of geography and cultural connection (Keryn Davis, Sue Molloy, and Tina Williams). They provided ongoing support for the teacher researchers.

Teacher researchers gained consent from teaching colleagues, children, and their families to include them as participants in the project.

## Mixed methods and multiple perspectives

The methods of collecting and analysing the data were diverse, depending on the context and the specific purpose (Sammons et al., 2005).

Teachers at each site recorded episodes of their teaching in a range of ways. In some sites this included continuous narrative recording and event recording (by a co-ordinator or by the teacher researcher observing children and colleagues) to document classroom practice, and identify examples of learning episodes that appeared to illustrate the key competencies.

Semi-structured interviews were used to gather data from teacher researchers, teaching colleagues, other schools' staff, children, and families. Later in the project the co-ordinators were also interviewed about their role.

Teacher researchers wrote or recorded discussions of key episodes or sequences of learning episodes with other teachers. In some cases staff meetings and other discussions were tape-recorded.

Teachers developed portfolios or profiles of children over time and reflected with each other and with co-ordinators and university researchers about the strengthening of the children's capabilities, the match or mismatch with what teachers "knew" about the children, and the relevance of the cues or indicators<sup>2</sup> that were used (leading to changes in cues or indicators). The children's perspectives were included in these portfolios, as well as documented in wall displays about the key competencies.

## Strategies for developing effective relationships and partnerships

A number of strategies were employed that may have been helpful in developing strong relationships and partnerships.

*Time:* The length of the project (three years) was probably of significance for the teacher researchers to take on the research as their own. To use Carol Dweck's (2006) categories about learners (linked to attribution theory), they began with "performance goals" (with external evaluators—Sally and Margaret—as reference points) and shifted towards "learning goals" (their own interests and contexts—in discussion with the outsiders—as reference points). As the project progressed, however, after a team meeting in February 2007 where the university researchers presented some ideas that attempted a distillation of the interesting dilemmas that were emerging, a collective reference point appeared to also develop. The commitment to "collective goals" may

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<sup>2</sup> Cues in documentation formats serve as hints or reminders to teachers about what to look for and what to recognise as learning within broad categories of key competency or learning disposition. Indicators play the same role, but they are stronger than cues: indicators are features that indicate that this is an example of a particular key competency or learning disposition. Indicators are often prescribed in curriculum. In this report we have usually referred to "cues or indicators": early childhood centres are familiar with "cues"; teachers in school are more familiar with "indicators".

only have developed when the teacher researchers at each site were confident—and continued to be confident—about the value of their own contributions.

*An earlier short project:* The first strategy for the development of strong relationships and partnerships was an earlier short project completed before the TLRI proposal. This established a relationship between the university researchers and a cohort of teachers who became interested in research (Carr & Peters, 2005):

I went back and spoke to our staff about the key competencies and what I had learnt from that initial mini-research that we did and they were excited way back then because they could also see what I had seen that it was holistic, that it was what we were doing at Rotorua Primary School. In fact, after all these years of doing it in Rotorua Primary School, we had a hanger to hang it on, meaning the name “Key Competencies”. (Interview with Mere, 3 Dec 2007)

*Co-ordinators:* The second strategy was using co-ordinators who already had a relationship with the teachers. Two of these co-ordinators were university-based professional development providers in Christchurch; the third was a university-based co-ordinator with iwi connections to, and a strong relationship with, the teacher researcher who led the project at the Rotorua School. Two co-ordinators, Tina Williams and Keryn Davis, talked about their roles as follows:

Really working in the school, trying to maintain the links with the school and establish a relationship and rapport with everyone in there so I tried to become, especially when it came to the observations, part of the furniture so they didn't see me as an outsider ... That's a definite role in giving back something to the school like designing the website was a big thing for us because it was a chance to show that we were giving something back ... to the school as a whole because they were giving us so much in terms of the information and that access ...

An important role of co-ordinator is to make those relationships between the school and to bridge ... not a gap, but bridge the distance sometimes between what we do at university and all the academic work ... one of the characteristics we talked about was that it was important to become multi-lingual when you're doing a project such as this, and we weren't referring to Māori and English. We were referring to those, plus the academic language, plus the classroom and curriculum language, and the language of the children as well, so you had to be quite skilled in what you are doing. I think that's the key role of the co-ordinator, and trying to keep the relationship with the person you're working with really, really strong and yet push them so that they're actually reaching it. (Interview with Tina, Dec 2007, p. 4)

... in this project [compared to an earlier study] I was still an outsider, but much less so. The teachers knew me and I knew them, and though it was their project and their interests being explored I was closer to the action. I guess I liked the support/facilitation role, rather than being the one who held most of the control over what was included, or, I don't know, even the starting point, it just wasn't my project I guess and so it has a different feel to it. While it [the project] was collaborative, they [the teachers] retained the majority share if you like. They talk about it as theirs but also as ours. The “our” being the wider research team. I do the same. It's theirs but at the same time it is ours. There's acknowledgement and respect for what each person has brought to the mix. I guess they have individual identities within the

whole. They have retained their identity and ideas throughout the project, while still being part of a bigger thing.

I think that's a strength of this type of research, the participants have ownership over their own ideas and work, and I think that's something I feel comfortable with ethically. There's tensions, or risks in there though of course, but I think the teachers made decisions about those things, they were weighed up at the time and they did what they felt comfortable with. They were committed to idea that their work was something to learn from, for themselves and for other teachers out there. (Notes from Keryn, January, 2008).

*Team meetings:* Another strategy was team meetings. Because of the distance, the Christchurch and Rotorua teams met independently from each other more frequently than the whole team, but it was valuable to come together twice a year. Relationships developed across the sites that appeared to be both personal and professional. Three babies were born, and these personal events were celebrated by us all. At meetings the baby-whispering was distributed across the entire team.

*Working papers:* A key aspect of the design was the writing of working papers by the teacher researchers, often in collaboration with the co-ordinators. The university researchers wrote two papers during the project, and are preparing others. One teacher commented that the papers she had co-authored were just the kind of papers that she liked to read: short, accessible, and with clear examples. At the same time, writing their ideas down clarified and deepened their ideas, (and the ideas of the university researchers). The writing of working papers contributed not only to the outputs of the project, but also, in the view of the university researchers, to a sense of ownership of the project by the teacher researchers. They distributed the ownership and authority, and research indicates that this is a feature of teacher learning (Clarkin-Phillips, 2007 p. 7). It has meant that when anyone in the team wants to cite the work of the project, appropriate referencing and acknowledgement can be made to the teacher researchers by quoting them as authors. The first working papers were a bit of a struggle, and the university researchers decided to discourage the writing of working papers during the second year because of the time it took away from gathering data. This appeared to be a wise decision. Then, perhaps because a model had been established in that first year, 10 further working papers had been written in first draft by early December in the final year. Some teachers and co-ordinators plan to write further papers from their data, so the work of the project has a pathway for continuing into the year after the official project is completed.

## Barriers

From the university researchers' perspective, one of the barriers was probably distance. The university researchers visited Christchurch regularly, and the teacher researcher from Rotorua visited the University of Waikato on a regular basis. The university researchers also maintained contact by email and telephone between face-to-face meetings. However, the majority of between-visits contact was with the co-ordinators. The role of the co-ordinators was therefore that of an enabler but also it was also a potential barrier because the co-ordinators were closer to the "engine-rooms" of early childhood setting and classroom practice than the project directors.

Without close communication and trust this could have been problematic. However, in practice we found that the strength of the relationships and the shared history prior to the project, between the university researchers and the co-ordinators and between the co-ordinators and the teacher researchers allowed this design to work.

In a three-year project teacher researchers were able to develop their understanding of research methods over time. A dilemma for university researchers was the extent to which time should be devoted to this at the beginning of the project, as not being too directive did allow for teacher ownership of the research.

So I went in completely and utterly blind, having no idea what was going to be expected ... Never did I imagine we'd be at this point ... I always saw research as being (a) way too academic for me, but (b) a sort of separate project that went alongside something that wasn't ... that wouldn't have given us this much value to this place. So, I didn't understand how much we would own it ... (Interview with Andrea, August 2007)

## Ethical issues

Approval for this research was gained from the School of Education Ethics Committee at the University of Waikato. There were no unforeseen ethical issues.





### 3. Findings

The findings are presented in four main sections, with each section relating to one or more of the research questions. The first and second sections discuss findings for the first and second research questions respectively, namely what learning competencies look like for learners and what teachers do to enhance them. The third section looks at aspects of the first and second questions combined, and the final section discusses findings in relation to the third research question, namely how teachers enhance continuity of learning competencies over time. The discussion variously refers to learning competencies (a composite term for key competencies and learning dispositions, applicable to early years schooling and early childhood education), key competencies, and learning dispositions, depending on which term is most appropriate to the context; for example, key competencies is used when early years schooling is discussed, learning dispositions for early childhood education, and the learning competencies for generic situations covering both early years and early childhood education.

As noted in chapter 1, the research questions were formulated before the key competencies in the new school curriculum were finalised, and thus use the terminology of the draft key competencies. In 2007, the Ministry replaced “making meaning” as a title with “using language, symbols, and texts” and “participating” (which has had a chequered career of name change) became “participating and contributing”. Also, the research team replaced “children” with “learners”.

#### **Learning competencies and learners—research question 1**

This section discusses findings in relation to the first research question, which asked: “In a range of schools and early childhood settings that have already displayed initiative in this area, what do the learners do in these diverse contexts when they are apparently managing self, relating, making meaning, thinking, and participating in desirable ways? How do learners interpret these actions?”

The findings draw from data in different sites, and discuss:

- the difference between children’s and teacher perspectives
- the ways in which key competencies can be integrated with the learning areas of the curriculum
- the significance of context
  - a critique of key competencies in the particular context of a school where Māori immersion and English-medium classes work side by side
  - a critique of learning dispositions in the particular context of a setting for infants and toddlers

- a reflexive investigation of one disposition and its parallel key competency (relating) in one setting.

## The difference between children’s and teachers’ perspectives

At the Discovery 1 School site, the teachers in the composite new entrant/Year 1/Year 2 homebase (the word used for a classroom space at this school) were exploring the definition of key competencies in three ways: developing a range of indicators for documentation; talking and developing ideas about a different key competency each term; and reflecting on teaching that was designed to enhance key competencies. All three of these strategies changed their ideas. This section summarises the findings for the first two of these (the third is summarised in the next section which discusses findings related to the second research question). Nikki O’Connor, one of the teachers in this homebase, commented as follows:

When I was developing the indicators that might help us at Discovery to recognise the key competencies, I was able to carefully consider the values that I hold as an educator. Although I work at an alternative school and have always been conscious of my developing pedagogy, I found the process of choosing indicators to be a valuable tool for studying my practice and beliefs. As I began to write Learning Stories using the new indicators, I became aware that the stories that really excited me were generally stories that illustrated one or more of the indicators. The significance of this is the fact that I am discovering more about myself as an educator, about the connection between what I value, what I teach, and what I recognise as meaningful learning. The implications of this are twofold. Firstly, this process can empower us as educators. It allows us to explore our own values, attitudes and beliefs and to examine our practice, critiquing its elements and understanding whether or not what we are doing complements our values. This in turn, allows us to shape our practice. This process also allows us to see directly the links between how we function as teachers and the influence this has on our tamariki. (Working paper D1)<sup>3</sup>

The “Learning Story”<sup>4</sup> of Lucas in Discovery 1 School’s first working paper demonstrates this point by detailing a situation in which Lucas’s actions had been directly influenced by the culture of the homebase, or class space. It reflects attitudes, values, and a disposition that Nikki aims to model to the children, and the following indicators are checked: choosing the right strategy for situation and self (thinking), exploring and expressing, and interpreting and understanding (using language symbols and texts), honouring and respecting Te Tiriti o Waitangi and honouring and

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<sup>3</sup> These letters and numbers refer to working papers written by the project participants and listed in Appendix 9. D1 is the first working paper from Discovery 1 School; A = Aratupu Preschool and Nursery; NB = New Brighton Community Preschool and Nursery; P = Parkview School School; R = Rotorua Primary School; G=General.

<sup>4</sup> “Learning Stories” are narrative assessments, stories of episodes of learning, analysed to highlight the learning and including a section on “What next?” or “Possible pathways” or “Possible next steps”. See examples in Appendices 1 and 7, and Carr (2001).

respecting others (relating to others), and acting within the bigger picture or wider context (participating and contributing).<sup>5</sup> (See Appendix 1: Lucas’s Learning Story.)

Nikki comments:

I went on to develop these indicators with the support of other educators, a process I found very useful. If the team of teachers at each school were to develop their own indicators that reflected the values of the school (in consultation with their community), the values of the teachers and the values of the tamariki, imagine how powerful an exercise this could be.

I shifted “caring for the environment” from the competency [of] managing self to belonging, participating, and contributing. This was after feedback from several people that this could be a more appropriate place for this indicator. I also changed the wording of “relationships” to “relating” to keep in line with the other key competencies.

By 2007, the teachers had begun to invite the children to brainstorm their ideas. These ideas were added to a focus board, together with stories about children learning, using the children’s words. Examples for three of these key competencies—“managing self”; “relating to others”; and “belonging, contributing, and participating”—are shown in Table 2.

After completing some activities where they tried something new (for example, some of the girls tried a Lego activity that they had not tried before; some of the boys tried dancing when they had not participated in this before), the children were asked what it looked like and what it felt like (Table 3).

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<sup>5</sup> Note that in 2005 the key competency titles were slightly different (see Table 2).

Table 2 **Indicators (or cues) for key competencies: Discovery 1 School**

<b>Managing self Teachers 2005</b>	<b>Managing self Teachers 2007</b>	<b>Managing self Children 2007</b>
Experimentation	Perseverance	Managing yourself and not hurting other people
Persisting	Attempting new experiences/ taking risks	Not need for teachers to boss you around ... so, like, teachers don't have to do anything
Risk-taking	Self motivation/taking responsibility	Being sensible so other people don't get hurt feelings
Knowing self as learner	Planning/establishing intentions and avenues for learning	Try to listen to people
Taking responsibility for learning	Commitment to plans, intentions, ideas/following through/integrity	Don't say any swear words
Planning	Identity/knowning self as an individual and as a learner	Don't run around in the school
	Awareness of the effects own actions have on others	Don't punch people on the noses
		Don't push people down the stairs
		You should listen to other kids if they say "Stop it, I don't like it"
<b>Relating* Teachers 2005</b>	<b>Relating to others Teachers 2007</b>	<b>Relating to others Children 2007</b>
Honouring and respecting self as a unique individual	Interacting co-operatively and constructively	Treating others as you would like to be treated
Honouring and respecting Te Tiriti o Waitangi	Negotiating/managing and resolving conflict	Letting people join in
Honouring and respecting others	Open to learn from others/development through interaction	Thanking people that help you
	Accepting of diversity/ recognising different points of view	Sit next to someone new
	Respect for self as a unique individual	Listening to people
	Considering others/sensitive to the emotional well-being of others	Show new people around the school
	Honouring Te Tiriti o Waitangi	
<b>Belonging, participating, and contributing* Teachers 2005</b>	<b>Participating and contributing Teachers 2007</b>	<b>Participating and contributing Children 2007</b>
Recognising and sharing uniqueness in self and others	Contributing to quality and sustainable physical and social environments	Doing something you haven't done before
Trusting (self, others, place and process)	Connecting and engaging with people, communities, places and things	Joining in
Acting within the bigger picture / wider context	Being resourceful/sharing	Caring for other people
Caring for environment	Participating and contributing activity in new and existing roles	Persisting
	Having a sense of place and belonging	Doing things with other people
	Acting within bigger picture/wider context	Trying and trying and feeling good in the end
	Trusting self, others, place and process	Giving things a go

Table 3 **Children’s views on participating in new activities: Discovery 1 School**

<b>What does participation <i>look</i> like?</b>	<b>What does it <i>feel</i> like to participate?</b>
Girls and boys doing anything together	Great and good
Joining in	It feels cool
Girls and boys dancing	Good to do something different
Discussing	Super good
Working together and co-operating	Excellent
Helping each other	Powerful
People persisting	Liked it
Sharing	A bit nervous
Cleaning up	It feels super duper ... great
	A bit embarrassing

The value of listening to the children’s perspectives was highlighted in these discussions. In the discussion on managing self, the teachers introduced planning and “knowing yourself” as ideas. The children were puzzled by the adult’s idea of “knowing yourself”, and they searched for meaning:

Because someone might say “What’s your name” and then just like I said “Um I don’t know”

Because you need a name or nobody knows you.

It means that you don’t have a name.

If someone’s new they might be feeling shy.

Or if you include somebody else and they’re new and if you include everybody that wants to play the game and you know there’s no more balls you could just grab a ball from another game and have that one and then you’ll all be included.

The teachers adopted the children’s words, and they also used stories to illustrate their own ideas and cues. For instance, they used a story called “Keep Trying” (by Jane Buxton) in a discussion about persisting. During the reading of the book the children contributed their own examples: “And Nikki, that’s what I did. I couldn’t ride on my roller skates but now I can.” (And did you keep persisting with it? “Yep”). The teacher notes how, in the book, the children are supported to keep trying.

Nikki: ... and you can see Dad’s here supporting him when he’s learning to ride. It’s always good to have someone helping you when you’re learning new things and guiding you through.

Child: That's what I needed in my Highland dancing because Highland dancing is really hard. If you ask me, the teachers keep supporting me in my Highland dancing and soon I'll be able to get up on stage at school maybe and show you the Highland Fling.

Later work in Discovery 1 School and in other settings on a balance between teacher intentions and learner intentions (see especially the discussion in the third section, on the first and second research questions combine) was mirrored in the way in which there was, here, a negotiation between the teachers' conceptual understandings and the children's conceptual understandings. This allowed them to move forward together with a recognition of each other's perspectives about what key competencies or learning dispositions look like here. Teacher researchers trialled and documented ways to surface the children's understandings (brainstorming, developing targeted activities and discussing them, asking for an interpretation of an adult word phrase (for example, "knowing yourself")). They also documented the ways children expressed their interpretations—using concrete examples and analogies. They trialled ways to teach their own understandings: reading stories with a "dispositional" message, and suggested their own analogies from their knowledge of the children's prior learning episodes. As we shall see later in this chapter, the teacher researchers themselves used metaphors and analogies as they attempted to make sense of the research findings. These processes began to point the way towards some strategies for constructing an understanding of the teaching and learning of dispositions and key competencies (see especially the third section discussing findings relating to the first and second research questions combined).

School improvement ... is not merely a matter of "rapid response to changing market forces through a trivialised curriculum", but a question of dealing with the deep structures of school and the habits of thought and values they embody. To manage school improvement we need to look at schools from the pupils' perspective and that means tuning in to their experience and views and creating a new order of experience for them as active participants. (Ruddick & Flutter, 2000, p. 75)

This research links to New Zealand literature on seeking the pupils' perspective or the child's voice (for example, Smith, Taylor, & Gollop, 2000). It also suggests the value of analogy and analogical thinking (Holyoak & Thagard, 1996) for these complex dispositional outcomes. Araceli Valle and Maureen Callanan (2006) reported on two studies of parents mapping analogical relations for children; parents are particularly adept at this because they notice and recognise the opportunities for analogy in children's relevant prior experiences. As this research indicates, teachers can become adept in this area, enhancing children's conceptual understanding of key competencies and learning dispositions (as well as other understandings, for instance in science: Inagaki & Hatano, 1987)—especially if they know the children well.

## Integrating key competencies with school curriculum learning areas

The research at Parkview School was introduced by the teacher, Yvonne Smith, in an early working paper (P1):

I decided to explore how the draft Key Competencies could be integrated into the daily programme, and assessed, without creating extra workload for teachers already struggling with an overloaded curriculum. Literacy and numeracy are the main thrusts in the Junior classes so I decided to start with these curriculum areas, hence the research question “How can the draft key competencies be integrated into literacy and numeracy?” (Working paper, p. 1, p. 3)

Ten Learning Stories in that working paper illustrated the way in which this integration was implemented—and documented. These stories include the children learning in pairs and in groups, providing opportunities for an analysis of “relating to others” and “participating and contributing”. They illustrated the way in which the pedagogy smoothly integrated learning areas and key competencies. Table 4 includes four examples.

Table 4 **Integrating key competencies with literacy and numeracy: Parkview School**

Learning Story	The integration	Key competencies
“Reuben’s Mask”	The specific learning intentions here were speaking clearly, listening, and asking questions. Reuben gave clear instructions and explanations to the other children on how to make a mask. The teacher comments that “When children asked me for help I referred them to Reuben”. And “They helped each other with ideas and encouragement”	Thinking (explaining ideas) Relating (assisting each other) Participating and contributing (leadership in the class community)
“Ella’s Worm Hotel”	The teacher gives Ella a reading book about building a worm farm. She talks at news telling time about the worm hotel she has made at home. She describes the process and answers the children’s questions.	Participating and contributing (deep involvement). Managing self (setting a task and completing it). Thinking creatively (a worm hotel) and logically (describing the process). Using language etc. (the book as a source)
“Pacey is Teacher”	Pacey leads a shared reading lesson, demonstrating extensive book knowledge and a bank of sight words. Teacher hears her own voice as he says “Reuben, can you find ‘said’?”, “Chloe, come and find a full stop”....	Participating and contributing (Pacey takes initiative, and does not often take a leadership role)
“The Big Toe”	Teacher and children read the book “The Big Toe” together, and children are invited to change the text by thinking of words they could use instead of “big”. They begin with “giant” and “small” and the teacher provokes them to go beyond size words by suggesting “squashed”. They read through the story substituting “frozen” for big. Children returned to read the big book independently.	Participating and contributing (taking risks to share their ideas) Thinking creatively and critically

This narrative method of documenting learning in portfolios was of interest to the families, inviting another perspective on these unfamiliar dispositional outcomes. It introduced families to the key competencies, and some families added stories from home. One of the project coordinators, Sue Molloy, interviewed six parents in June 2007:

I think with the explanation of the Key Competencies, Mrs Smith seems to use key kind of words throughout all of them, so it's easier for me to link them back to previous ones that are about the same kind of thing, to see the growth ... because the wording is really clear on what competency it's dealing with. (ZH)

I actually did [write stories] for Lily. I took some photos of her when she was learning to ride her bike, which she mastered a couple of weekends ago, and got Lily to write a story about riding her bike. And we did it at home and we brought it in to show Mrs Smith, and that went into her portfolio. So it's not even stuff that you write, it can be ... get the kids to do something outside of school and that can still go in as well. It's Lily's words. I typed it up for her and we put the photos on and it came to school. (WE)

There is evidence from parent interviews that some of the children were taking an interest in the documentation at home and seeing connections in the learning over time.

Actually this time around K has had a lot more to say about what's in the book. The first time it was like "Oh, can't remember, can't remember" and even though there were pictures he's still be, like, "Oh I don't know" and didn't really want to talk about it. But this time he has actually wanted to talk about everything that has been in it. (LT)

I think the pictures [photos in the portfolio] are great because you can sit down with your kids and they can explain what they were doing and it's just so nice. And when people come around you've got your portfolio to show them and you keep them. It's great. (LW)

In this research, the portfolios have provided opportunities for children to gain—and express—an understanding of their learning, mediated by teachers and families. These processes can begin as research methods, where the consequences are carefully documented, and then translate into pedagogical strategies.

## The significance of context—Māori immersion and English-medium classes

This section presents a critique of key competencies in the particular context of a school where Māori-immersion and English-medium classes work side by side.

Mere Simpson, the teacher researcher at Rotorua Primary School, presented a 30-minute session on the key competencies at a staff meeting in August 2005 and at this meeting an invitation was extended to all the teaching staff and the management to become involved in the research. Eleven research participants agreed to take part (two members of the senior management team, five Māori medium classroom teachers, three English medium classroom teachers, and one teacher education student), and all eleven were interviewed by Mere between September and November that year to find out their views on key competencies at this school.



One of the statements to emerge from the initial conversations at Rotorua Primary was the following comment made by John:

One box does not fit all, what is important to some schools may not be important to other schools ... You have got to look at what is important to your school and what is going to be effective in your school.

The researchers at Rotorua primary (Mere and Tina) commented later as follows:

John's statement really made us think carefully about the special nature of Rotorua Primary School. In what ways, if any, would this context influence the interpretation and expression of the key competencies?

What would the competencies of relating to others, managing self, thinking, using language symbols and text and participating and contributing look like here? It wasn't long before we recognised that the key competencies would take different forms in different contexts , including different cultural contexts.

### *It all connects*

Although many of the teachers had little knowledge of the new curriculum at this point, there was considerable agreement that the competencies all connected. Metaphors were used to describe this connection: whiri (plait), flow, well made bread.

That's another thing, whaea, I'm looking at it all, whiri, whiri, it all connects you know. (Judy)

People do not just use one competency at a time. They use a combination of key competencies. (Trevor)

They really do flow into each other. They are already in process. It is just when you look at them separately, okay they have their own story but when you look at them together it is like a well made bread, like your mixture of pudding or something, once they are out together you just can't separate them. They are just wonderful together—binding. (MISSMT)

### *The importance of belonging (participating and contributing), managing self, and relating to others*

The three key competencies of “belonging” (participating and contributing), “managing self” and “relating to others” were seen to be central:

So, all those key competencies that are down there, you have to have a balance of the lot, especially the first three. If the first three have got that balance then it makes it easier to do the last two. (John).

So to me, those two—pursuing knowledge and using language symbols and texts—as a teacher from an academic point of view, I would really like to see my children become really, really skilled at that. But that is not to neglect the belonging, managing self and relating to others because without those, if you can not behave yourself and you can not work with others and you can not belong to a group in a classroom, then you are not going to

be able to sit still long enough to listen and learn. You know you are going to miss out if you can not learn those others. So I think those competencies belonging, relating to others, managing self, without those, the child will have more difficulty pursuing knowledge and using the language, symbols and texts. (Puawai)

I think it is really important that they do realise that they have a place here and I think if you have got the belonging part instilled in them, then the rest of these: Managing self, relating to others sort of fall into place. (Frances)

Judy mentioned that belonging was especially important in the Māori-medium context that she worked in. Establishing connections with whānau was viewed as vitally important:

Probably, the *belonging*. That's the one in our school itself, it's deep, hōhonu. I believe that if the child knows that they *belong* in some way, whether it be just their little toe, or whether they *belong* in that kura, they'll just thrive, you know. Like most of the children in my class, I know their parents. So that sense of *belonging* and they know that if they play up I could just see Mum or Dad. That's that whānau, that sense of *belonging*. (Judy)

For Auntie, *belonging* was important especially for someone who was not a member of the majority group (which in this particular school is Māori). She claims that:

*Belonging* is something that is very important and I feel I *belong* here, even though I am from a different culture. It is the *belonging* thing, to be part of a cultural institution, that is really, really important. (Auntie)

### *The holistic nature of the key competencies*

At the end of the project Mere carried out a second round of interviews with the staff. The holistic nature of the key competencies sat comfortably with the philosophy of these teachers.

I think in this draft curriculum document they're a good set of key competencies and it's really good because it relates to just about everything you do within your classroom and school environment, especially amongst our school participating and contributing and I did hear that belonging's added into this part of the key competencies so I think the really important part for my class making sure that all the kids feel as though they're participating and contributing to the classroom environment which in turn makes them feel as though they belong in the whole school wide area as well. I think they've very good, very compact and easy to understand and I think as a teacher easy to incorporate into the things we do in the classroom. (Frances, Interview 2, p. 1)

The benefits I think ... is that it does come down to being more personal and they [key competencies] inter-link with everything we do. Part of the school culture, part of our own personal culture and it just adds more value to our student's learning and to our way of teaching as well ... It all inter-relates to our planning. When we plan our units, even if its maths, it all inter-relates. As I said before, personal ... learning how to manage themselves, getting themselves prepared and its all building on their own personal self-worth and so once they know what they're doing they participate and contribute better and when they contribute it spurs others on .... The communication one and the managing self and the relating to others. I think that's the key in any classroom because if you don't have those,

you need to build a bond between the children themselves and other children within the school so I think they really play a really key role. (MISSMT, Interview 2, p. 1)

### *School values are central*

The descriptions of the key competencies in the New Zealand Curriculum are generic—leaving room for local interpretation. This is a very significant feature.

... it depends on the community ... I think a Māori community, I mean we talk about communication and things like that, I mean if you're looking at maybe the different communication skills that are used on the marae and the ones we use for jobs, we need to look at the variations and how they are going to help everybody. (John, Interview 2, p. 1)

Mere and Tina comment in a presentation to the New Zealand Association for Research in Education conference in 2007 as follows:

Māori culture, history, language, and values are a fundamental feature of the philosophy, practices and processes at this school. The school values are: tapu (sacredness), kawa (customs), whanaungatanga (relationships), aroha (love) and manaakitanga (caring). It is not surprising therefore that the nature of the key competency, relating to others, would reflect a Māori orientation.

In the second phase of the research in this school, the researchers set about identifying and recording features of pedagogy and school practice that strengthened the learning competencies. After they had completed all of their observations, they looked at the data and found that most of the episodes revolved around the key competency of relating to others (see Appendix 2 for examples).

Dominique Rychen and Laura Salganik (2003, p. 105), writing about key competencies, propose the notion of constellation “to represent the interrelated nature of key competencies and their contextual specificity”. They suggest that the specific contextual nature and the relative weight attributed to key competencies within a constellation may be influenced, for instance, by cultural norms. Rose Hipkins (2006, p. 6) refers to this aspect of the DeSeCo key competencies.

The researchers at Rotorua Primary School conclude as follows (in working paper R2).

Research data that we have gathered appears to support this claim. More weight may be given to a specific competency because it aligns well with the cultural context. In our case, we found that the majority of the episodes that were recorded were based on the competency of relating to others. This is hardly surprising when Whanaungatanga is identified as a key value in the school and is also a fundamental feature of Māori culture itself.

### **The significance of context—infants and toddlers**

This discussion presents a critique of learning dispositions in the particular context of a setting for infants and toddlers.

A dispositional framework, aligned to the curriculum strands of *Te Whāriki*, has provided the basis for Learning Stories in a number of settings in the early childhood sector for some years. The strands of *Te Whāriki*, in turn, correspond to the key competencies identified in the new school curriculum (Ministry of Education, 2007, p. 42). Two of the teachers in the infants and toddlers programme at New Brighton Community Preschool and Nursery, Claire and Nadine, had begun to think about whether this particular framework of learning dispositions that they had been using, from the Learning Story framework set out in Carr (2001) needed some alterations to align more with the actions, behaviours and special characteristics of infants and toddlers. Their dilemma and discussions are outlined in a 2007 working paper (NB4). They noted that

It wasn't the notion of dispositions we had a problem with, rather it was the language of the framework that didn't seem to correspond to the learning we wanted to describe, but neither of us felt we were qualified to alter the framework to make it fit ...

Keryn (one of the co-ordinators of the project) had suggested that we talk through our ideas at [a meeting with the university researchers, Sally and Margaret]. We took some persuading, as the thought of us suggesting the idea that the framework didn't work very well for us was too bold a move. Despite this we shared Ruby's story and hesitantly touched on the idea of wanting and needing to change the language of the framework.

Sally and Margaret invited us to draft our thoughts and ideas into a new framework. Excited at the chance to get some infant and toddler relevant language we gladly accepted the challenge. With a great sense of anticipation, but a high level of motivation, it was time to start gathering and formulating our ideas. (pp. 1–3)

They returned to *Te Whāriki*, and after “many, many hours of discussion”, often linking their ideas back to the children for whom they had been writing stories, they developed some cues and examples that better recognised the dispositions in their setting.

On the advice of Margaret and Sally we read through old Learning Stories we had written and considered if and how these stories sat with our framework. Through this exercise we discovered even more cues and examples to add to our draft framework. By using “our” stories and “our” children we could be sure it was relevant and authentic to our context. (p. 7)

Table 5 was developed by Claire and Nadine to illustrate their revised learning dispositions framework.

Table 5 Dispositions in the nursery: New Brighton Community Preschool and Nursery

strand of Te Whāriki	Dispositional actions or behaviours	Cues or examples	Exemplars
Belonging	have courage and be curious  Courage and Curiosity	shows a willingness to be here. This may be demonstrated as a gradual growth of courage begins to observe & understand rituals and routines accepts new experiences; willingness to try child shows positive signs of accepting additional caregiver, e.g. smiles, arms out to go to caregiver, willingly responds participating, pointing to or moving to things of familiarity or significance e.g. photos of self or family begins to notice and respond to happenings within their immediate environment perceived as an individual (self assuredness)	child is upright—7 March 2006 know that you feel more confident and comfortable here, you have the courage to move away from this area..." Matteo's world of interactions—September 2007 you literally pull yourself down from your dad's arms when you see something that really captures your interest..."
Well-being	Trust  Coping	finds comfort in rituals and routines shows willingness to be involved in observed rituals and routines confident to join in experiences, routines, group times, etc copes with moderate change begins making own choices demonstrates a recognition & preference to those who are familiar & those who aren't recognises & appreciates links between home & centre trusts others babies movements are relaxed and unstressed playful babies use their playful sounds and voice	Matteo's world of interactions—September 2007 gradually you went from being a baby who was upset as mum and dad left in the mornings (less and less with each passing week!) to the little boy who now enters the nursery with dad and can't wait to get down to the nursery floor and start playing!" our face lights up as you recognise Tess."
Exploration	make sense of self, people, places, things	makes attempts to make sense of self, people, places, things makes new discoveries explores possibilities experimentation, uses opportunities to practise developing skills learning independence perseverance demonstrates active thinking & reasoning tests relationships with others to test theories explores actively with all senses identifies opportunities for learning; shows spontaneity acquires—add knowledge, understanding, information babies/toddlers practice & explore with physical movements; to gain control of their bodies transfers knowledge learnt from one area/concept/idea to another develops confidence & perseverance with challenges & uncertainty	curiosity and exploration child points to herself and looks to Nadine for clarification. Her expression saying, "Ruby is my name..."  but when Eli saw Rach he quickly closed his eye and pretended to be asleep. What a joker!" play and games and Eli as the joker—9 March 2007 child seems to use his existing knowledge of fun games..."

In an interview, Claire and Nadine comment that this project provided them with the opportunity to “stray a little from the norm, well, from what has always been done. And think outside the square for a bit” (interview, 21 August 2007). They also said that as a result of all the discussions about the language of dispositions, they were noticing things differently. One of the teachers commented that “now I have a much wider realm of things that I notice and therefore respond to”.

### A reflexive investigation of one disposition (relating)

At Aratupu Preschool and Nursery, the main research question was “what does relating look like for children here?” Three domains of competent “relating” (with place, others, and self) were combined to describe “the empowered child”, and close analysis of the centre’s Learning Stories led to the conclusion that all stories were about relating in one or more of these three domains. The teachers linked “knowing” and “relating to” very closely (knowing self, others, and place, are explained in Appendix 3). Andrea coined the term “bomb” stories for stories that include strengths in each domain. Andrea writes about “Welcoming”, the first story recorded in Table 6:

To me this story encompasses everything we want for every child here. It’s the dream. It takes us back to what we said in the beginning about children being able to leave the centre knowing who they are and being confident. We know she’s going to leave here with what it takes. I just know that Kailey is going to make it. (Andrea)

The three domains of “relating” might be seen to parallel the three key competencies of managing self (relating to self), relating to others (relating to others), and participating and contributing (relating to place).

Table 6 **Relating: Three domains of relating: self, others, and place**

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### **Welcoming**

This is a “bomb” story. This is so because it shows Kailey being responsible and taking an interest in what is going on. This also shows she knew what was acceptable to do here and what was expected, i.e., the protocol of welcoming. She knew what to do in this situation and knew it was OK to take the lead, and that her contribution would be valued. Not only this, Kailey knew she was capable of meeting the needs of the others in this situation.

This story was written by Jane (teacher) and though at first this story was a snippet of the girl’s first day it actually turned into a story for Kailey: Kailey took each girl by the hand to the family corner, “This is where we play dolls.” It was as if Kailey recognised that dolls could be a thing the new girls might be interested in - that playing with the dolls was something that might help settle them, so this was the first thing she took them to. Kailey knew enough about other children to know what works, maybe drawing on her own experience.

### **Happy Now**

This is a story of knowing self, others and this place. Libby showed interest in someone else’s feelings and with the support of an adult (Katie) was able to empathise. She was able to recognise her own feelings and emotions, and relate them to how someone else was feeling, and she knew that it was OK to take on the support role for her friend. She also knew that timing is everything. She read the situation well and knew Tyler might not be ready to play just yet, but maybe later he might feel ready. This is also a story about liking yourself and knowing you have made a valued contribution, and being able to express this.

### **Great Mates**

This is a knowing others, knowing self story for both Cory and Tyler. For Tyler it was knowing in himself that he had the ability to transfer his skills from one relationship to the next one. He knew, as Dylan’s younger brother, that Cory was likely to need more guidance and support in this new friendship. Previously, in Tyler’s relationship with Dylan, he had been the follower and Dylan the leader; now Tyler took the leader’s role. He knew that that was what was required of him. ...

For Cory this story was about knowing that he could step into his brother’s shoes. He could see Tyler was offering him a friendship and he was going to take it. He has seen his brother as a friend of Tyler and knows he can step up to be a friend too. Cory hasn’t had an established friendship before. He has two older brothers and he was always in their shadow when they were at the centre.

Cory seemed to know he could trust Tyler, and that this friendship was a safe thing to get involved in. Tyler would respect and understand him. Cory knew that Tyler understood what he needed, that he knew him well. There was a familiarity that was present here, and it came through family connection or history; without this familiarity this friendship may not have developed in this way with such ease.

### **Where the Wild Things Are**

This is a group story about knowing this place. This is about taking us to our roots, the whakapapa of the community. The children may have experienced some of this before because this is an exploration of our local wider community. The children were able to make links here to Tane, Mahuta and Papatunuku and knew how to respond to the environment around them. The older children role modelled care toward the environment to the younger children, transferring skills from one environment, the centre, to another, the reserve. The children showed us they had a sense of belonging to this place through their actions and responses to what they saw and talked about with us. They knew what was OK to do, and what wasn’t, and showed us they could really relate to this environment. We hope they will remember and retell this experience in the other settings they are involved in.

### **Thanks for Your Help—Chaye-Tia**

This is a story about knowing self and knowing this place. It’s about Chaye-Tia knowing which roles she can take on, and that she can assume that this will be OK. She did not hesitate to ask if she could join in; she had the confidence to ask to be included, and knew that her contribution would be valued. She was fully undertaking the job here and she knew she would really get to do this. It would not be a token input, rather, she would have an equal role in the job at hand. The fact that she was free to sign her name on the “outside sheet,” just as Gaynor the teacher had, shows this. Chaye-Tia could list what needed to be written down and this information was treated as reliable. She was really confident about her knowledge.

### **Hanging Out**

This is a knowing self and knowing place story. Anaru was away from an adult with the older children in the sandpit. He knew that these children would take care of him while Katie, a teacher, looked on. He had the freedom to explore at his own pace and he wasn’t directed by anyone. This was one of the first times Anaru had been “on his own” in the sandpit with the older children, with no other babies present. He felt safe to explore fully the properties of the sand. He trusted this situation on every level.

Through the analysis and later discussions with the wider project team, the researchers at Aratupu came to realise that the learning of children around knowing self, knowing others, and knowing this place related closely to the teachers' pedagogy. There are a number of specific strategies used by the teachers at Aratupu to encourage learning for children around these ways of knowing, and children are in effect immersed in these strategies. This is the topic of the next section, on the second research question.

## Summary and implications

This research was an example of “telescoping” into learning episodes (Halverson, 2005 p. 21), and “telescoping out” to develop and illuminate a conceptual framework, designed to make sense of key competencies and learning dispositions in a way that would be helpful to teachers. It is usually teacher researchers who can most effectively “telescope in” (because they know the children and the context well), and it is the wider research team that can often most effectively “telescope out” to a wider perspective. It is the shift from one level of focus and back to the other that was necessary for analysing the picture.

Because of the nature of key competencies—they are dispositional and situated—their definitions will need to be constructed at a local level. This is an implication for learning dispositions as well. The value of discussion among teachers, and with students and with families to find meanings for key competencies or learning dispositions in each setting has been emphasised in this project. There will always be multiple perspectives, and discussions avoid the “talking past each other” (Metge & Kinlock, 1978) that can disrupt learning. Artefacts such as portfolios assist this discussion.

The ways in which key competencies will be integrated with the learning areas of the curriculum is also a topic for debate. Although some of the teachers here focused on key competencies one at a time, in order to research their nature in this place, they do not float around separately from context and learning area content. Teachers are already finding ways to document this integration, as Yvonne, from Parkview School, did, and to integrate them in their teaching

The cultural context of the school, classroom, or early childhood setting is of particular significance for defining and recognising key competencies and learning dispositions: the link to values, highlighted in the 2007 New Zealand Curriculum. Teachers will adapt frameworks and formats for their own settings, as Nadine and Claire, from New Brighton Community Preschool and Nursery, did.

In this project, relationships was an overarching aspect for understanding the ways in which dispositional outcomes played out. Recognising the difference between skills and key competencies is important; that is, the motivational and affective aspect of learning must be included (see Rotorua working paper R2).



## Enhancing continuity and growth in learning competencies— research question 2

This section discusses findings in relation to the second research question, which asked: “How do teachers in a range of contexts enhance continuity and growth in five domains of learning competencies: managing self, relating, making meaning, thinking, and participating? How do they interpret these actions?”

Consideration of the ways in which teachers enhanced continuity and growth in the key competencies is touched on in the previous section, looking at what learners do. As in a previous study (Carr & Peters, 2005), the teachers in this project found the key competencies fitted with their views about important aspects of teaching and learning. As the research progressed three key themes emerged:

- reflection on strategies
- dissonance as a provocation for enhancing pedagogy
- teachers’ own key competencies: “You teach who you are”.

Each of these is discussed below, with findings drawn from across the various research sites.

### Reflection on strategies

Reflecting on what the key competencies mean in practice for teachers, one of the co-ordinators commented:

It isn’t something that isn’t already done by effective teachers. An effective teacher knows their students and they know their skills and they know they can read their attitudes and they know their values or they have some sense of where they are in terms of their cultural background or family background so it’s nothing that isn’t already known. It’s just that it’s given more status now ... teachers [need to know] what they are actually about, so people don’t automatically fall back into default essential skills mode. (Interview with Tina, December 07, p. 7)

However, although the pedagogy was in many ways familiar, teachers talked of the benefits of reflecting more deeply, or “drilling down”, to explore their own role in enhancing the key competencies and dispositions. At both Aratupu and New Brighton teachers devoted staff meeting times to discussing children’s learning and their own strategies in enhancing this. In all settings the teachers reflected on pedagogy with colleagues or member or the research team. Nana explained that at Rotorua Primary

... some of us will get together and we will discuss, bounce off each other and work out ways ... we can actually bounce off each other and share ideas ... which means that we can help each other find the ideas and the ways to actually deliver it. (Interview 2, p. 2)

Aratupu’s research on pedagogy began with identifying all the teachers’ actions described in all the Learning Stories written about one child, Libby. The teacher and co-ordinator met several

times over a month to work through this process together before taking a first draft list of strategies to the teaching team to discuss. This work is described in detail in working paper A4.

The position of teachers and their relationship with children was highlighted as an important factor when reflecting on the ways in which teachers enhanced the key competencies.

### *The position of teachers as “place” or “others”*

Aratupu’s focus on relating (to self, others, and place) was described in the previous section, in relation to the first research question. Different teachers had different ways of writing stories, and where they positioned themselves in the story appeared to link directly to their relationship with the child. For example, in some stories Libby related to a teacher, as “place” (a part of this place). However, in some stories the teacher was much more like their description of “others” and Libby related to the teacher in these stories more like a peer or friend.

In stories where the actions or behaviours of Libby were categorised as being about “relating to place” teachers appeared to have a more authoritative approach and a higher level of power than Libby. The way the story was written, the language used and how Libby used the adult in the story all hinted at this power position. The story “Libby tells me like it is” is one such example. In this story, the teacher decides to help Libby clarify her ideas about the difference between polar bears and panda bears by sourcing some information from the internet and sharing this with Libby. Libby rejected this attempt and expressed her frustration at the teacher. In turn, the teacher appeared frustrated by Libby’s response and her interpretation and “what next” ideas reflected this frustration.

Where a teacher was seen as “other”, the stories positioned Libby as the having higher or equal power to that of the teacher. These stories detailed an awareness and intimate knowledge of Libby’s personality, strengths and abilities. The Learning Story “Why do bears eat honey?” reflected this shift in power towards the learner. In this story Libby is conveyed as powerful and able. The teacher does not know the answer to Libby’s question, so suggests they look together on the internet to see if they can answer her question. Libby stays at this task for nearly an hour and shows some of the ways she engages in ICT, research, discussion, and writing about her topic of interest—bears. “Libby tells me like it is” and “Why do bears eat honey?” illustrated very different learning outcomes for Libby and the teachers involved.

### *“Backstage”, “on-the-floor”, and “the culture of this place” strategies*

Starting with the analysis of strategies from Libby’s stories, the teachers considered whether the list of examples accurately reflected what they did. Different teachers shared their perceptions and experiences of the strategies used in the stories. Some strategies merged and others were added until a list of 24 strategies was formed (see Appendix 4).

As the team talked more about these strategies, the idea was raised that perhaps they could be categorised as either “backstage” (what teachers did when not with children) strategies, or “on-

the-floor” (while teachers were working with the children) strategies. With on-the-floor strategies came the idea that some of the things teachers did might best be described as the “culture of this place”. The teachers toyed with the idea that some of the strategies were *because* of the culture of this place, while, at the same time, the culture of the place existed partly because of the strategies used.

Similar findings were evident in the other settings, particularly Rotorua Primary. An example of this was Nana’s (one of the teachers) strategy in arranging the seating in her classroom, which was influenced by the culture of the school and the value placed on tuakana/teina relationships, but in turn contributed to the culture of her classroom. The tuakana (older students) were positioned towards the outside fringes of the room and the teina (younger class members) were grouped at tables in the centre with the teacher. Nana described this as reflecting the whānau, whereby the tuakana who were beginning to seek independence could take risks but in a safe environment knowing that they could always return to the centre for regeneration, and support. Describing a child who had chosen to join the teacher and the group in the centre during a mathematics lesson she noted:

They actually make decisions themselves, the decision is made by them and not by the teacher ... I was working with a group at the teaching table and ... he [older child] comes to the table ... picked it up from where we were and started to remember how to do it all ... so he just fitted in to the table, just no big deal and he sat there, followed what we were doing and then he could go back [to his desk on the edge of the classroom] and say “I’ve got it now, I remember”... He managed himself, he took the initiative and he made a decision, “I thought I knew this but I had not quite remembered”... so he managed himself ... Other key competencies ... symbols and text ... relating to others ... he wasn’t disrupting anyone he was just getting my attention, communicating in that quiet way and I communicated back to him without disrupting my group. (Nana, second interview)

At Discovery 1, the culture of the place included giving children choices, which was enhanced by repeating workshops. For example a workshop on recycling was repeated the following term. Sharing what happens in workshops lets children see what else is possible. In this case those who opted in the second time were children who did not take part the first time. This illustrated the importance of being exposed to what others do, because stimulation for learning can come from others.

### *Categories of strategies*

At Aratupu, the strategies the teachers had listed were eventually grouped into four categories: making and creating opportunities, supporting participation, talking and sharing with children, and talking and working in the child’s zone (see Appendix 4).

“Working within the child’s zone” included the use of humour, a sense of fun, and merging real and fantasy worlds for children. The teachers were able to pinpoint what teacher and child will find mutually amusing because they know the children so well. This is illustrated in the following extract from a Learning Story:

It comes to fruit time and you ask “What’s in the bowl”.

I tell you that it is “Oranges, oranges, or oranges today, and would you like orange number one, two, or three?”

You think for a minute and then decide that it is orange number two that you would like.

I fish round in the bowl pretending to find orange number two and give it to you. I walk off to share the oranges with the rest of the tamariki.

Returning to your table, you call out to me:

“Hey Andy, you tricked me, you gave me orange number three not number two!”

“Whoops” is all I can say before we both fall into a fit of the giggles! Libby I love your sense of humour, and how you can always bring a smile to the faces of the people around you.

Teacher comment: You amaze me Libby with your level of thinking and understanding. You were able to make sense of my silliness and carry the joke on so that you delivered the punch line! (“The Last Laugh”, 16 November, 2005)

At Aratupu, many aspects of the programme, the philosophy, and the organisational structure support the development of close relationships. For example, children and staff are together for a six-hour day. Bergum (1993), writing about relational pedagogy and using examples from nursing, describes how patients become more three dimensional for nurses over time, as they come to know the whole person and not just the medical condition. Our findings reflect that for teachers too, time is important to gain knowledge of the learner in order to develop effective relationships. Staff rosters in group settings can work for or against the development of these relationships (Fulcher, 2007), and structural arrangements and their effect on relationships will be important considerations when planning for key competencies/learning dispositions.

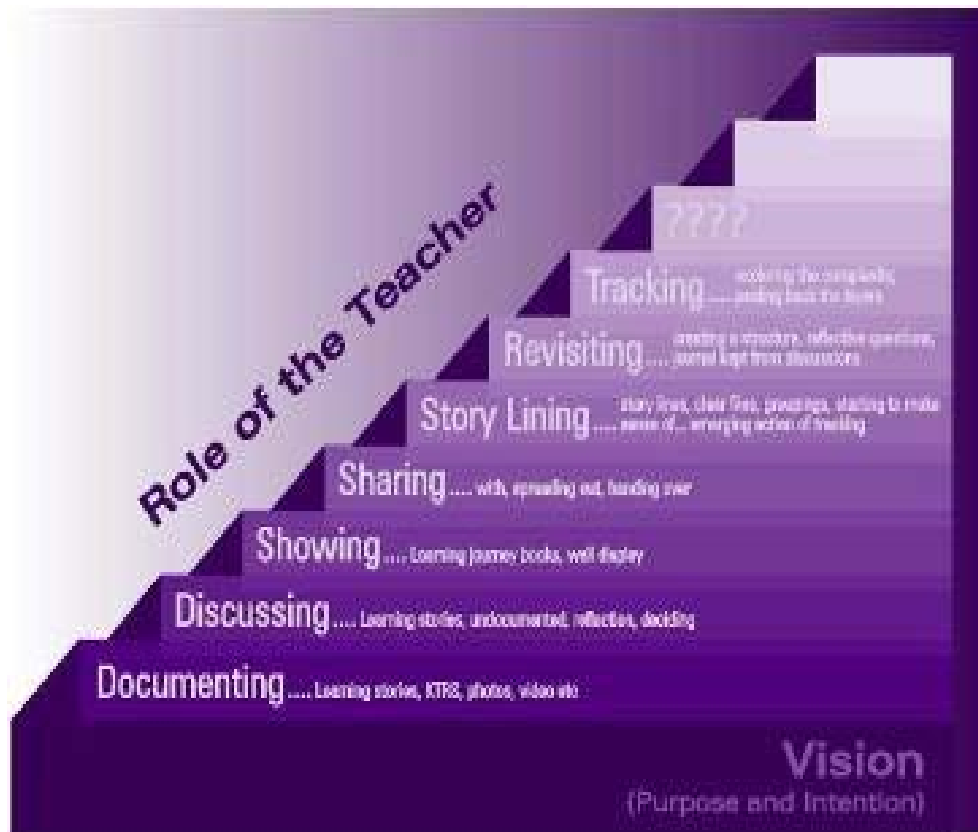
Teachers at Discovery 1 School carried out a similar analysis of teacher strategies. Within a series of 13 Learning Stories for one child, they identified more than 50 ways in which the teachers were nurturing and facilitating the development and expression of the key competencies (see the list in Appendix 5). Those that were also identified by teachers at Aratupu have been highlighted in the list, and a number of similarities are evident. Even for strategies that do not specifically appear on both lists, the nature of the approaches is consistent. For example, the Discovery 1 list includes more specific references to expectations and developing a sense of belonging but this is implicit in the philosophy of Aratupu.

A key factor in fostering the key competencies appears to be both the open, balanced, respectful relationship between teacher and child and the resourcefulness of the teacher. Across the five research sites, knowledge of the child allowed teachers to tailor their strategies to the individual. For example, at Discovery 1 School, Susie gave an example of using photographs as inspiration for story writing (a strategy to help a particular child with managing self). The strategies were individualised and personalised.

### *A pathway of exploring the role of the teacher*

At New Brighton, reflection on teacher strategies continued a process of exploring the role of the teacher that began prior to the research. This was documented in working paper NB1. This journey is illustrated in Figure 3, and is presented as a stair pathway, with overlapping and accumulating steps. Each step, documenting, discussing, showing, sharing, story-lining, revisiting, and tracking, is built on the next and one would not be possible without the previous one(s). Each of these steps is explained in Appendix 6.

Figure 3 **Role of the teacher: A pathway**



### Dissonance and dilemmas as a provocation for enhancing pedagogy

At New Brighton tracking and analysing individual children's data over time revealed some unexpected findings about the teachers' roles, while for teachers at Aratupu an apparently simple discussion about a piece of playground equipment was a trigger for deep exploration of pedagogy. In both cases some of the tensions and challenges for teachers in addressing these dilemmas in their practice were revealed.

### *“Looking Glass” data*

In order to begin tracking the children’s learning, the team at New Brighton gathered and analysed the Learning Stories documented over time in the children’s Learning Journey Books (profile/portfolio books), team reflection meeting minutes where these children were discussed, and transcripts of meetings held to discuss this data. These Learning Stories and meeting minutes were initially called “mirror data”; later, when we researched the derivation of this term, we decided to use “Looking Glass” data as a draft working title, because “mirror data” is slightly different.<sup>6</sup> Both terms refer to data used like a mirror to see what image of continuity of learning was reflected back to the team. In this case it was from the teachers’ own reflection on documented assessments. The teachers used the Looking Glass data sets to explore the ways they support, understand, and recognise continuity for children at the centre. This is written up in working paper NB2, and a brief overview is provided here.

### *Case study one: Gabi*

Data for Gabi covered a three-year period from 2003 to 2005. Gabi’s stories were arranged and displayed chronologically and were then analysed for examples of linked learning, storyline or other forms of continuity. One teacher shared her initial analysis with a group of teachers, who discussed the data and initial analysis, while also drawing on their own experiences of working with Gabi. From these documented and undocumented observations several findings were made. Some of these affirmed the team’s beliefs and understandings about their teaching and documentation, while others showed surprising gaps between what they believed they were doing or achieving, and what was actually occurring. They found dissonance between the “documented Gabi” and the “Gabi we know”. Although some Learning Stories demonstrated continuity in Gabi’s passions, interests and dispositional learning, other stories fell short of capturing the Gabi the teachers felt they knew, and gave little detail about Gabi’s learning, what might have been her intentions or future learning opportunities. The team called these stories “centre stories”. Centre stories were often about an event at the centre that many children were involved in but the level of personal engagement was not captured within the documentation.

Centre stories were sometimes about special events that occurred within the preschool that we felt were relevant to that child that needed to be able to be put somewhere, often to be used as a reflective tool for that child, or also to keep the parents informed. Some Centre Stories were quite focused and quite clear. Other Centre Stories just told about an event.

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<sup>6</sup> Personal communication from Joce Nuttall, Monash University: “The concept of ‘mirror data’ is from Yrjo Engeström’s professional learning methodology known as Developmental Work Research. I’ve used DWR in the Lady Gowrie work and done a couple of presentations on this project in New Zealand, both findings and methodology. Mirror data is one of the techniques used in DWR workshops. Data from prior interviews with workshop participants is ‘mirrored’ back by the facilitator during the workshop to highlight contradictions in practice (so drawing on Leont’ev via Hegel, rather than Lacan). It relies on an outside facilitator and is specifically aimed at prompting shifts in the activity system of the setting—school, hospital ward, whatever.”

We also found similar ideas with reference to tertiary education in Beck et al. (2004, Fall), “Mirror accountability: Using data to see ourselves and to show ourselves to others”, *Journal of the Association of Independent Liberal Arts Colleges of Teacher Education*, pp. 69–89.

They really told the story but there wasn't any specific learning for the individual attached to those. (Excerpt from analysis meeting transcript)

From informal discussions, the team believed they had a shared vision for Gabi, but when they looked at what had actually been documented they identified some mismatches between what teachers knew about Gabi and what they saw of Gabi reflected back at them through their documentation. The group felt it was important to capture the Gabi they knew, Gabi the learner, through Learning Stories:

What has become really clear to me is when the story's written with the intention of looking at Gabi as the individual learner, the analysis and the "what next" are really clear, and they really are reflecting where Gabi was at and also ... the potential learning pathways for Gabi. When the stories are more Centre Stories and very generalised, Gabi as the learner's not apparent in the analysis [or] "what next" at all. She's a one-liner where it says Gabi was part of this because she discussed with such and such about this, or ... and that's at the best. At the worst it's ... her name's not even mentioned in the analysis or "what next".

... we actually have to talk about the individual in that because otherwise it looks like there's a huge amount of assessment and documentation that has occurred for Gabi over a period of time but it's actually not evident in there. So it's missed out, if we are writing big generalised stories that don't actually capture the individual... (Extracts from analysis meeting transcript)

The findings revealed that for some teachers the purposes of documenting stories had shifted over time. When teachers first started using Learning Stories they were focused on noticing, recognising, and responding to the child and the learning valued for this child. From the group analysis it was clear that for some teachers striving to understand learning remained a central purpose, while for others the purposes were weighted more toward coverage, internal or external accountability. Several teachers felt pressure to produce stories in order to keep on top of children's Learning Journey Books.

Centre stories could be completed for several children at one time reasonably quickly, so several teachers were producing these generalised stories more often than stories focused on the learning and learning opportunities relevant to individual children.

Teacher 1 I think we talked about that last time being that whole dilemma of "okay the month's nearly up, let's get a story" and so you're furiously trying to and "Ooh the group's doing that [and this] story will [cover] so many people" and there's nothing there for that child...

Teacher 2 Coverage.

Teacher 3 It's just to get a story, nothing to do with quality really.

Teacher 4 I think there is two sides to what [teacher 1] said about the tension of people saying, “I’ve got to get one per month”. And to a certain degree I agree with that, to another degree it’s not evident in here, because some times Gabi’s got four stories within a month, so no-one has been ... there’s been no panic of someone going “There must be a story for that child!”

(Excerpts from analysis meeting transcript)

We discuss in chapter 5 that this discovery was challenging for the teachers, and they were disappointed that they did not see what they expected to in Gabi’s data. This dissonance provided the provocation for deeper reflection on their teaching strategies than would perhaps have happened if they had been affirmed by the initial analysis.

The team at New Brighton concluded that centre stories did support continuity for the children more globally as they described or illustrated the ways possible learning opportunities were supported for children over time. Centre stories provided opportunities for revisiting events and learning of significance and often served as provocations to children and their families. They agreed that teachers needed to put these purposes ahead of the perceived “pressure to produce” as centre stories could be important building blocks for communication, community and collaboration at the centre.

#### *Case study two: Fiddle*

The second case study was of a child named Rutherford who liked to be called “Fiddle”. Fiddle had been attending the New Brighton centre full time, and was 8 months old when he first started.

To begin the analysis of the Fiddle data, the process described earlier for Gabi was repeated. On reading documentation about Fiddle, a richer view of him was evident than the collection of stories about Gabi. Teachers felt each of Fiddle’s stories were meaningful and significant for Fiddle, and demonstrating teacher’s knowledge of him as an individual. The generalised centre stories of the type found in the preschool were not a feature of nursery documentation. Therefore, all of Fiddle’s stories were what the team call individual child stories. Each story focused on Fiddle as a learner, often reflecting on his past experiences as teachers considered future potential pathways. Fiddle was positioned as an active partner in the learning experiences described in these stories and over time the stories showed Fiddle developing new roles in the environment. The team felt that there was greater congruence between “documented Fiddle” and the “Fiddle we know” than there had been for Gabi.

#### *Documentation is powerful*

The process described above shaped some interesting findings for the New Brighton team. Before the team revisited the data held on Gabi they had expected to see a very different reality than this Looking Glass data revealed. One of the conclusions for the teachers was that documentation creates, and contributes, to the images of learners and teachers. They noted that by stopping to look at their documentation and themselves in this way they were able to critically reflect on the role of teachers within children’s learning.



At Parkview School, teacher researcher Yvonne was also exploring ways of documenting the key competencies. Portfolios of the children's learning were kept by Yvonne as a record of key experiences and a reference for the children, the teacher, and the families. The introduction to the portfolio, addressed to the family, says that this is a collection of work samples, and that the purpose of the portfolio is: to show progress and achievement in school work, to help the children to understand how their work is assessed, and to support comments made by the teacher about a student's progress. The portfolio goes home four times a year. The portfolios include goals for the year, an end-of-year summary, work samples and summaries of literacy and numeracy achievement, spaces for the student and the family to make comments, self portraits, group stories (where the student is included in a large group or class activity, but individual participation is not described), individual Learning Stories, and personalised group Learning Stories.

Information on key competencies was documented in the Learning Stories. Yvonne had commented (see the discussion of the first research question) that she wanted to "explore how the draft Key Competencies could be integrated into the daily programme, and assessed, without creating extra workload for teachers already struggling with an overloaded curriculum". She wrote three different kinds of Learning Stories: group, individual, and personalised group. The latter reduced the documentation time for a busy teacher while still providing information over time about the key competencies, and, incidentally, including considerable information for families (and children) about the teacher's strategies and the opportunities to learn that the classroom programme was providing. The context for personalised group stories is a class activity or lesson in which children work on the same task as a whole class, in small groups, in pairs. In personalised group stories, the group activity is described generically and then some addition about an individual participation is added. Often a photograph is included showing the student at work, or the work itself—completed or in progress. Yvonne has commented that the photographs were important for her: she took a number during class time, and these jogged her memory about individual children's work for later documenting.

Yvonne retained the same class from new entrants in 2006 to Year 1 in 2007, and for 18 children we analysed the Learning Stories from when they began (some time in 2006) to November 2007. The portfolios for these children included 226 group stories, 220 personalised group stories, and 59 individual stories. Yvonne's individual stories, true to the dispositional nature of the key competencies, often recorded an event when the learner *chose* their activity. For instance an individual story was written about Abby who initiated a role-playing game in which she was a librarian, issuing books to a small group of willing participants. Yvonne writes: "This is the first time Anna has instigated an activity and taken a lead role". A self-comment by Abby, soon after this, reads "I was shy when I started school ... [now] I put my hand up.". In a personalised group story in which the class were invited to see what they could find out about clouds ("Budding Researchers"), there is a photo of Abby presenting back to the class, with the caption "I did a Google search".

In Yvonne's class, children are assigned a "Talking Buddy", which changes every week, and many activities involve the buddies exploring something together, discussing how to display their

findings, and then presenting together to the class. For example, in a personalised group story, “Abby and Nakaia co-operated and worked together to classify data and display in pictograph. They shared the work and talked about how they would display the data”. In this way they rehearse ways to negotiate with a peer, a central indicator of the key competency “relating to others”. Yvonne has an eye for (notices and recognises) creative thinking. When she introduced the class to the symbols for “more than and less than” and then asked for their ideas about a symbol for “same as” Haruka suggested < > “and was excited about her theory”.

### *“The rules”—a provocation for discussion*

While the Looking Glass data led to deep reflection at New Brighton, at Aratupu, through their research focus on relationships, the team noted that they were becoming more tuned into their intentions and actions. An issue arose concerning the use of the slide:

Picture the following:

Children are playing outside on the centre slide. Rather than sliding down on their bottoms as you might expect from young children, these children have found a different way to slide. The children are using large foam shapes (usually reserved for jumping and climbing over) to propel themselves down the slide, at increased speed. Over several months this play has gradually grown in its popularity at the centre, with older children helping younger children to slide this way.

On this particular day, Andrea, came outside to enter a discussion between two teachers about this play. One of the teachers has just told the children to stop what they were doing and to remove the foam shapes from the slide. On hearing this, the other teacher questions her - why is this play not ok? The discussion escalates. One feels this slide play is inappropriate, dangerous and unnecessary, while the other sees this as a reflection of creativity and innovation. Andrea has a particular opinion too, and wonders which side of the argument other members of the team would take? (working paper A3)

Andrea noted:

You would think that a slide is a pretty basic piece of equipment in an early childhood playground, which is quite limited in its function and wouldn't cause too much concern. However, get together a team of passionate early childhood teachers, get them to disclose what they thought should happen with children on slide and how it should be used, and the slide becomes far more than a simple playground structure.

Several questions emerged:

Was this clash over the slide an isolated issue or was the slide just the tip of the iceberg that reflected greater philosophical contradictions between teachers? What do teachers believe children should be allowed to do here? What did these beliefs look like in action? Were the actions of teachers in line with the philosophical traditions of the centre? Is it ok for teachers to have different sets of rules for children? And if so, what impact would this have on the children? If teachers were disagreeing over the slide, what else were they disagreeing over?

It was decided the team would start brainstorming other areas of the programme that created similar dilemmas for teachers and children. Teachers were invited to contribute to establishing a list of programme areas that they wished to discuss. The rich detail of the whole process and the findings that emerged are described in working paper A3.

Discussion of the slide and other teaching dilemmas in the centre exposed differences in perspective about teaching, learning, and relationships. This in-depth exploration of one issue helped the team to see that children were probably getting very mixed messages and mixed expectations from their teachers. The team began to identify the effect their own relationships with each other were having on children. Where previously emphasis had been put on the relationships children had at the centre, teachers were gradually seeing the importance of positive relationships between teachers. Consistent (or shared) expectations of children by teachers, the nature of the relationship between teachers and children, and the relationships between teachers were emerging as the central themes of team discussions.

### *Discussing the dilemmas*

The most challenging debates emerged when teachers identified mismatches between teachers' words and actions. Although the team used the same words to describe what they believed, their actions did not always look the same. For example, the team agreed that creativity was extremely important, however, some teachers were limiting creativity because they were taking control of play rather than letting children explore their ideas fully, whether they realised it or not.

The issue of the degree to which teachers controlled children's play was raised several times over the course of these discussions. It appeared that some teachers were asserting power over children in a way that others were not. These "power over" relationships influenced play differently than "power with" or "power for" relationships did (see Jones, 1986 for a description of power on, for and with; teachers sometimes use "power over" instead of "power on"). It seemed that teacher's perspectives of their actions and intentions were impacting on the nature of their relationships with children and vice versa.

After several months, this phase of discussing programme areas came to an end. By now each issue or area had a clear set of "rules" the team felt were reflective of the centre beliefs and philosophy. The team revisited these decisions and looked more closely at how these worked in practice. They wanted to know if they were actually doing what they said they were going to do, and, whether, in practice, these decisions working for all concerned. They reminded themselves of some of the objectives of the "rules" and what they wanted to achieve with children. Where initially there had been significant differences in opinion within the team, delving more deeply into the dilemmas was, over time, turning these differences around and teachers were beginning to build a shared perspective.

### *The consequences and “big ideas”*

The process of investigating these dilemmas had some surprising outcomes for the team, the most significant being team relationships and team unity. The process highlighted a link between the relationships within the teaching team and that of the relating framework (see discussion on the first research question). Teachers were beginning to formulate ideas about how their intentions and actions were connected with how children related to themselves, others and the environment. The team could see several positive consequences for themselves and children as a result of exploring their ethical dilemmas. Dilemmas also helped the team to shape two big ideas about how teachers’ relationships influence children’s relating:

1. The relationships teachers have with one another affect the ways children relate.
2. Shared expectations strengthens learning through relationships.

### Teachers’ own key competencies: “You teach who you are”.

The first and second parts of this discussion on the second research question (reflection on strategies and dissonance as a provocation for enhancing pedagogy) illustrated the importance of modelling by teachers. This was summed up by a Discovery 1 teacher’s comment “You teach who you are”.

Mere, one of the teacher researchers, explained this for the Rotorua context:

An example would be the way we relate to each other. We work as a family, we’re always caring about each other, whanaungatanga, manakitanga, aroha, those things that are really important ... Another example is the way we encourage our children to share and care for each other and also the staff to work as one unit, one family sort of thing ... Participating and contributing will happen when a person is really au fait with relating to others ... participating and contributing, thinking, using language symbols and text and contributing wouldn’t happen if the “relating to other” competency wasn’t felt by the individual or even by the collective. For example, if I felt I wasn’t comfortable in our place relating to others then I don’t think I would participate and contribute. I don’t think I would do the other competencies justice. (Interview 2, December 2007)

Interviews with other teachers at Rotorua Primary School supported this idea. For example, Frances agreed that the key competencies “relate just about everything you do within your classroom and school environment” (Frances, Interview 2). Other comments included:

They interlink with everything we do. Part of the school culture, part of our own culture (MISSMT, Interview 2).

. . . the key competencies are more than just sitting them [children] down and teaching them, it’s actually practice because we as teachers can practice those key competencies ourselves and model what we need so that they can see it so that as long as the deliverers are on to it. (Nana, Interview 2, p. 1.) We were raised according to key competencies that we have today. It’s not new for me, it’s how it’s always been as far as I’m concerned. it’s just a matter of it coming into the school. (Nana, Interview 2, p. 3).

An outcome for one teacher researcher, was the idea that the children are researchers as well. In Yvonne's Parkview classroom she noted that children were asking research questions (for example, "Why are nits attracted to hair?") and refining them ("We should add *human* hair"). Yvonne commented on using the children's quest for knowledge to develop the key competencies.

Just as the learning dispositions in early childhood have been conceptualised as being ready willing and able to learn, so the teacher must be "ready, willing, and able to teach and learn from his or her teaching experiences" (Shulman & Shulman, 2004, p. 259). For Shulman and Shulman, *being ready* is being ready to pursue a vision of classrooms or schools that constitute, for example, communities of learning, *being willing* is about being motivated to expend the energy and persistence to sustain such teaching, and *being able* is about both knowing and being able "to do", including content knowledge and the ability to engage in appropriate performance in practice ("the capacity for intelligent and adaptive action" p. 263). As one teacher researcher reflected, it is important to ask, "Does the way teachers teach align with what we want learners to learn?" (Nikki, 2007).

As the tuangi metaphor (described in the following section) highlights, it is when the resourceful teacher and the resourceful learner *both* draw on key competences in a shared endeavour that "ako" or teaching and learning are enhanced.

## Summary and implications

Looking closely at teaching strategies to enhance the learning competencies highlighted many aspects of pedagogy that are consistent with the growing body of literature that centres on the value of teachers knowing their students well, and developing effective reciprocal relationships with them. For example, Angus Macfarlane et al. (in press) discuss a range of New Zealand studies relevant to this topic. However, establishing and maintaining relationships is not without challenges. The data hinted at the way different teachers in a team do not always have a shared view of a child, leading to different ways of interacting with and viewing the child. Teachers' own backgrounds, theories and assumptions will influence the "lens" that shapes their view (Peters, 2004, pp. 408-409, provides an example this). In team settings, children may select teachers with particular strategies (as we saw with Libby), but this is not always possible. Therefore there are benefits in ensuring that teachers have opportunities to explore different views on the same experience, and have time for the reflection and revisiting that was a feature of all of the research settings.

Teacher strategies both contributed to and drew from the culture of the context. Relationships between teachers were important, as were their personal attributes ("You teach who you are"). This suggests that the lists of strategies developed by the teacher researchers should be seen as indicative rather than definitive, and effective pedagogy for enhancing the key competencies will be developed within settings through dialogue. While this research was under way, Sally Boyd and Verena Watson (2006) examined the change process as six schools as they began to

incorporate the key competencies into their programme, and they too found opportunities for discussion were important in this process. Our data indicated that dilemmas and dissonance (such as the surprising Looking Glass data for Gabi, or the rules discussions at Aratupu) can provide important catalysts for deepening reflection on practice and for strengthening relationships within teams.

Documentation was shown to be a powerful teacher strategy. The “steps” undertaken at New Brighton indicate the complexity of the teachers’ journey as they worked through different aspects of this. For most settings, Learning Stories proved useful as they situated the key competencies and dispositions in context. Learning Stories and work samples contributed to portfolios that provided a rich picture of children’s learning in the early years of school. This was very different from narrow assessments such as testing letter knowledge observed in earlier studies (for example, Peters, 2004), which tended to overshadow the many strengths children brought to school. In addition, the documentation noted children’s interactions with others and supported developing friendships. This can be one of the most challenging issues for children on starting school (Peters, 2003) and is an important consideration for teachers as the new curriculum (Ministry of Education, 2007, p. 41) requires teachers to foster children’s relationships with other children, and to consider the child’s whole experience of school. Strategies for enhancing key competencies provide a framework for supporting both of these requirements.

The data at both New Brighton and Parkview highlighted the different types of Learning Stories and their different purposes. Revisiting and tracking highlighted the teachers’ reasons for documentation and helped to strengthen the pedagogical value of recording children’s learning. Just as learning dispositions in *Te Whāriki* challenged early childhood teachers’ traditional ideas about assessment (see Carr, 2001), key competencies will require schools to think deeply about their assessment processes. Narrative assessments as explored in this study provide one way of making valued learning visible, and tracking continuity. This is explored further in the section that discusses the third research question.

## **Metaphors, relationships, resourcefulness, and intentions— research questions 1 and 2**

The initial two research questions were about: what key competencies look like for learners, and what teachers do to enhance them. The third research question was about how continuity is constructed and maintained. The way in which the project was initially divided into these three logically constructed domains was not the way in which the findings emerged, so we have included this section which combines some of the findings relating to the first and second research questions. The final section on continuity (Research Question Three) also includes many aspects of both findings from Research Questions One and Two.

In effect, the research questions separated the topic into: learners, teachers, and continuity. However, as the findings for the first two research questions have indicated, the research findings

are building up a picture of key competencies and learning dispositions that are closely sited in relationships between learners and teachers. There were also other key connections that did not sit neatly into the original three logically-derived research questions. This section covers the following aspects:

- metaphors and diagrams
- relationships
- resourcefulness
- intentions

All five settings in this project focused their research on those aspects of the initial research questions that particularly interested the teachers. The units of analysis varied in terms of “grain size”. The teacher researchers “telescoped” (Halverson, 2005) on to detailed episodes of learning (small-sized grains), and they “telescoped out” in interviews and discussions of significance to their settings (middle-sized grains or mid-level situated meanings; Gee, 1997).

## Metaphors and diagrams

During the project, theory-building was often in evidence in the development of metaphors and sometimes diagrams. These were often designed to describe the integration of the learning dispositions/ key competencies: a holistic approach. Metaphors included: a necklace (beads representing the key competencies), the wallpaper (belonging as a concept that surrounds), “bomb” stories and a diagram of intersecting circles (where three dispositional domains meet), and revisiting the learning as “the rivet” that holds everything together. It was metaphors, diagrams, and “telling” stories that were particularly useful for making sense of some of the complexity.

A key metaphor, tuangi, was developed in 2007 by the research team in Rotorua (see Figure 4). This was launched at the Early Childhood Convention in Rotorua in September 2007 and presented again at the New Zealand Association for Research in Education conference in Christchurch in December 2007. The Rotorua team described it as follows (see working paper R3 for details).

### *The tuangi (New Zealand littleneck clam) metaphor for teaching and learning*

*The shell (teacher and learner):* The tuangi is a bivalve mollusk which simply means that it has a shell consisting of two halves or valves. The valves are fused together at the top and the adductor muscles on each side hold the shell closed. Once the valves are forcibly separated, the shellfish dies. In terms of the tuangi metaphor, the shell represents the teacher and learner who are engaged in the process of teaching and learning. One side of the shell represents the resourceful learner (akonga) and the other side represents the resourceful teacher (kaiako). There is no separation between the two, both the teacher and the learner are positioned at the centre of the teaching and

learning process. If there is distance between the teacher and the learner, the learning process is compromised.

*The kai (food)* represents the process of *ako (teaching and learning)*: When the tuangi is opened, the kai (food) inside is revealed. The kai represents the process of ako. In a Māori context, the term “ako” can be used in reference to both teaching and learning (Metge, 1978). This fits comfortably with sociocultural perspectives of learning that embrace the notion of co-construction. The key competencies are embedded in the process of ako. Both the teacher and the learner possess the key competencies of thinking, managing self, relating to others, participating and contributing, using language symbols and text. The resourceful teacher and the resourceful learner must decide what constellation of competencies they will draw on to achieve a task in a specific situation.

*The foot (learning intention)*: The tuangi has a foot that it uses to dig down into the sand or soft mud in estuaries, shores or beaches. The foot represents the learning intentions of the teacher and the learner which are always grounded in a particular context.

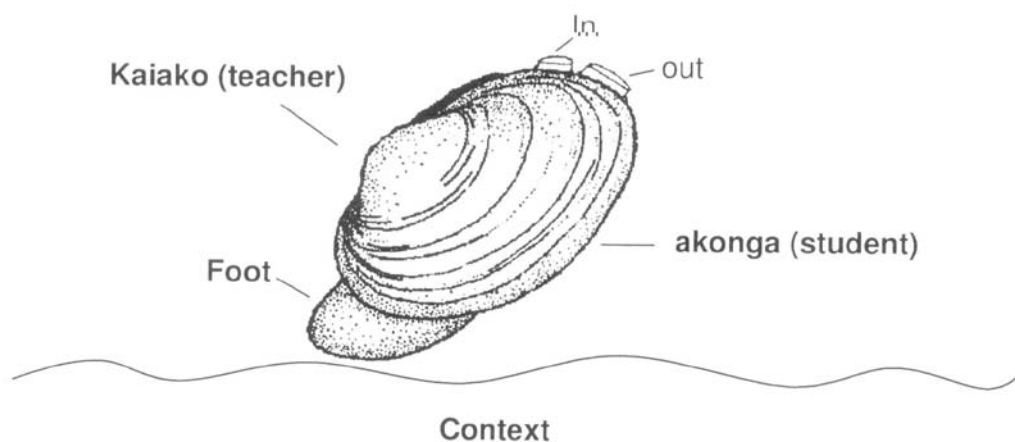
*The sea bed (context)*: The sand or soft mud of the estuary or beach symbolises the importance of the context. The resourceful learner and teacher must draw on the key competencies that are necessary for learning and teaching in that specific context.

*The siphons (information)*: The tuangi has two siphons, which water enters and leaves through. The tuangi breathes by circulating water within its shell, this brings in oxygen. The siphons also bring in tiny particles of plants and animals that provide sustenance for the shellfish. The siphons are an important aspect of the metaphor because they enable the resourceful teacher and the resourceful learner to take in information from the context and surrounding environment. What is not needed is released back out into ecology.

*The community*: Tuangi live in communities, what affects one tuangi, usually affects all those in the wider locality. This reflects an ecological view of development recognising the impact of indirect influences on the teaching and learning process.



Figure 4 **The tuangi metaphor**



## Relationships

At the beginning of the project, the concept of “belonging” was assumed to underpin the key competencies or learning dispositions in action. This had emerged as a conclusion in the 2004 project (Carr & Peters, 2005), and interviews with parents at Parkview early in this project indicated that belonging was important for families. This included wanting to understand what was happening in the classroom and in the school for their child, and having an opportunity to have a say. However, during the current project, when the proposed key competency of “belonging” became “participating and contributing” in the draft school curriculum (Ministry of Education, 2006), the team agreed that from their work so far it appeared that belonging was more than contributing and participating. The team reflected that belonging may reside in the intersection between “participating and contributing” and “relating to others”. *Relationships* and *relating* took on an “overarching” or “underpinning” role, especially in two sites (Rotorua Primary and Aratupu). Relationships included the recognition of the cultural and social communities that are part of children’s lives and identities. Reciprocal relationships between teachers, families and whānau, and children were significant, with particular attention placed on the relationship between children and teachers. As the tuangi metaphor illustrates, the dispositions and competencies position both the teacher and learner at the heart of the learning enterprise (working paper R3). Mere (teacher researcher) and Tina (research co-ordinator) discussed how this aligns with traditional Māori perspectives of learning:

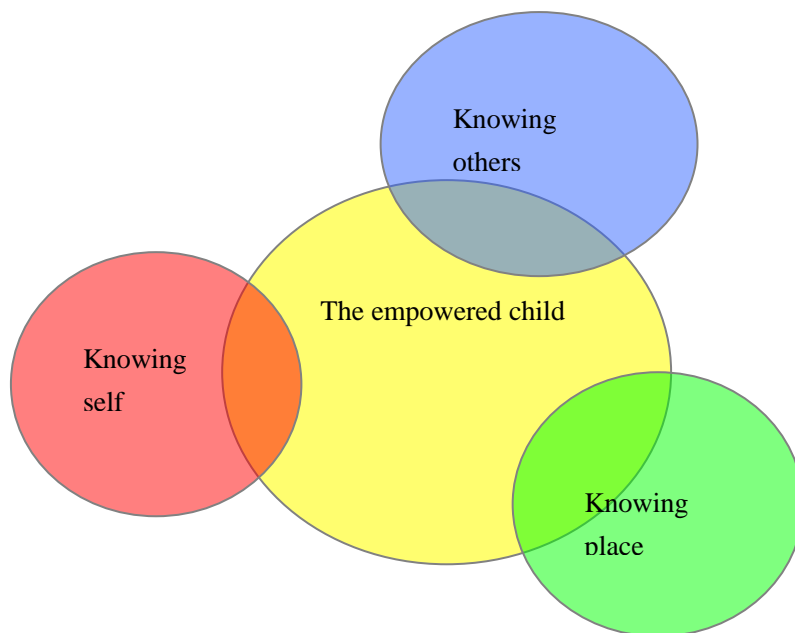
While current thinking places children at the centre of learning, a traditional Māori perspective locates students and teachers in the same place. The processes of learning were reciprocal—both teachers and students learnt from each other. Teaching/learning, experience and experimentation were co-operative ventures in which everyone involved learnt something new (Hemara, 2000, p. 40, cited in working paper R3)

Towards the end of the project, in an interview with Tina, Mere commented:

- M: My thoughts about the key competency framework are I am so pleased that the key competencies encompass the skills, attitudes and values not just skills like the essential skills were used for but the key competencies will encompass all of those things which is exciting because I feel that having them all together is a lot better for the learner and the teacher than having skills like essential skills and then having values and attitudes as two different entities.
- T: What other thoughts do you have about the key competency framework?
- M: I think it's exciting because I really feel that they are part of what we are already doing at primary school. I think we practise them as part of everyday life in school so for me, they're also holistic which is the view we have at the school as well. So for me, it's all exciting, I can see the key competencies working really well at our place Rotorua Primary School.
- T: Could you give me some examples about how you see it working already because you said that "it's already part of what we do pretty much".
- M: I suppose in terms of the key competencies, they would be of the relating to others first of all and then the other four competencies would sort of feed off or interact around the relating to other competency.

It was the existing emphasis on relationships and relating at Aratupu that decided the research team there to explore more deeply. The process is described in working paper A1 and referred to briefly in the discussion of the findings related to the first research question Figure 5 illustrates the connection between three different layers of relating (knowing self, knowing others, and knowing place) and the "empowered child" (see Appendix 3).

Figure 5 **The empowered child**



At her New Zealand Association for Research in Education presentation in 2007 Andrea (teacher researcher at Aratupu) concluded that “To learn is to relate—to relate is to learn”.

New Zealand research by Russell Bishop and colleagues (Bishop & Glynn, 1999; Bishop et al., 2003; Bishop, 2001) indicates that relationships are an important feature of learning. Research on relationships and relational pedagogy, including the work of other New Zealand researchers is discussed by Sally Peters (in press). Recent TRLI projects have also emphasised relationships (Fraser et al., 2007) and whanaungatanga, as does Angus Macfarlane’s (2007) book on working with students with behavioural difficulties.

Discussing the five key competencies from a Māori world view, Macfarlane et al. (2008) note that manaakitanga and whakawhanaungatanga are both wider and deeper in meaning than in “relating to others” and offer valuable insights into establishing and maintaining relationships.

## Resourcefulness

When teachers “telescoped out” on learning dispositions or key competencies they talked about resourceful teachers and resourceful learners. In the tuangi metaphor, this parallels the two perspectives of kaiako and akonga, hinged at the centre. In Rotorua Primary School, across Māori-immersion and English-medium classrooms, the notion of resourcefulness was helpful as an umbrella term to make sense of observations in the classrooms. Setting the observations in context led the teacher researcher, Mere, to reflect on the relationship between resourceful teachers and resourceful learners, and the personal and contextual features that influence their interactions.

Margaret (university researcher) introduced another metaphor, from Ron Ritchart, to a meeting where the whole research team was discussing the theme of resourcefulness that was evident in the data from the different settings. The team wondered if resourcefulness was a “red thread”, connecting ideas together:

The red thread is used in a variety of cultures as a metaphor for connecting, binding, and uniting. I was first introduced to it by Swedish colleagues who used the expression in the context of finding a central commonality across different situations. In Hebrew, the word *theme* translates literally as “the red thread”. In Chinese culture, the red thread represents the invisible connections that bind every newborn to all of the important people in that child’s life. In Buddhism, the red thread signifies passion. (Ritchhart, 2002, p. 182)

This notion of resourcefulness reflects to the idea that the five key competencies each represented resources—people, places, and things—that learners access, adapt, orchestrate and construct: experiences and dispositions that they bring with them (self-management), communities to which they belong or might belong (participating and contributing), others (relating to others) and cultural tools (ways of thinking, together with language symbols and texts).

## Intentions

It became clear during the project that it was not possible to interpret or trace learning dispositions or key competencies without reference to the teachers' and the learners' intentions and interests—an aspect of the content. At New Brighton, the teachers explicitly explored the notion of a balance of the intentional teacher and the intentional learner, recognising that children and teachers could not make meaning together if their goals and intentions were disparate. Writers like Barbara Rogoff (2003, on “bridging” and “structuring”) and Siraj-Blatchford et al. (2002, on sustained shared thinking), have made the same observations. Making connections between the intentions of the pupils/children, teachers and families was a feature of strengthening the key competencies at Parkview and at Discovery 1 (see the discussion on the second research question).

In the New Brighton team's working paper NB3, entitled “The Space Where Intentional Teachers and Intentional Learners Meet”, they explored and analysed a storyline over an extended period of time and multiple experiences. This sequence of events began when an unusual stone (in the form of a large rock) was discovered at the preschool; the storyline that began with this discovery was titled “Stone Crazy”. The teachers and the children consulted an expert (who told them it was 36 million years old), and visited a stone carving workshop. They began carving at the centre, and then after regular visits to the stone carver they bought their own carving tools. In a nice metaphor for the research project, they commented “What a difference having the appropriate tools made”. They add, in the working paper, that “While we will discuss the intentional teacher and the intentional learner separately, highlighting the strategies we have come to associate with each, we see these two as inseparable to meaningful and engaged learning experiences” (p. 5). The teachers at New Brighton called on the expertise of the children, as well as their own, the parents, and the stone carver. The children were invited to develop ideas about how to break the rock: “We could call the firemen to come, they might have some tools to break it”. “I know! We can get a plane to take it up really high and let it go!” “I know, a helicopter can let it go!”:

Over the next several weeks, regular visits to Te Pani House were planned and undertaken with the children and teachers. These visits were the catalyst in motivating the interest in carving which Megan recognised in many children and set about incorporating within the centre programme. Initially Megan's main role was making the space available and providing tools to experiment with. Day after day teachers and children alike sat around the table working on their individual carvings, acquiring and developing ideas, strategies and techniques as their experience within this area increased and their knowledge deepened. This was new territory for all involved and the contribution of each person helped to form a shared perspective:

“Looking around the table at everyone's pieces we soon noticed that there were different colours and some stones seemed to make a lot of dust, while other bits were harder to sand; why was that? We had lots of questions to ask Bill next time we saw him. ...” (Centre story, June 2007)

When documenting these stories the language Megan used supported this notion of collaborative community learning experiences. All stories referred to “we” and “us”, and throughout each story her position was one of a participant. The stories illustrated the

importance of the process, not the product. All documentation (photos, centre stories and Learning Stories) created opportunities for children to revisit previous experiences, in particular the use of display boards in the centre at children's level. These acted as a provocation to all children whether they had been previously involved in this experience or not. This also created the opportunity for children to reflect, discuss and build upon their previous experiences. The continuity for each child in terms of participation and communication is clearly highlighted within this documentation.

Paula (teacher researcher) noted that the New Brighton research team concluded: "The mirror [later called Looking Glass] data which we have reflected on, discussed and analysed over the last three years continually led us back to this relationship between the teacher and the child. We have come to believe that when the teachers place themselves as a partner within the learning experience the potential pathways are limitless".

## Summary and implications

This section illustrated the dynamic and connected nature of key competencies and learning dispositions. This meant that the research team were tackling a number of dilemmas: how to describe the "big picture"—the key notion of relationships—while still locating the detail of classroom and centre events; how to keep "belonging" in mind as an umbrella idea; and balancing teacher intentions and learner intentions. The possibility of using resourcefulness (the resourceful teacher and the resourceful learner) as a way through the dilemma was developed. A powerful metaphor was a result.

Making sense of dispositional outcomes like key competencies is greatly assisted by seeing them as part of the "big picture" of teaching and learning. This means that theoretical perspectives are important. We hope that the metaphor described here, the diagram in Figure 9 in chapter 6, and the working papers from this project, designed for practitioners, will assist teachers who want to begin their discussions with metaphors about relationships, resourcefulness, mutual intentions, and integrations. And to develop their own metaphors—teachers are very skilled at this. Asking when to separate and when to combine is always a dilemma, and both processes (separating and combining) are useful for different purposes.

## **Enhancing key learning competencies and learning dispositions over time, within and across settings—research question 3**

This section discusses findings in relation to the third research question, which asked: "How do teachers enhance continuity in these learning competencies over time, within and across settings? How do they interpret that continuity?"

Exploring the notion of continuity required consideration of both learner and teacher actions and hence this section connects with the findings for research questions one and two. As with the

findings discussed in the previous section, the team drew on metaphors when theory building and making sense of continuity in key competencies and learning dispositions. For example, at Discovery 1 School, the teachers talked of building a weaving, an accumulation of identity stories that provide a “life jacket” (that tells something of the child’s life). Teachers noted a change they see occurring in some children as this “life jacket” develops. When children begin to take pride in themselves—an aura or mana that appears to come from trust in themselves and others that leads to an identity of self-belief—“I can”. At a meeting of the full research team we drew overlapping squares of continuity on the board to try to illustrate how prior experiences go with you, rather like the cycles of transaction described by Bronfenbrenner and Morris (1997). Therefore, one way of describing continuity is to talk about accumulating funds of experience: (or an accumulating portfolio of stories). Kamler and Comber (2005), citing the work of Luis Moll, use a similar notion. They suggest that we can picture children entering new situations, such as school, with “virtual backpacks”, which are full of cultural and linguistic resources gained at home and in early childhood education.

The notion of a “life jacket” or “virtual backpack” developed during this project is consistent with a participation metaphor of learning (as opposed to an acquisition metaphor) (Sfard, 1998). The life jacket is reflected in ways of participating, and provides the continuity from place to place, but it is not permanent. It can wash away unless reified. Another way of thinking about this is that dispositions, or key competencies are not acquired; instead, a person becomes “more or less disposed” to respond in a particular way (Claxton & Carr, 2004, p. 88).

Rychen (2003) wrote about “navigating in social space”, and the importance of “recognising patterns encountered in past experiences, establishing analogies between previously experienced situations and new ones, and using patterns to guide activity” (p. 78). This aspect of the research therefore looked for patterns of responses that inferred continuity in the key competencies. In doing so it was important to acknowledge the children’s actions, the teachers’ pedagogy, and the relationships between children and teachers. Case study examples illustrate this complexity. A framework for thinking about strengthening the key competencies was developed from the case study data and a database was developed for Learning Stories for facilitate the navigation of learning pathways.

The findings in this section are presented as follows:

- co-constructed pathways of learning
  - Maui: Kaleb’s co-constructed pathway of learning
  - focus boards: Co-constructed pathways in the homebase
  - “Taking The Plunge”: Diana’s co-constructed pathway of learning
- continuity within and across settings
  - Libby the empowered child
  - Cameron taking responsibility for his learning
  - continuity from early childhood to school
  - continuity across two years of school

- dimensions of strength
- developing a database: The Learning Story Navigator.

## Co-constructed pathways of learning

Early analysis of one child's learning journey (Kaleb) highlighted the co-constructed nature of learning pathways in Nikki and Susie's homebase at Discovery 1. The teachers then began tracking this co-construction for the whole class, using focus boards in the classroom to display aspects of the leaning journeys and how they connected. Eighteen months later it was evident that teachers, children, and families had embraced the key competencies, and continuity for individuals was embedded within the key competency focus for the whole school and the homebase. This is illustrated in the case study of Diana "Taking the Plunge".

In the section on the second research question, data from New Brighton included a storyline that was central to particular pathways of learning. This was also evident when considering continuity at Discovery 1. In Diana's case the central thread was the key competency "participating", whereas for Kaleb, an interest in Maui was central and the key competencies were developed and expressed within this topic.

### *Maui: Kaleb's co-constructed pathway of learning*

In Term 3 of 2005, Kaleb's homebase planned a lot of possible learning experiences around the concept "Exploration". Children's brainstorms, individual education meeting discussions, and parents and teacher's ideas led to a wide range of experiential workshops which children could choose from, in addition to the everyday learning programme.

Over the course of this term, Kaleb had a range of experiences, which were possible springboards for future learning or interest. This case study is based on analysis of learning around one of these provocations. Working paper D2 provides the details of this journey, which is summarised here.

Kaleb's first introduction to Maui was through the Māori legends. After the homebase had finished listening to and discussing the legends "Maui Slows the Sun" and "The Fish of Maui", the children were given the opportunity to do some art based on these stories. Kaleb chose to take up this springboard opportunity and his interest was evident. Kaleb also opted into a workshop "Exploring Creative Dance" based on "Maui the Explorer" and his interest in Maui continued to grow.

Kaleb identified with Maui and many of his creative movements were based on "being Maui". This learning was documented and the teacher's analysis highlighted the key competencies (see Appendix 7).

At the beginning of Term 4, Kaleb met with his learning advisor (Susie) and parents for his individual education meeting. Together they reflected on the Term 3 and constructed some new intentions based on his interests and needs:

- give things a go
- participate in the dance festival
- invent things
- literacy intention—learn more high frequency words.

Term 4’s concept was “Imagination”. Kaleb opted into workshops and participated in homebase activities around the “Imagination” theme. A dance festival was held in Term 4 and Kaleb performed “Maui the Explorer” at Ngaio Marsh Theatre with the rest of the dance group.

After the dance festival was over, Kaleb came to school one day carrying a sculpture he had made from driftwood. His teacher documented this event in a Learning Story (see Appendix 7). In addition, Kaleb and his mother both wrote Learning Stories about the process of finding the materials and making the sculpture, so this particular event was recorded from multiple perspectives, giving voice to Kaleb, his whanau and his learning advisor.

One of Kaleb’s possible next steps was to run a “Driftwood Sculpture” workshop for the other children in the homebase. To do this, he typed up a letter to parents to ask for assistance and requested that children bring driftwood, shells, feathers and hot glue guns to school. Kaleb set up the space and explained what to do to the other children. He stationed the parents around the homebase and gave them glue guns and safety warnings. Kaleb’s workshop provided a new springboard for his classmates as they participated in creating their own sculptures.

The teachers decided to create a map of where this learning went, analysing where it came from. Photos, texts, videos, planning, and written documents were among the materials used to track the pathway. The analysis focused on the relationship between the individual education meeting, the homebase focus, the workshops, and the direction initiated by Kaleb. This was not a neat, linear process. This co-constructed pathway of learning was criss-crossing, weaving in and out, and re-connecting at various points along the way.

The next stage of mapping involved listing all of the indicators, or cues, under their key competency headings and revisiting all of the Learning Stories relevant to Kaleb and the “Maui” thread. The aim was to see if areas of strength were evident for Kaleb. The mapping showed that in reference to the analysed Learning Stories, this was indeed the case. Rychen (2003) suggested that meeting any objective is likely to require a constellation or interrelated key competencies, relevant to the specific context, and this was evident for Kaleb, with combinations of key competencies and indicators or cues appearing together often. It was also possible to see trends for Kaleb. Common key competency cues used within this co-constructed pathway of learning included:

- exploring and expressing (making meaning)<sup>7</sup>
- interpreting and understanding (making meaning)

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<sup>7</sup> The names of the key competencies used then have changed. “Making meaning” is now *using language, symbols and texts*, “relating” is now *relating to others*, and “belonging, participating, and contributing” is now just *participating and contributing*.



- honouring and respecting Te Tiriti O Waitangi (relating)
- recognising and sharing uniqueness in self and others (belonging, participating, and contributing)
- trusting—self, others, place, and process (belonging, participating, and contributing)

Kaleb’s exploration of the Maui story is an example of his engagement in meaningful relations with: other people, his own prior experiences, a range of ways of representing and communicating his ideas, a number of creative ways of thinking, and communities beyond the school. His work over several months illustrate all five of the key competencies in action.

Looking at the learning over time there was evidence of:

- *Mindfulness or initiative:* The co-constructed pathway for Kaleb documented those aspects of the work on Maui that were initiated by him (a beach sculpture, a workshop): other aspects of the journey were initiated by the IEM, a homebase term focus, or workshops from the term focus (for instance, the dance workshops).
- *Frequency:* There are a number of examples of Kaleb consolidating competencies within each of his learning intentions. He was combining language symbols and text in different ways, relating to others more complexly (negotiating), thinking more creatively (his sculpture), and self-managing (finally planning and managing a workshop on a topic of his interest, related to the Maui focus).
- *Breadth:* The Discovery 1 philosophy takes the learners out into the community in a range of authentic ways, and this co-constructed learning pathway was no different. For example, Kaleb sought the assistance of the families for resources for his construction workshop, and the children’s dance was part of the dance festival.
- *Complexity:* One Learning Story (“Exploring Dance”) records the expanding array of resources that Kaleb and two other children were using in their dance: dance steps, an adult who assisted them to devise ways to remember the moves, the symbols they devised to represent the steps, the negotiation and sharing the lead between the three children. And by the time Kaleb ran his Maui-making workshop, he was orchestrating 34 children and parents.

These four aspects of strengthening are discussed further under “dimensions of strength”.

Exploring continuity for Kaleb highlighted again the role of the teacher and the relationship between teacher and learner. In a later interview Kaleb noted, “if I didn’t know her [teacher] I wouldn’t have been able to do all this stuff” (interview with Kaleb, November, 2005).

The teachers felt the following points were significant: Learning advisors were mindful of the key competencies in planning and in creating opportunities to learn; They were flexible, allowed for spontaneity, and recognised and responded to developing threads of interest; time was allowed for Kaleb to explore and pursue his interests; the learning advisors developed a deep relationship with Kaleb, and there was a reciprocal relationship with Kaleb’s whānau; and Learning Stories were revisited and the learning was celebrated with Kaleb

Similar analysis was carried out for other case study children (Madison and Anton). Nikki described the nature of the co-constructed learning pathways that were evident in the data:

There is no particular process that must be adhered to, nor order to follow. It is unscripted. Each learner is a unique individual. They bring their own set of understandings to a situation. The path they travel will be determined naturally without expectations of compliance.

A CPL [co-constructed pathway of learning] might be sparked by a workshop, an interaction, a curiosity, an interest etc ... it may be sparked at home, at school, up a tree, at the beach etc ... and it could happen at any time.

The process the learner journeys through will be organic and not only involve them but also affect them,

It is open ended and so it may continue well beyond a set course of time. There may be a product or a presentation but it does not necessarily spell the end of the CPL.

There may be no question or hypothesis to start with. The exploration could take the learner to many different places as it evolves, the pathway might twist and curl, go underground and resurface, and end up somewhere quite unexpected. The interest of thread that ties the whole journey together may change too. But every footprint (no matter what direction it goes in) has come from the last. Progression can be found in that set of footprints....

A CPL is like a journey—an exploration journey. The journey may have no predetermined pathway and in fact no destination in sight. Rather it is an exploration of the learning landscape. It is unique to the learner. The learner carves his or her own pathway into the learning landscape. The journey may be fuelled by a variety of things. Passion, curiosity, development and ideas could be some of the driving factors.

Along the way there will be people guiding them, telling stories of terrains they have not yet been to, helping them overcome obstacles and equipping them with the tools they need to navigate their way through the landscape. People will share the journey with them. In this sense the journey is co-constructed. The learning pathway is embedded within the environment. It is entwined with people, places and things.

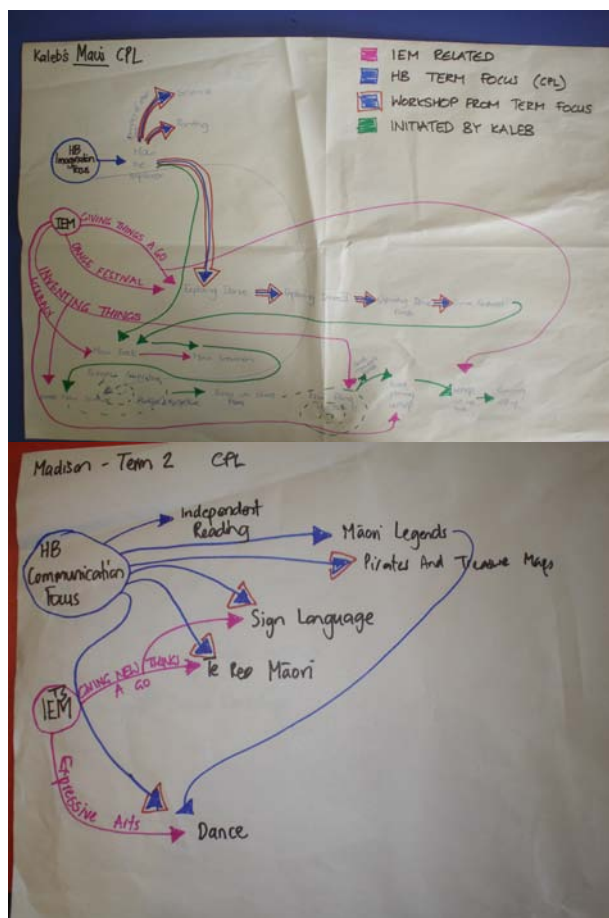
In short, a co-constructed pathway of learning, by nature, is:

- organic—natural process of development
- unscripted—unique pathway
- connected—associated with people, places and things
- open-ended—not restricted by time constraints and may go in any direction
- holistic—considering the whole person.

### *Focus boards: Co-constructed pathways of learning (CPLs) in the homebase*

Initially, the pathways were analysed for individual children. The analysis focused on the relationship between the individual education meeting, the homebase focus, the workshops, and the direction initiated by the child (Figure 6).

Figure 6 Analysis of co-constructed pathways of learning for individual children

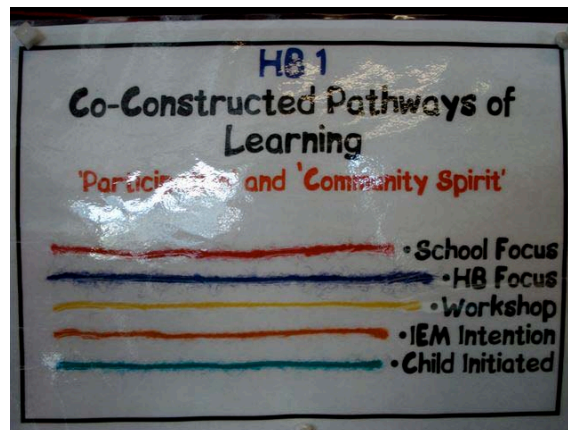


There could be several pathways developing concurrently for each child. In 2007, the teachers decided to document some of the pathways on the classroom wall, using coloured string to indicate what initiated that particular aspect of the journey. The school-wide focus was added as an additional influence. A key feature was the co-construction, drawing on multiple interacting influences, which teachers noted was richer than learning directed by either teacher or child alone. The teachers called these Focus Boards (Figure 7).

As the year progressed the picture built up with a different wall being used each term, and threads occasionally connecting journeys from one term to the next (Figure 8). This public documentation made the continuity visible to teachers, children and families, and assisted in the recall and analogies described in the section on the first research question.



Figure 8 **Focus boards showing continuity**



*“Taking The Plunge”*: Diana’s co-constructed pathway of learning

There were many co-constructed pathways of learning within the overall picture for the class. In 2007, the teacher researchers at Discovery 1 selected one child, Diana, as a case study illustrating continuity in the key competencies over time. This will be written up as working paper D3. Diana’s case study demonstrates the key competencies in action and illustrates the role teachers play in supporting the development and strengthening of key competencies.

At Diana’s individual education meeting in Term 1 2007, as well as intentions for literacy and numeracy, Diana had negotiated intentions that related to the key competencies. These were:

- make good choices for myself when I plan
- express my own ideas, needs, wants, and feelings clearly and listen to those of other people
- demonstrate respect through sharing and co-operating in groups
- discuss what it means to be part of the community, how it functions and how to interact
- identify different communities in our school and our wider community

The term focus for the homebase was “community spirit” and this was part of a school-wide theme of “participating and contributing”. The section on the first research question described how the children were initially introduced to the idea of community spirit and participating and contributing by participating in activities they had not experienced previously (for example, girls playing with blocks, boys dancing). The children discussed what participation looked like and felt like. This introduced the language and ideas associated with the key competency of participating and contributing. After this, when it came time to choose their workshops the teachers first noticed Diana “taking the plunge” as she selected a te reo workshop “because that is something I have never done before” (Learning Story, 20 February 2007).

Diana was an enthusiastic participant at the te reo workshop and other people began to notice and respond to her passion for te reo. Learning Stories from teachers, community members, and families indicated that the intentions of Diana’s individual education meetings were reflected in her learning about the Māori language and culture.

Diana’s willingness to participate in unfamiliar activities was noted again when the class went swimming. Diana drifted in the “lazy river” at the pools and called to her teacher “Look Nikki, I’ve never been in here [the lazy river] before. I’m trying something new”. In a Learning Story about this activity, the integration of key competencies with health and physical education were noted, and her teacher’s analysis highlighted cues relating to managing self and participating and contributing. She commented:

Diana has really taken to the idea of participation, particularly the idea of making the most of new opportunities. In this instance she is engaging in a new activity she has really enjoyed. The lazy river is now a place where Diana can add to her “repertoire of places”. (Learning Story, 9 March, 2007)

The teachers noticed that as Diana found success in trying new things, her motivation to actively participate in new experiences seemed to develop. She also began to write her own Learning Stories about new experiences.

Throughout the term, Diana participated in workshops, homebase experiences and whole-school experiences. Each workshop Diana chose offered challenge, support, and the platform to discover new worlds and vocabularies. The teachers noted that all of these were provocations for future learning or interest. One notable event was Diana’s mother also deciding to “give new things a go”. At school camp Diana’s mother thought about the school-wide focus of participation and volunteered to be a model for the children to paint. She was turned into a colourful fox by six eager children. The teachers documented this, concluding “Congratulations Natalia, for showing us all a fabulous example of participation!”

Another significant moment was Diana’s decision to take part in a school-wide workshop on karate.

Today Diana told me [teacher] she had been thinking about the word participation and decided to try karate for her “making things, doing things” workshop. She said she was the only girl from her Homebase to attend this workshop but thought it was okay because she was trying something new.

She said, “I was a little scared of the kids from other Homebases but then I wasn’t. I kept on doing it and it didn’t make me feel nervous anymore. There is one girl in the karate workshop and her name is Katherine. I remember her from camp. She got her face painted when I was with my mum. That was when we painted my mum.”

*Analysis:* Diana is developing a strong understanding of the word participation. She is doing this by actively exploring what it means to participate. Diana’s risk taking and her sense of belonging is helping her to trust herself and others, even when she feels scared or nervous. (Learning Story, 15 March, 2007)

Her teachers commented that the karate story illustrated Diana’s awareness of how participating can have a positive effect on her life. It reflected the goals of her individual education meeting and shows her using the word and making connections with prior experiences. Self-assessment and reflection can assist learners to make sense of their learning, to see it as continuity, and to be reminded of the context.

Later the teachers commented that Diana was seeking more opportunities to participate, and beginning to create opportunities for other children’s learning and participation. For example, at a dance workshop in May, Diana suggested that the whole group work to become a waka. Together they determined how this should be shaped, how to paddle and how to get into place. This activity required many aspects of the key competencies. After analysing the Learning Stories and studying the key competency cues it was possible to identify areas of strength that were emerging for Diana. The following cues are the ones that emerged most frequently (key competencies in brackets):

- participating and contributing actively in new roles (participating and contributing)
- connecting and engaging with people, places and things and ideas (participating and contributing)
- self motivation/taking responsibility (managing self)
- exploring alternatives (thinking)
- adapting learning to new contexts (thinking)
- interpreting and understanding (using language, symbols, and text)
- exploring and expressing (using language, symbols, and text)

This analysis gave further support to the view that the key competencies are inter-related and that co-constructed pathways of learning are rich sites for the development and expression of key competencies. Diana’s co-constructed pathway of learning illustrated how the key competencies can become part of a learner’s identity, and how these can be strengthened over time. This strengthening is demonstrated in increasing *mindfulness* or *agency* as Diana looked for new opportunities to participate and *breadth* is reflected in the key competencies, especially participating and contributing, being connected to a widening number of places (classroom,

swimming pool, school-wide karate workshop). Teachers noticed the increased *frequency* of Dina's willingness to try things she had not done before. *Complexity* increased (for example, from floating in the "lazy river" to working in a team to develop a dance routine), with later activities showing greater integration of key competencies, and an increasing number of people and ways of thinking involved.

The co-constructed pathways of learning documented in this homebase supported the sociocultural assumption that learners' competence is about participating in a community of learners who can access and develop the resources of self, other people, cultural tools (literacies and ways of thinking), and community (Salomon, 1993), and recognise their purpose over time and place (Sfard, 1998; Greeno et al. 1996; Rogoff, 2003). Continuity across context includes encouraging a "sensitivity to occasion", enabling children to "read" the environment for cues about whether the key competencies are welcome here.

Learning Stories allowed context, process, product, and the inter-related nature of the key competencies to be captured in the documentation. Stories about a person have power to contribute to that person's narratives about themselves and about others (Sfard & Prusak, 2005) and the nature of the stories teachers and others told about Diana helped to foster her willingness to participate and try new things, and she began using the language of the key competencies to talk about herself. Valued learning was made visible. Teachers were noticing and recognising opportunities for teaching; Diana was noticing and recognising opportunities for using her learning. The database that is being developed as part of the project facilitates the management of this rich information, and supports teachers in reflecting on children's learning and their own practice.

## Continuity within and across settings

The following discussion considers four aspects of continuity within and across settings: two individual case studies (Libby and Cameron), continuity in the transition to school, and continuity for a class who had the same teacher as new entrants and for Year 1.

The first case study in the following discussion on continuity within and across settings, is that of Libby, from Aratupu. The case study is discussed in detail in working paper A2. At Aratupu, teachers have a strong social justice agenda and hope children will be empowered to be "appropriately assertive" in future contexts. A favourite saying at the centre is: "We want children to be able to leave this centre, knowing who they are and being confident in standing up for themselves in future education systems and letting others know when their needs are not being met." Libby was chosen as a case study because she seemed to represent what teachers at Aratupu were attempting to accomplish for all children at the centre.

The second case study, Cameron, came from New Brighton. Exploration of continuity at New Brighton led to the insights regarding intentional teachers and intentional learners described under the section that discussed findings relating to the first and second research questions combined. In



analysing the children's portfolios over time, the teachers became aware of the Looking Glass data and the fact that it did not always show them what they expected to see. Despite this it was possible to trace storylines showing continuity for individual children. Like those at Discovery 1, the journeys were co-constructed. Teachers talked about noticing what seemed to be of importance for children and planning possible provocations to extend their learning: "Dangling the worm kind of thing, what would we need to make the children totally engaged in this?" (team meeting, 15 November, 2006). Teachers moved from thinking about what teachers might provide as "what next", and instead became more tentative and open to different possible directions. For example, "I will read him this story and see if he wants to continue with this interest" (Learning Story, February, 2006). Three examples of case studies were written up in working paper NB2. The case study of Cameron, included here, was one of those case studies.

For both Libby and Cameron, it was also possible to track some continuity from early childhood education to school.

The fourth aspect of continuity within and across settings was analysed from two years of portfolio work in Yvonne's class at Parkview. As in the other settings, valued learning was made visible and accessible to children, teachers (and families), which supported continuity in the key competencies.

### *Libby the empowered child*

Data in Libby's portfolios spanned a two-year period (2004–2006) from when she started at Aratupu, just after her third birthday, until she started school. The Learning Stories were analysed with Aratupu's relating framework (relating to self, others, the environment, and bomb stories). A simple grid was developed and the different ways Libby was relating were noted under "relating to self", "relating to others", and "relating to place". This analysis is described in detail in working paper A2, and an example from the grid is included in Appendix 8.

The stories were also analysed, looking specifically at literacy, which was a dominant storyline or thread for Libby. Three broad themes were evident that suggested strengthening of the dispositions. These were: *more mindful*, *more complex*, and *more diverse*.

*More mindful*: One of Libby's great strengths appeared to be communication. Her interest in words and ideas (and of assisting others to "get it right") appears in the "Dark is a Shade" story. Her capacity to integrate imagination with other aspects of communication was a particularly useful tool for making sense of the world. Adding playfulness to communication (expressing her ideas) was part of this, for example in "So Many Choices" (of boyfriend), "You Gotta Take the Bad With the Good", and "The Last Laugh". She was building on communicative routines ("the bad news or the good news first", and the teacher's perfectly judged humour in *The Last Laugh*) in thoughtful and imaginative (mindful) ways. Another example of her integration of imagination with other aspects of making sense of the world appeared in "Why Do Bears Eat Honey".

Libby was taking responsibility in a wide range of different places and activities: taking charge of the teacher's birthday in the "Pinata" story, recognising a new learning for a child in "Goodbye" and sharing it with everyone, serving lunch as "Glenda's Apprentice", and correcting the teacher in "Excuse Me, But It's Not Right". "I Don't Understand, Why Is It Not About Me" is a good example of Libby's disposition to be responsible finally overcoming her difficulty about "why is it not about me" (shifting, finally, from self to others and place).

*More complex:* Libby appeared to become very secure in her (self) identity as a *literacy* learner, a writer, with all the dispositions accumulating and becoming more interconnected. In "Libby the Reporter", she takes on the "identity" of a reporter, and admits that she cannot write: overcoming this difficulty by asking others (the teachers) to write for her (absolutely an example of being in charge of orchestrating the assistance she needs). In "Notetaker", the teacher recognises that the notebook is a significant taonga for her involvement in writing over time (it connects two places perhaps: Aratupu and home, an example also of diversity). "Libby's Name" records her increasing perseverance ("Libby struggled a little and became frustrated trying") and skill (with the wonderful story from her mother describing assistance along the way), and in "Excuse Me But It's Not Right", she is taking responsibility to correct the teacher (also an example of mindfulness). "Libby Gets Interviewed" is a lovely discussion about the notebook and imaginative purposes for writing in it. In other words, Libby's relationships with people place things and self are increasingly connected through her interest in writing.

*More diverse:* "Why Do Bears Eat Honey", "Internet Lady" and "Libby Tells Me As It Is" are also literacy stories, but the literacy is now appearing in a different guise: using books and the internet to find information. The use of media to find knowledge is a more complicated activity, further away from "Libby + notebook + pen". The *place* has widened to include the internet and books at home. Libby is learning what the internet can do. In "Libby Tells Me As It Is", Libby is interested in the comparison between books and the internet, and in this instance she values her remembered book information more than the teacher's internet search (her purpose: not being wrong?). In "Why Do Bears Eat Honey", Libby asks Katie to help her to write down the information that they have found on the internet, combining her interest in the written word with the electronic information. In "Internet Lady", she plays with name and label. You need creativity to cross some of the borders and to make sense of diversity, and there's an example of this: in the "Bear" story she imagines what she would eat if she was a bear. She is having to relate to a range of diverse adults here, a big advantage of the childcare experience.

### *Cameron taking responsibility for his learning*

Cameron attended New Brighton Community Preschool and Nursery between 2004 and 2006. There were a large number of documented assessments for Cameron. These Learning Stories painted a picture of dispositions strengthening across a variety of learning experiences and over time. The teachers noted that storylines were connected together within stories by the teachers, and storylines of emerging interests were foregrounded.

There were several storylines centred on interests. An initial one was food, with a teacher noting that a fruit tasting and naming activity fostered a shared sense of belonging, community and well-being amongst the group of children who participated. Over the following months, Cameron's play in the sandpit and family corner involved making pretend food and sharing with other children.

Later teachers noted Cameron's frequent repetition of the national anthem and haka, both of which he performed regularly between April and July 2005, increasingly as a prelude to rugby play.

Hearing the words of the National Anthem and the haka are fast becoming familiar sounds around the preschool. Cameron's amazing interest and enthusiasm has definitely started rubbing off and more and more children are starting to also become interested in performing the national anthem and the Haka. (Extract, Learning Story, July, 2005)

Several stories in 2006 showed Cameron's interest in building and repair work. On the first occasion he checked if an electrician had come to fix the slide (which was not broken but had been removed from the playground). A teacher noted:

Up to now I had realised how much Cameron must have been missing having the slide around. He was able to link Todd's [electrician's] work van (with a ladder) to that of a repairman and make his own conclusion as to why he was here ... Not only did Cameron have the confidence and ability to converse with me his reasonings but when my explanations did not meet his expectations he was able to directly ask Todd himself (maybe hoping for a slightly different answer). (Analysis, Learning Story, 2006)

Several months later Cameron was observed actively questioning an electrician about his work, he then began using a digger in the sandpit, calling to the workman that he too was doing some building work. On another occasion he created a "concrete" path in the sandpit, calling to other children that the concrete was wet and not to be stepped on. When the contractors finished work at the centre, he drew a teacher's attention to the fact that grasses had been wrongly planted in the vegetable garden and helped to move them to another place.

Dispositions and key competencies appeared to intersect with these interests, and to be strengthened over time. For example, Cameron took more *initiative* in communication and relating to others, and the *range* of people he related to expanded. Initially he stood and observed children before playing alongside them. Teachers recording several instances of his willingness to join unfamiliar children and his circle of peers widened. He also welcomed play initiated by peers, and later took the first steps to inviting play (the ritualised sequence of the haka leading to rugby play was an interesting example of this), opening conversations ("That's where my Dad buys beer" when out on a walk to the mall) and discussing artefacts such as books or portfolios. Gradually his confidence in relating to others seemed to increase, although most of the documented examples were of interactions with adults. In the beginning teachers supported and encouraged his learning, and invited him to help with activities. In Cameron's second year at the

centre, his stories recorded him asking for help and by 2006 he was questioning adults and offering his help and advice.

A dominant disposition in the documentation for Cameron was “taking responsibility”, for his own learning and for setting up and caring for the centre environment. The behaviours which implied taking responsibility were observed more *frequently* over the three years, and he appeared to become more *mindful*, showing initiative as to when it was appropriate to take responsibility. Taking responsibility was mentioned only twice in the first year, increasing over the second year, when for example, he offered to help with the a book selection task that he had previously been invited to assist with, took responsibility for exploring his interest in art, asked for his picture to be hung in the gallery, and cared for worms that were found in the newly dug bark. Cameron “taking responsibility for his own learning” was mentioned in seven of the last 10 stories before he went to school. This included taking responsibility for other people’s learning, when he showed a teacher who had been away how to set up the computer and open a new Word document. He expressed a sense of responsibility for the centre environment, initiating the grasses being moved “They have to come out [of the vegetable patch]” and saying to the teacher after helping to set up outside “Anything else, just ask me okay”.

Literacy, or “using language, symbols and text” was another theme or storyline for Cameron. Over the three years there were examples of him helping teachers to select books and put them on shelves, being read to by adults and other children, and “reading” his learning journey portfolio with another child. There were several instances of him drawing pictures for different purposes; in a notebook, as a reply to a teacher’s email, and to hang on the wall. On one occasion he was part of a group making decisions about how photos of the centre should be displayed. A few months later he took photographs with a teacher, helped to download them onto the computer, and printed and laminate them. By August 2006 he had been practising writing for several weeks. He was able to print several family names and was also extending his writing using the computer, and, as noted above, he could show others how to set up and use the computer (Learning Story, August 2006). With literacy the *frequency* was steady but the range of tools became more *diverse*, he *initiated* more of the behaviours (as opposed to being invited to participate or responding to what was available), and the *complexity* increased.

### *Continuity from early childhood to school*

Although research has identified the *potential* for the transition from early childhood to school to be a powerful site for continuity of learning dispositions (Peters, 2004, 2005), other research suggests that the continuity of some learning dispositions is interrupted during the transition from one curriculum to another (Carr, Smith et al., in preparation). Andrea, the teacher researcher at Aratupu, was interested to explore whether continuity in the learning dispositions/key competencies was evident for Libby, and the New Brighton teachers were able to gain some initial data on this for Cameron.

One of his early childhood teachers went on a school visit with Cameron, and early childhood education teachers also analysed a series of photographs that his mother took of him at school. They noticed that he quickly picked up on the behaviours in the school classroom, such as sitting up straight on the mat with arms folded and legs crossed. He kept going with activities such as writing his name, even when other children moved on to do something else. Cameron's literacy interest and "taking responsibility for his own learning" that were evident in his early childhood stories, appeared, initially at least, to show evidence of continuity at school.

Andrea observed Libby on one of her school visits, the school supplied an annotated photo diary of her first day, and Libby and her mother returned to nursery in the first holidays to talk to Andrea about school. Libby was initially reluctant to discuss her experiences. The observation and the photos suggested she was "fitting in" but was quiet and thoughtful, and perhaps a little anxious. Her mother noted:

Libby is quite different at school than she was here. She is very quiet and doesn't really play with other children much even though I know she has a lot of friends. She likes going to school and of course she quickly does her work and she is good at it. But she is quiet and often has to rest, because she says she has a headache. I think it is her way of making sue she gets attention. (Libby's mother, July, 2006)

When Libby had been at school for just over a year she was willing to allow Andrea to interview her about her experiences. Three aspects of continuity were evident in the interview; Libby's interest in literacy, her enjoyment of helping others, and her willingness to work hard and practice what she wanted to achieve. Although Libby didn't appear to recall very much of her early childhood experience, all of these had also been evident at Aratupu.

Libby's strong interest in literacy in early childhood (discussed earlier) was reflected in her confidence with writing at school. This was an aspect she enjoyed and also felt able to support other children with. Libby brought a school certificate to the interview, which said "Libby is a very caring and friendly girl and she tries hard with writing." Libby explained:

I'm always the first one to finish writing so I get to help the other children to write. They just tell me their stories and I just tell them how to write the letters.... I'm allowed to get out the writing books and I get to help people, well I really just help people when they are hurt. (Interview with Libby, July 2007, p. 1)

Libby also said that she helped the teacher to clean the classroom at the end of the day. Asked what her favourite thing was at school Libby replied:

L: I would probably say help the kids

A: Your favourite thing is help the kids?

L: Yep. (Interview with Libby, July 2007, p. 7)

Libby said she had a gold medal from ballet for working hard. Asked if she worked hard at everything, Libby agreed that she did. Looking through one of her first writing books with Andrea, Libby talked about her writing getting better and better because she practiced:

- A: Look at your clever spelling
- L: (Laughs)
- A: Is this whole book filled up?
- L: Yep it gets better and better
- A: You get better and better and why do think you get better and better?
- L: Because I practise.
- A: Because you practise and where do you practise at?—At school?
- L: At home
- A: And at home, I remember when you were at preschool you used to practise writing at home too, and you still love to write?
- L: Yep. (Interview with Libby, July 2007, p. 4)

One change that was evident was that while Andrea remembered Libby wanting to take leadership roles in the early childhood, Libby said this no longer happened at school

- A: [Talking about a girl Libby used to play with.] ... you used to play together all of the time and you liked to be the leader and she liked to be a leader so sometimes there used to be trouble between the two of you.
- L: (Laughs)
- A: Because sometimes one of you wanted to be the boss and the other one wanted to be the boss. Can you remember that?
- L: Yep. (Laughs)
- A: Yep, does that happen at school sometimes too?
- L: No.
- A: No, do you like to be the boss or the leader at school too?
- L: Mmmm no.
- A: No do you like sit quietly and let others be leaders?
- L: Yes. (Interview with Libby, July 2007, p. 6)

### *Continuity across two years of school*

The portfolios that are kept for each child in Yvonne’s classroom at Parkview School were introduced under the discussion on findings for the second research question. These portfolios set out the progress in reading, writing and mathematics by including samples of the children’s work, often with a comment (for example, about reading level) from the teacher. Progress in key competencies was described in the Learning Stories, in particular in the personalised group stories and the individual stories. The appearance of “mindfulness”, or *agency*, is frequently recorded.

Abby instigated a new role-play; Amber and Abigail used “free choice” time to make books (and tested the market: no-one wanted to buy them for \$600); Amy invented a new version of a Jolly Phonics song (“so we have adopted this new version”) and appoints herself as the monitor who hands out the handwriting books; Brook initiates an “I-spy” game; Max and Mark took responsibility to make the library corner tidy. Mark’s portfolio tracks his increasingly complex interactions with a diverse peer support group (an aspect of increasing distribution across supporting people and resources): when he builds train tracks with Max early in his first year of school the teacher comments “This is the first time I have seen Max play with another child. He usually plays by himself” (She adds: “This demonstrates to me just how important “choosing time” is to these young children beginning primary school”).

In another free choice time, Mark, Liam, and Niko play with the Mobilo: they “negotiated and contributed ideas, shared, explained how the construction worked.” Almost all the portfolios record the children consolidating their competence to “get on with the task”, persevere, take on a new challenge and set themselves a goal, in a range of contexts. The portfolios record too the widening connections with communities of reference: asking at home for information, going on visits, and the invitations to families (usually taken up) to make comments in the portfolios. Lily’s family sent a story from home, dictated by Lily and with photo attached, of the day that she went “Biking Without Trainer Wheels”. Yvonne frequently comments on what might be called “Possible Selves”, an aspect of keeping in mind the wider community: Abby is a librarian, Amy is a song writer, Luke’s stories include the heading “geologists”, Liam, Mark and Niko “see themselves as inventors”, Nadia is an author, “He [Nathaniel] could be a mediator”.

The portfolios frequently comment on the change in children’s learning over time, referring back to earlier entries: “You can see the difference in her output when you compare the previous days’ work with today’s” (Libby). The children do too: Vanessa and Taylor revisited their portfolios and commented on how much they had learned: Taylor compared her handwriting, Vanessa compared her art work. Yvonne suggested that Nathaniel might join a group to look at a rock collection in the school library. She knew he was interested in rocks since reading his early childhood portfolio.

There is an aspect of social justice that appears in these portfolios, made available by the key competencies and the narrative documentation of them. Lily and Amy for instance, are no great shakes at writing and their work samples indicate this. However, their Learning Stories reveal other aspects of their learning. The Stories recorded those leadership activities for Amy, and those activities of “high focus”. She creatively adapted a song, and on two documented occasions her art work as reshaped in form in interesting ways (a drawing and some clay work). Lily, at free choice time, took the lead in a Number Bingo game, encouraged others and praised their effort. On another occasion she was the organiser and the caller for Alphabet Bingo, with another child. She and Amy shared their news, and the teacher commented “Lily was demonstrating that she is able to adapt the task to cater for others’ needs. She ... knew to ask questions to encourage Amy’s participation. Lily’s empathy for others is a great strength”. Lily led the class for hip-hop sessions:

“Lily has a great memory for these dances and is tireless in the performance of them. She teaches by example ... Lily will be a great resource person to maybe lead the creation of other dances”.

## Dimensions of strength

As the project began to explore continuity in the key competencies it became clear that new frameworks for thinking about progression were required. We were aware that some teachers (outside of the project) were keen to level the key competencies, but this did not appear to be helpful as the data showed that they do not necessarily get more “complex” over time, since for very young children they can already be very complex. Nevertheless it seemed important to identify that the storylines and co-constructed journeys included new learning (as well as opportunities to consolidate learning, which Claxton (2007) notes is often overlooked). The case studies of Kaleb and Libby indicate how this thinking developed, and Margaret wrote a paper on “dimensions of strength” in the key competencies in 2006 (working paper G2). This was tested further against subsequent data and refined to provide a four-track framework for strengthening the key competencies.

These tracks can be called: *mindfulness* (as learners begin to “make these practices part of their own identity and expertise”), *breadth* (more wide-ranging contexts, as connections are made beyond any one setting or community) *frequency* (over time), and *complexity* (across mediating resources—including people). These dimensions overlap and intertwine.

### *Mindfulness*

Mindfulness is about learners taking the initiative, not needing a nudge or a prompt; those supports that can be dispensed with (the scaffolding: note that this does not mean all supports or mediating devices) are not now always needed. Children and students begin to teach, nudge and prompt others (Claxton, 2002). They may question some cultural or social givens rather than passively accept them. This might be in one topic or in several. Learners begin to recognise opportunities to take the initiative.

(K)nowing how to *identify, evaluate and defend one’s resources, rights, limits, and needs* is necessary for a family member, a pupil, a patient in hospital, a defendant in court of law, a worker in a firm, or a boxer in the ring. (Perrenoud, 2001 pp. 130-131; emphasis in the original)

The subheading of Philippe Perrenoud’s (2001) chapter on competencies is “How to avoid being abused, alienated, dominated or exploited when one is neither rich nor powerful”. He adds that “being able to form projects is not a minor competency. It is essentially a linkage with life and the world that presupposes a sense of identity, will, energy, and self-esteem, poles apart from shame and depression” (p. 135). This was particularly salient in the view of continuity that was valued at Aratupu, and children running workshops of their own devising at Discovery 1.



### *Breadth*

Breadth is about key competencies being connected to *more than one place*, or to more than one “space”; that is, to social practices and communities outside the classroom or early childhood setting. Helen Haste (2001), also a writer on competencies, asks what competencies are relevant to “finding and sustaining community”, reminding us that “a focus on *outcomes* misses the point that what is being fostered here is the competence *to be part of* a collective community, taking responsibility for that participation and the tasks shared by the community” (p. 111; emphasis in the original). School climate, she notes, facilitates—or impairs—competencies that transfer to other community settings.

### *Frequency*

Frequency means that key competencies are becoming *more frequent over time*, within the same topic or intention. Learning is, in part, about staying with meaningful topics or intentions for long enough to develop sufficient knowledge and situated key competence to provide a robust platform for using this learning in other situations and intentions. Mihaly Csikszentmihalyi (1996) interviewed 91 “creative” people (including 14 Nobel prize winners) and concluded that in their early years innovative thinkers had at least one strongly developed interest (even if this was not the interest that they became known for later in life).

### *Complexity*

Complexity is about key competencies becoming distributed across an increasing number of mediating resources: artefacts of various kinds, people, ways of thinking knowing and representing. It includes recognising how to use these resources for different purposes. In an issue of *Educational Researcher*, on expertise, Robert Sternberg (2003) said:

In our most recent work, we have attempted to go beyond conventional notions of expertise to teach children not only to think well, but also wisely... This work is motivated by the fact that many of today’s current leaders are very intelligent and well educated, but foolish at the same time ... When schools teach for wisdom, they teach students that it is important not just what you know, but how you use what you know—whether you use it for good ends or bad. (p5)

We have commented already that the array of school key competencies can be loosely framed around mediating resources: self and prior experiences, community and funds of cultural knowledge, ways of thinking, language symbols and texts, other people. So this aspect of strength includes some integration across all the key competencies. However, any one key competency can also be characterised by an increasing number of mediating resources (using language, symbols, and texts is an obvious example).

Later we felt that it was possible to summarise these as the ABCD of dimensions of strength for key competencies (and learning dispositions). A = Agency (mindfulness); B = Breadth (breadth); C = Continuity (frequency); D = Depth (or Distribution: complexity).

## Developing a database: The Learning Story Navigator

The teachers found that narrative assessments such as Learning Stories were useful tools for fostering the accumulation of identity stories that supports continuity. Being able to capture spontaneous, authentic moments of learning is one of the benefits of using Learning Stories. Nikki (a teacher researcher at Discovery 1) found that analysing Learning Stories with the key competencies at the foreground helped to build a positive, holistic picture of children as learners in real contexts. Learning Stories also provide an opportunity to look at what the next steps might be.

However, even at Discovery 1 there were mixed messages about what is important learning and how it should be documented, providing another dilemma for teacher reflection. Teachers at both Discovery 1 and Parkview experimented with Learning Stories that were analysed for both learning areas and key competencies.

Tracking continuity was possible but had to be done by hand, and teachers explored ways of facilitating this process. At the beginning of the project teachers at both Discovery 1 and New Brighton were developing databases to store and track Learning Story data. Stories were already being produced electronically and the aim was to facilitate analysis that would enable documentation and navigation of learning journeys. Technical challenges prevented these databases being fully developed, until the expertise of the University of Waikato's Computer Support department was used towards the end of the project. The resulting Learning Story Navigator will be trialled in 2008. The team is confident that the school version will provide a useful tool to support teachers in addressing the challenges of meaningfully documenting the complexity of continuity in both key competencies and learning areas, and in managing and analysing the data they gather. The early childhood version will be based on learning dispositions associated with the strands of Te Whāriki.

## Summary and implications

This section introduced co-constructed pathways of learning, for both individual learners and whole classes, as one way of tracking continuity in learning dispositions and key competencies. Individual stories are located within the "big picture" for the class or centre, and journeys overlap and interweave.

Key competencies are always situated in particular contexts. As Rychen (2003) explained:

The cultural, situational, and other contextual factors frame any given situation and the specific nature of the demands that must be met. A constellation of key competencies, therefore, is a culturally and contextually specific instance of key competencies in response to the specific nature of the demands of the local situation. (pp. 104-105)

Transfer occurs when strategies developed in one situation are translated and adapted into a new context (Rychen & Salganik, 2003), and learners draw on analogies between previously experienced situations and new ones, to guide activity (Rychen, 2003). It is therefore important to

recognise the role played by context, and the value of providing meaningful opportunities for learners to use key competencies. Other studies have begun to explore this too. For example, Boyd and Watson (2006) described key competencies being developed in challenging, personally relevant (authentic) learning contexts, which:

- enabled students to take action on real projects of concern to themselves or society
- gave opportunities for student choice
- gave opportunities for challenging risk taking
- were fun, relevant, and engaging
- were differentiated.

Drawing attention to valued competencies alerts learners to what is valued and appropriate *here* (sensitivity to occasion). If learners appear less disposed to respond in valued ways, teachers should evaluate the opportunities and the messages learners are receiving.

Teachers do not know what contexts students will face in the future, but they can help them to develop “life jackets” or “virtual backpack” with funds of experience and that make them disposed to respond in particular ways (Claxton & Carr, 2004), and reflective qualities that help them to judge what is appropriate in new situations. When learners move to new contexts, ideally they will be met by teachers who recognise and value what students bring with them, and support the continued strengthening of the learning dispositions and key competencies. This will hopefully be facilitated by the new curriculum with its alignment between the strands of *Te Whāriki* and the key competencies for school and tertiary (Ministry of Education, 2007), which give teachers at all levels a similar framework for thinking about learning.

Key competencies call for new methods of assessment, and for new ways of thinking about progression or strengthening over time. This section introduced a four-track framework for thinking about strengthening, which looks at intertwining dimensions of increasing: mindfulness, breadth, frequency, and complexity. The approach taken shifts away from a focus on skills-based learning (and testing) to the more complex equity, justice, social citizenship, and critical learning focus of education, described by Giroux (2003), where teaching is acknowledged as a critical professional practice. Key competencies are complex, and documenting their continuity and strengthening equally so. Rychen (2003) noted, “one natural reaction to complex issues is to make them less complex ... However, such an approach is not only impractical in many ways, but it often impedes a holistic interaction of our understanding of and interaction with the world” (p. 78). She suggested, and this project would agree, that, “the challenge—which must be reflected in key competencies—is dealing skillfully and reflectively with multiple, dynamic and often conflicting aspects and recognizing there may be more than one solution or solution method” (p. 79).

Teachers in this project have shown how they have begun this journey. The curriculum became final in late 2007, and as this report goes to press many other teachers will be embarking on a similar process of exploration. It is important that both time and support are provided for teachers to develop their own pathways. In many ways this reflects the journeys we have documented for

learners. As discussion related to the second research question noted, the resourceful teachers who seemed to work effectively to enhance the key competencies in children, appeared to display the key competencies themselves. Therefore it may be beneficial if professional development on the new curriculum focuses on supporting teachers in fostering their own key competencies and drawing on these when implementing continuity for learners.

## 4. Limitations

In the proposal for this study, we noted that Elizabeth Wood, at Exeter University, was planning a related project in England, and we expected to liaise with this project. Elizabeth Wood spent a study leave at the University of Waikato at the beginning of 2005 but in the end, the English study was not undertaken. Nevertheless the university researchers have shared this work on key competencies with many international colleagues and received valuable feedback on the work.

Geographical distance was a potential limitation as this limited the ease with which the team could spend time together, but was overcome in two ways, through regular visits and using co-ordinators to provide support for teacher researchers between meetings with the university researchers. Email and telephone contact were used between face-to-face meetings. We found that keeping careful notes of the points discussed during meetings, and possible next steps, helped all parties keep on track between visits.

Other potential limitations were also strengths of the project and therefore emerge as issues to be considered, rather than definite limitations. Firstly, the project began prior to the publication of the draft curriculum (Ministry of Education, 2006) and the final curriculum document was not published until late in 2007. Throughout the study the teacher researchers in the three schools were working with the key competencies in their draft form. This was exciting; much of their work contributed to the curriculum consultation process, and being at the forefront of a new development was motivating for many teachers. However, this also had its limitations. A minor one was the changing names of the key competencies which had to be addressed in the data collection, but more importantly some teachers found that colleagues were concerned that the key competencies were only in draft form. The possibility was raised that they may not eventuate, and therefore should not be prioritised at this stage.

Another issue was the project's design and the power sharing that led to teacher researchers having control of the design and direction of the project within their settings. In chapters 2 and 5 we consider the many benefits of this approach, but it did have some possible limitations when university researchers were analysing data they had not gathered.

Teacher time was related to the previous point. Initial estimates of teacher release time did not take into account the fact that teachers would want to become so involved in writing working papers and presenting their findings. This is an important consideration for future projects.

Three teacher researchers in the initial proposal, for a variety of reasons, ultimately did not take part in the final project, but three other teachers joined the project as researchers. Overall we were delighted that the core team remained together throughout.



## 5. Building capability and capacity

The project team comprised 13 people, five university-based researchers (two co-directors and three co-ordinators) and eight teacher researchers. Members of the project team and the institutions and organisations involved are listed in Appendix 10.

Building capability and capacity is a reciprocal process (between university-based researchers and teacher researchers) which:

- builds the capability of researchers to undertake quality research;
- builds the capability of teachers to improve their teaching practice through engaging with the findings of research;
- deepens researchers' understanding of teaching and learning by engaging with teachers; and
- enables teachers to gain expertise as teacher researchers, supported by researchers. (TLRI Overview Document, p. 2)

Towards the end of 2007, all members of the project team (see Appendix 10) were interviewed, with these four topics in mind. In the following discussion, we have combined the first and the last of these.

### **Developing teacher-researchers and building capability to do quality research**

#### Distributing the research leadership

A three-year project develops its own dynamic—power, balance, and pace—and in this project the university researchers wanted to take the time for teacher researchers to take ownership of the direction and the pace. Some of the teacher researchers, looking back, remembered feeling uncertain and uncomfortable that they weren't given enough guidance.

I felt at the beginning lots of bits got started but I wanted to be able to put completion on them and I wasn't doing that so I felt that at the beginning it felt almost like a learner driver when you are putting in the clutch and gig, gig, gig sort of thing...

(W)hen I first got into this project, I was absolutely surprised that I was talking to three gurus and I was expected to give a little information about what was going on... So it was quite a shock to hear "that's absolutely amazing" I would be like "No, no, it doesn't really feel like that. Wait, you guys should be doing everything, not me" ... But then that experience has been brilliant because it has shown our team that if we actually sit down and

take the time and tease it out, and look at it from all different angles, then we actually have got those tools and resources within our team. (Interview with Paula, August 2007)

Erring on the side of mutual discussion and initial support as the teachers found dilemmas and interests that they wanted to pursue was (perhaps) a gamble that paid off with findings that made a difference in the settings, and will, we hope, be of educational value to other teachers. Sally and Margaret, the university-based research co-directors, did not see it as a gamble, however, for a number of reasons. The first is that they had worked with these teachers before, and knew them to be thoughtful, dedicated, and reflective practitioners. The second is that the three co-ordinators, who already had a close relationship with the teachers, were a significant ingredient in the research plan. Thirdly, the requirement of a working paper—authored by the teacher researchers and, in some cases, the co-ordinators as well—from each setting after the first year sharpened the focus, set a direction, and ensured a balance of power. In the following quotation, Keryn, one of the research co-ordinators, refers to ideas about power over (or on), power for, and power with (in Jones, 1986).

There is such a shift from where I have been. That's the beauty of this type of research. It is a much more balanced (pause) it is definitely the power with (pause) stuff than the power over. The outsider ... (T)his research has been the insiders ... deciding their own path, picking their own interest and making their own discoveries about their own practice ... I think it has greater effect in terms of strengthening what goes on in that place... the structure of the project lends itself to that redistributed leadership model which I think is incredibly important. (Keryn, interview August 2007)

Referring to the research at New Brighton, and her role, Keryn talked in 2007 about the layers in the leadership model that emerged. She commented on the way in which Paula (teacher researcher at New Brighton) developed research skills that filtered down to other team members (Nadine and Claire, who developed a project in the nursery); Keryn supported Paula; Keryn and Sue (the other Christchurch co-ordinator who worked with Parkview) supported each other; Keryn was supported by the research co-directors Sally and Margaret; Margaret and Sally supported each other. It was a strong web of relationships, with a parallel web for each of the other settings. Mere (teacher researcher at Rotorua) commented on how much she had learned from research Tina (research co-ordinator): "I've learned so much from her ... I've enjoyed it really. The bottom line is I've enjoyed the challenge and I had to be on my toes, but oh I enjoyed it." Working alongside a more experienced researcher [Margaret] gave Sally valuable insights into project management, which she was able to apply to other studies. Sally also learned a lot from Tina and Mere about working in Māori medium settings and reciprocity in research endeavours. Keryn commented on the benefits of learning "upwards and downwards ... working with more experienced educators helped my understanding and confidence in the process... also learning from the teachers, and understanding what research is to them. Overall I gained more confidence and also saw what I need to learn more about". David Hargreaves (2005) discusses mentoring relationships and the learning for both parties that can occur. Many of the aspects of successful mentoring were evident in the roles and relationships within this project.



Andrea (teacher research at Aratupu) commented that the project changed her view of research:

I always saw research as being a) way too academic for me, but b) a sort of separate project that went alongside, something that wasn't ... that wouldn't have given us this much value to this place. [It was] all of us being on the same page, learning the same things and directing it all ourselves.

Andrea commented: "It's us. It's about us" ... She added that the research "helped us to realise all the things that we were doing were ... had a theory base". She suggested that it would have been useful to know more about research and how research is done at the beginning. Tina too suggested that "maybe just talk through some of the methodologies and stuff like that, maybe the literature: I think that would have helped get our heads around it in the beginning". However, Andrea liked the way it went:

It becomes your own ... if you're so focused and directed in one way and you've been taught one way or taught how it's meant to go, then you don't get the best bits, which are all the ... Little path angles off ... you miss the really good stuff. So I think muddling is the best way ... I think going in blind's quite a good space to be in because you're not apprehensive ... you are apprehensive about where this is going to take you, but you don't have blinkers on and you're just open to anything.

Sally commented that Margaret's support as co-director was important during this "muddling" phase, "because I hadn't worked in this way before, [without Margaret] I know that I would have come in earlier and tried to shape it, and I think it is a dilemma between allowing things to unfold and you get to a much more interesting place, but you've got the tension as a researcher about where it could go." We (Sally and Margaret) talked with Keryn about how we frequently did make suggestions (at meetings and in notes after the meetings) about where the research seemed to be heading and sometimes nothing would happen. Keryn said of those occasions: "They weren't ready for it ... They wanted to prepare and be ready for when you came down (to Christchurch) but they never saw this as 'what will Margaret and Sally think if we haven't done that thing that they said to us last time'".

One of the hazards of working within an approach that respects the situated nature of the research, with five settings, is generalising inappropriately across settings, or generalising too early. When the team got together, they were interested in the similarity of themes across all settings (under the wide umbrella of the research topic). Sally and Margaret, the co-directors, were mindful of this when they tentatively set out a discussion paper entitled "Themes that Weave across the Settings", early in 2007. Keryn was also mindful of this ("not to influence") as she worked with three settings in Christchurch:

... here I am saying "That's great, that's great, it's really such and such", then I say "Hey, hang on, don't say that" because maybe I am making it more similar not them making it more similar... (Keryn)

It's not about ... some clever clogs coming in teaching us something universal. (Andrea)

## Research as a collective enterprise

Nikki (teacher researcher from Discovery 1 School) said that:

this is much more exciting (than the earlier) research that I'd done. [Why is it more exciting?]. I think because I wasn't on my own? Lots of research that I'd done, I was on my own, and didn't have anyone to really bounce ideas off or say 'hey, do you realise this is happening' or talk about the bigger picture... You guys have been able to sort of connect us with that [the bigger picture].

Yvonne (a teacher researcher) made connections between the research project and the collective investigations her pupils were engaged in at Parkview School:

When I'm doing things with my class now, I think "Oh, that's like doing research", and the children are like mini-researchers. [So have you been doing more of that sort of thing?] We have. We started off with just doing web searches ... When children would ask a question, so then every time something came up ... I did a quick look to see what sites were available, and I gave the kids a web quest to do in the computer room. (Yvonne, interview August 2007)

## Moving out of a comfort zone

The comment is sometimes made (Cochran-Smith & Donnell, 2006: see chapter 2) that if insiders are deciding their own path, it is possible for them to avoid challenge and to work within their comfort zone.

The challenge I guess is the difference here is that those people inside are making discoveries they might feel unhappy about or surprised about or they don't feel comfortable with. So that is a relatively new process for some people whereas they might be more used to or wanting to be affirmed ... (Keryn, interview August 2007)

What happened in this project was that discomfort shifted into being an interesting dilemma. Keryn commented that finding ways to understand what they do "came across (as) dilemmas not problems". One of the teacher researchers commented on the attitude in one setting: "... well, here are the areas where we are disappointed and we have to now look at how we can address that and how do we take that challenge on and actually turn it around ... I actually think that if we had started off with a success story we would have all gone 'Oh, look at that, we are doing well'". It is a delicate balance: disappointing discomfort (to be avoided) versus interesting dilemma (to be tackled). What made it possible was trust. For a number of reasons, many of which we could not be sure of, the teacher researchers came to feel safe to turn discomfort into dilemma. The distributed leadership and the relationships were surely a key factor. One of the teacher researchers, planning for ongoing discussions after the project about the quality of their documentations said: "Let's create an environment where the challenge will be taken but it's got to be really, really safe for everybody".

Being a teacher researcher is a disposition: one must be able, but one must also be ready (inclined to make some dents in one's identity as a competent teacher), and willing (sensitive to the

possibility that this place is not perfect, and to the opportunities here for dialogue). Being ready and willing takes strong relationships and time; in hindsight, a number of project team suggested that “being able” could have been considered more directly early in the project: discussing the open-ended and uncertain nature of those approaches to action research where the power is to be shared.

## **Improving teaching practice through engaging teachers with the findings of research**

### **Noticing and recognising differently**

Much of teaching is “in flight”. The teacher researchers in this study commented that because of the findings they were now noticing different aspects of learning and recognising it as relevant to a curriculum that has an interest in learning dispositions and key competencies. One of the projects, changing the language of the dispositions in the New Brighton nursery and therefore changing the practice, required trust that the teachers had a right to do this. Comments as Nadine and Claire reflected on the process included “We felt too cheeky” “It wasn’t our place” but that “the process helped me to understand that actually it is our place”. Using the dispositional language one of them commented: “We have that trust now. We had some curiosity and now trust”. Asked if the process had changed their practice, the comment was made that “it was a huge turning point”:

I just [now] recognise more of children’s learning and then of course I start thinking well how can I, you know, what can I do to help them. (Claire, interview August 2007)

But now, yeah, I guess noticing different things through all the language and talk about dispositions and even just having, being able to talk through them all with you and have your ideas of different things as well which help you to recognise learning that children are doing and how then you can respond to that. And then the next step when we have got the new, some new examples and cues, obviously you see a lot ... a lot more than [before]... now I have a much wider realm of things that I notice and therefore respond to. (Nadine, interview August 2007)

Andrea commented that “if we hadn’t been given this opportunity, I don’t think we’d have even have [realised] that we were interested in relationships”. The key competencies in the school curriculum continue into tertiary and for Sally and Tina it has been valuable to reflect on the ways the messages from the research settings could be applied to their work with university students.

### **Reflection and thinking**

Andrea commented on the development of ways to discuss teaching and learning amongst the team.

The biggest impact the research has had for me, personally, is ... how much of a reflective practitioner and deeper thinker I've become ... I mean, I've been empowered by the project because I've done more than I'd ever be able to do, and I've been able to share that with all the other teachers and the wider Methodist Mission really. [So do you think it's changed people's practice?]. Oh, without a doubt ... especially if you read the third [working] paper. I mean it talks about the unity between teachers, the way we think about things now ... Everything is out in the open. You've got the safety and the confidence and the time to say what you think, and the skills to be able to say it in a way that's not going to devastate people. (Andrea, interview August 2007)

## Modelling

The observations in the project confirmed for Mere her view that, at Rotorua Primary School, “relating to others” is the basis of the other key competencies. She commented on the importance of teachers modelling the key competencies:

They can't be separated so that's the big question for us at the moment. We're still identifying them in their actions that we see ... and we're also trying to use them in our own actions, so that we're fine tuning. I suppose what we're saying [is] that “Yes, we're doing them at Rotorua primary, yes they're holistic but we're trying to fine tune those things by being really conscious of how we model them, how we observe our own actions—and the actions of the learners”. (Mere, interview, December 2007)

She interviewed teachers early in the project and then again towards the end, and noted that a number of them were thinking of ways that they could model key competencies (especially relating to others) for their children.

## Changing the languages

Teaching is also about noticing, recognising, responding, documenting, and revisiting (Kei Tua o te Pae, Ministry of Education, 2004 and 2007) (and planning), and a number of the teacher researchers were interested in developing documentation that was coherent with their philosophy (Dahlberg, Moss, & Pence, 2007; Rinaldi, 2006) and reflected what they knew about the children or pupils in their care. Nikki commented on the use of Learning Stories at Discovery 1 School:

We were using Learning Stories before the project but it really brought it to the forefront of our consciousness so ... it's allowed us to think “well, how can we use this, and how are they good?” and in what ways can they capture children's learning? .... And now the parents are writing them and children are writing them so the breadth of information that we've got is a lot more intense.

[How did it [the project] influence your teaching and your thinking?] It made me feel positive about how I viewed learning, which is nice, and I found a connection to the key competencies, and that is great as well. Sue and I have been able to dialogue and use the vocabulary of the key competencies, so that has sort of given a language, or words to things that maybe we couldn't describe before.

She also talked about how the project had provided her with tools for future learning. In particular a spin-off from her earlier work during the project was the development of an electronic database for Learning Stories. This development continues in 2008 as a collaboration between the University of Waikato and Nikki. She commented on how wonderful it will be to have that tool, to connect key competencies with the learning, and that other teachers might be able to have a tool that they can use if they feel it is appropriate.

Yvonne's work with the project centred on the documentation of key competencies, linking them to Learning Areas through Learning Stories.

I knew what Learning Stories were, but it wasn't until we started doing this project that I really got them into my heart. You [Margaret and Sally] together helped me so much, because I didn't really know what to write about. And we were talking about things that were in my class and you said "You could write that up as a Learning Story" and all of a sudden it just clicked. You know, I just thought "It doesn't have to be highfalutin, it's actually about the really good things that are happening in your classroom". (Yvonne, interview, August 2007)

## **Deepening researchers' understanding of teaching and learning by engaging with teachers**

For the two directors (Margaret and Sally) and the three co-ordinators (Keryn, Tina and Sue: all three of whom are emerging university researchers) this project was also a learning experience.

### **Theoretical understandings**

Margaret says she gained a much richer understanding of the value of "mid-level situated meanings" (Gee, 1997) as an exciting idea for theorising research, and of the value for theory-making of the analogies, metaphors, exemplars and frameworks that emerge so readily from teachers and children. Sally was excited by the potential for addressing many of the challenges for learners revealed in earlier research (for example, Peters, 2004). She particularly enjoyed gaining deeper insights into the complexity of relationships in teaching and learning. There is already a substantial body of literature on this topic but the project offered new insights on children's relationships, which was mirrored in the relationships between teachers in settings and amongst the research team. Tina and Mere set out the tuangi metaphor for teaching and learning, a metaphor that was of great value for making sense of the data in this project—in all settings.

### **Dialogue with a wider community**

Tina has commented on the confidence she developed during the project, to be "out there at conferences presenting". She was writing her PhD during this period, and she said "I've grown as an academic I suppose ... [Without the research relationship with Mere] I'd still be the same, back

in my little cubby hole just writing my personal stuff, not really out there talking to people so...” She added that “I think I’m more informed when I talk theory. I can actually match theories with examples of practice in the classroom and I think, for understanding, that’s key for our undergraduate students and also (for) graduate students too”. Sally also valued the opportunity to work with the data from settings, excerpts from which proved to be powerful tools for teaching and professional development, at a key time, with the draft curriculum being developed moving to final form during the period of the project.

By looking at key competencies and learning dispositions the project opened up communication between the early childhood and school sectors. Both Tina and Mere commented on their learning from the other participants in the project; Mere said that what the early childhood centres brought to the group “has been an eye opener for me”. She commented on the recognition by one of the teachers she interviewed of how the *Te Whāriki* document has the key competencies already from a Māori point of view. Nikki too commented that

it’s helped me to understand better early childhood education and that’s been really positive for me because I didn’t realise that I was so closely aligned to what the early childhood educators thought ...’cos now *Te Whāriki* is another resource that I use as well. (Nikki, interview, November 2007)

Yvonne talked about her increasing confidence at giving presentations. She now has a number of teachers visiting her classroom.

Yes, that [presenting at a TRCC Conference in Hamilton in 2005] was the first time ever, and I had no idea what you were supposed to do or anything. And after that, after I got over the nerves of that, it’s just a great honour to be asked ... And then I’ve sort of come to realise that maybe I am doing things that other people haven’t thought of yet ... and that maybe I have something to share ... I want other teachers to see the value of using narrative assessment and how you can do it.

When Tina reflected back with Mere after one of their conference presentations

One of the characteristics we talked about was that it was important to become multi-lingual when you’re doing a project such as that. And we weren’t referring to Māori and English, we were referring to those plus the academic language plus the classroom and curriculum language and the language of the children as well.

When asked whether the research had influenced her teaching Mere said:

Yes. [In what ways?] I really think now about interacting and teaching and learning. I think for a while there it was “I was the teacher, you are the student” but I’ve kind of moved away from there where we’re one group, one family, and moved aside even although I am teaching five-year-olds ... I kept reminding myself and saying “No, this is reciprocal, it has to be” and both myself and my students need input. So that’s the road I’m travelling on, it’s scary sometimes but I have faith that the really good learning and teaching will come out of that from myself and from my students. So it’s a reciprocal thing. (Mere, interview, December 2007)

## Summary comments

Teacher researchers, co-ordinators, and university researchers all maintained that the project increased their capability and capacity. Perhaps there are three themes here. The first is that there were layers of distributed leadership: the project researched the ways in which, as a consequence of the research, teacher researchers changed or strengthened their practice in order to more faithfully reflect the children's views and intentions. The research enabled all the participants to notice and recognise learning in a different way. This was "mirrored" by the ways in which the university researchers learned from the teacher researchers and found ways to stand aside but still to provide support. A second theme, also about layers, was the notion that teachers need to model the dispositions and the competencies, a theme that emerged in the discussion on findings for the second research question, in chapter 3. The third theme is about language. Learning dispositions and key competencies are fuzzy concepts, and although they are about observable action they are represented by language. Dispositional language is imprecise, situated, personalised and value-laden, unlike much (but by not any means all) of the language of content in Learning Areas. Yvonne, the teacher researcher from Parkview School, commented that she realised that the language of documentation didn't have to be "highfallutin". Nikki, from Discovery 1 School, spoke of using a common language; their research "has sort of given a language, or words to things that maybe we couldn't describe before". Research co-ordinator Tina pointed out that the research highlighted the importance of being multi-lingual—referring to Māori, English, academic, classroom, curriculum, and the language of the children as well.

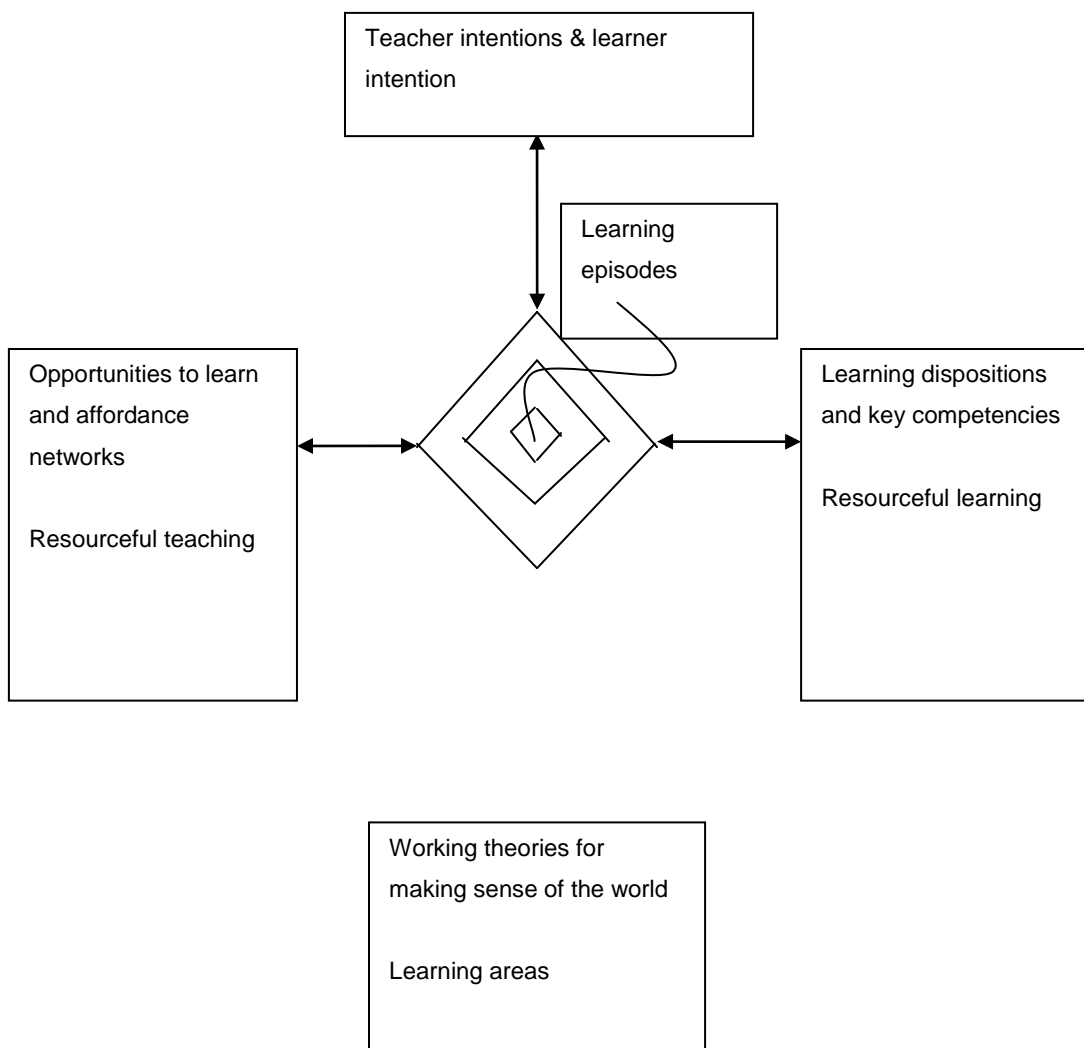




## 6. Conclusions

Figure 9 provides a synthesis of the overall project from the data and ideas that emerged from investigations in the five settings. The diagram illustrates the ecological aspect of the findings: the idea that relationships between the learner and the learning environment are central to an interpretation of key competencies and learning dispositions (see the discussion on the integration of findings for the second and third research questions, in chapter 3). The relationships are dynamic as well: a change in one of the parts changes the others, and each part, although it can be researched on its own, is inevitably connected dynamically with the rest.

Figure 9 **Developing working theories about learning how to learn**



The diagram sets out two axes. We might broadly call these as being about *developing working theories about the world* (in relation to goals and intentions) and *developing working theories about learning how to learn* (using key competencies and learning dispositions to notice recognise and construct network in order to make meaning or develop working theories about the world).

*The centre.* At the centre, telescoping in, are the concrete and finely grained learning episodes (see chapter 2): situations, critical episodes, Learning Stories, projects, or classroom lessons. These were analysed and provided both illustrations of the broader ideas, and data that led to the bigger account. Writing from a perspective of validity theory as situated inquiry, and asking about what evidence education professionals working in different learning environments need, in order to know that students are learning and experiencing adequate opportunities to learn, Pamela Moss and colleagues comment on the value of working from finely grained accounts: concrete experiences and case studies.

As we have argued ... general knowledge claims, when put to work, are always put to work in particular contexts, where evidence of how they shape and are shaped by local practice must be routinely considered. Expertise in complex professional domains does not develop only, or even primarily, through the acquisition of abstract concepts that can be routinely applied ... rather, it develops through concrete experiences that allow us to develop increasingly sophisticated capabilities to respond to (learn from) the always partially unique features that each case represents. Case studies not only illustrate general principles, but they also contribute to theory by expanding our experience and our ability to raise better questions about the next case. (Moss et al., 2006, p. 151)

At the centre too, telescoping out a bit, are dialogues about dilemmas or dissonances, teacher reflections on teaching and learning and planning, and the development of whole-school or whole-centre approaches and values. Data with this focus included teacher discussions, interviews with teachers, and interviews with families. In the everyday life of an early childhood centre or a classroom or a school, these are discussions between teachers and learners (and sometimes families) about concrete examples or experiences. The role of dialogue in all of this is of central importance (Rinaldi, 2006; Mercer & Littleton, 2007). An interesting example of this comes from a theoretical paper by Sfard and Lavie (2005) on learning arithmetic as the development of a specialised discourse. The paper was developed from short conversations (and observations) about number between two 4-year-old children responding to their parents' requests for quantitative comparisons. These discussions, and observations, provide the "mid-level situated meanings" (Gee, 1997) that enable teachers and learners to move their learning forward. In the current project, the teachers spoke about how these meanings were developed in the space between teacher intentions and learner intentions.

James Gee (1997) suggests that a number of these episodes develop specific patterns of experience tied to particular sorts of contexts. These represent mid-level generalizations "not too specific and not too general, not totally contextualised, not totally decontextualised". Gee calls these generalisations "mid-level situated meanings". Writing about the developing understanding of word meanings and concepts, he says:

(Mid-level) situated meanings are, I argue, crucial to learning—without them, learning is either too general or too specific and useless for any critical or deep purposes. Of course, in schooling, many learners are crippled because they either have some induction into a cultural model (theory) without any real feeling for the situated meanings connected to it (this is too general), or they have some feeling for the situated meanings and ability to work with and recognise them in situ, but do not really have much feeling for the larger cultural model that connects and explicates them (this is too specific). (Gee, 1997, p. 243)

Mid-level situated meanings develop from multiple concrete examples or learning episodes and analogies, and enable learners to recognise a pattern in a variety of settings and variations. The literature relevant to them refers to the content in *learning areas* of a curriculum (Gee's 1997 paper was interested in concepts about text and word meanings; Barab and Roth, 2006, write about understanding erosion; Wagner, 2006, writes about mathematical "big ideas" in this way). This research looked for the development of "mid-level situated meanings" associated with *key competence and learning disposition* and explored the ways in which children were constructing these meanings. Teachers in the current project described this building up of key competencies and learning dispositions from concrete experiences in a range of "mid-level situated meanings": as *co-constructed pathways* of experiences where children follow particular intentions, as *storylines* that are re-presented in portfolios of learning episodes and examples of work, and as the journey towards becoming a member of, *belonging to*, the cultural community of a classroom, school or early childhood setting—with its unique values, relationships and opportunities to learn. Data bases of Learning Stories over time were developed to manage the appraisal and interpretation of storylines. They spoke too about *the integration of learning areas with key competencies* as key competencies and learning areas move forward together.

Telescoping out further, some of these discussions develop working theories about learning how to learn—and teaching that learning—that deepen understandings or interrupt traditional ways of doing things. An example of this was the tuangi metaphor for the symbiotic (symbiosis in the Greek derivation as a "living together") relationship between *akonga* and *kaiako*. Collaborative discussions within and across sites in a research project are particularly rich opportunities for developing these working theories. The line between mid-level situated meanings and working theories is blurred. Our interpretation of the difference between them is that in mid-level situated meanings the concrete episodes are central to the meaning-making and the dilemmas are specific to those episodes; in working theories the meanings are still tethered to the concrete but as exemplars and analogies. A working theory is more likely to recognise the dynamic wider system of which the exemplars are part.

## **Emerging issues and recommendations for further work**

Learning dispositions and key competencies are not only skills. They include inclinations and sensitivity to opportunities to learn. Therefore they are "fuzzy", not easy to define, and shared mid-level situated meanings will need to be facilitated. Unless these meanings are co-constructed

by teachers and learners and reified (made available and transparent in documentation and wall charts for instance) in some way, the key principle behind the development of these dispositional outcomes—that learners will become able to take responsibility for their learning and will be able to navigate their way across boundaries of content and culture—will be threatened.

The discussions that these shared and situated meanings will be facilitated by research with teachers, and by research-based frameworks, resources and exemplars. They will also require opportunities for teachers and learners and families to hold these discussions in ways that “distribute” the expertise and acknowledge funds of knowledge or “virtual backpacks” that teachers, learners and families bring.

In research in this area, there are balances to be struck. Balances include those between: finely grained case studies and widely collaborative directions; research driven by external researchers or led by teacher researchers, research on current topics of national interest or wider topics to do with education in its widest sense. There is no “right balance”, and this project has skated from one end of the balance beam to the other on each of these issues. However, it is our view that when the research is based primarily on teachers’ lived experiences of teaching and dilemmas that are interesting to them, the research findings are most likely to speak to other teachers. Relationships and trust are key features of teaching and learning, and they were key features of this action or practitioner research as well.

In this project the teachers were already interested in key competencies and learning dispositions; they had been working on them before the project began. This will not be the case for all teachers, and “ready-made” definitions and formats may take them into a comfort zone that will not necessarily be the best option for learning and the key principle about responsibility and navigational expertise that underlies these dispositional outcomes. Discussion and dialogue within settings cannot be bypassed.

Following from these issues, one recommendation is that further research would be valuable on the opportunities for teachers and learners and families to hold discussions about education—and learning competencies in particular—in ways that “distribute” the expertise and acknowledge funds of knowledge that teachers learners and families bring.

## **Recommendations for the TLRI**

Time: a three-year-project can enable teacher researchers to be theory-builders and competent analysers of data on their own practice—with support from external researchers and co-ordinators. But this is not a research model for everyone or every topic, and it may work most successfully in three-year projects.

There are a number of options in a TLRI to do with the balance of power between teacher researchers and university researchers. But the team should decide what kind of a balance is to be struck, and some early discussions of research methodologies in this sense might be useful.

It is good if a TLRI is researching issues of great moment in terms of current policy, if they are “ahead of the game”, but they do run the risk of policy changes during the project. This project was centred on a policy issue of great moment (the new curriculum), but it took the topic into a wider space as well. Projects will consider the balances outlined in this section as “emerging issues and recommendations”.



# References

- Anderson, G., & Herr, K. (1999). The new paradigm wars: Is there room for rigorous practitioner knowledge in schools and universities? *Educational Researcher*, 28(5), 12–21.
- Barab, S. A., & Roth, W-M. (2006). Curriculum-based ecosystems: supporting knowing from an ecological perspective. *Educational Researcher*, 35(5), 3–13.
- Bergum, V. (2003). Relational pedagogy. Embodiment, improvisation and interdependence. *Nursing Philosophy*, 4, 121–128.
- Bishop, R. (2001). Changing power relations in education: Kaupapa Māori messages for mainstream institutions. In C. McGee, & D. Fraser (Eds.), *Professional practices of teachers*. Palmerston North: Dunmore Press.
- Bishop, R., Berryman, M., Tiakiwai, S., & Richardson, C. (2003). *Te Kōtahitanga: The experiences of Year 9 and 10 Māori students in mainstream classrooms*. Wellington, New Zealand: Ministry of Education, [www.minedu.govt.nz/goto/tekotahitanga](http://www.minedu.govt.nz/goto/tekotahitanga)
- Bishop, R., & Glynn, T. (1999). *Culture counts: Changing power relations in education*. Palmerston North: Dunmore.
- Boyd, S., & Watson, V. (2006). *Shifting the frame: Exploring the integration of the key competencies at six normal schools*. Wellington: New Zealand Council for Educational Research.
- Bronfenbrenner, U. (1979). *The Ecology of human development*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U., & Morris, P. A. (1997). The ecology of developmental processes. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (5th ed.) (pp. 993–1029). New York: John Wiley.
- Carr, M. (2001). *Assessment in early childhood settings: Learning stories*. London: Paul Chapman.
- Carr, M., & Peters, S. (2005). *Te Whāriki and links to the New Zealand curriculum. Research project*. Final report to the Ministry of Education. Hamilton: University of Waikato.
- Carr, M., May, H., Podmore, V., Cubey, P., Hatherly, A., & Macartney, B. (1999). *Learning and teaching stories: Action research on evaluation in early childhood*. Final Report to the Ministry of Education. Wellington: New Zealand Council for Educational Research.
- Carr, M., Smith, A. B., Duncan, J., Jones, C., Lee, W., & Marshall, K. (in preparation). *Learning in the Making: Disposition and design in the early years*. Rotterdam: SensePublishers
- Clarkin-Phillips, J. (2007, December). *Distributing the leadership: A case study of professional development*. Paper presented at the NZARE Annual Conference, Christchurch.
- Claxton, G. L. (2002). *Building learning power: Helping young people to become better learners*. Bristol: TLO.
- Claxton, G. (2007.) *Powerful little learners: Preserving and expanding young children's capacity to learn*. Keynote address presented to the Early Excellence Conference, Huddersfield, November.
- Claxton, G., & Carr, M. (2004). A framework for teaching learning: The dynamics of disposition. *Early Years*, 24(1), 87–97.

- Cochran-Smith, M., & Donnell, K. (2006). Practitioner inquiry: Blurring the boundaries of research and practice. In J. L. Green, G. Camilli, P. B. Elmore, A. Skukauskaitė, & P. Grace (Eds.), *Handbook of complementary methods in education research* (pp. 503–518). Washington: AERA & Mahwah NJ: Erlbaum.
- Costa, A. L., & Kallick, B. (Eds.). (2000). *Assessing and reporting on habits of mind*. Alexandria, VA: Association for Supervision for and Curriculum Development.
- Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: HarperCollins.
- Cubitt, S. (2006). The draft New Zealand curriculum. *Curriculum Matters*, 2, 195–212.
- Dahlberg, G., Moss, P., & Pence, A. (2007). *Beyond quality in early childhood education and care: Postmodern perspectives* (2nd ed.). London: RoutledgeFalmer.
- Dweck, C. S. (2006). *Mindset*. New York: Random.
- Fulcher, L. (2007, April). *Keynote Address*. International Transitions Research Conference. University of Strathclyde, Glasgow.
- Gee, J. P. (1997). Thinking, learning, and reading: The situated sociocultural mind. In D. Kirschner & J. A. Whitson (Eds.), *Situated cognition: Social, semiotic and psychological perspectives* (pp. 235–259). Mahwah, NJ: Lawrence Erlbaum.
- Gee, J. P. (2003). Opportunity to learn: A language-based perspective on assessment. *Assessment in Education*, 10(1), 27–46.
- Giroux, H. A. (2003). *The abandoned generation: Democracy beyond the culture of fear*. Basingstoke: Palgrave Macmillan.
- Greeno, J. G., Collins, A. M., & Resnick, L. B. (1996). Cognition and learning. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 15–46). New York: Simon & Schuster Macmillan and London: Prentice Hall.
- Hargreaves, D. (2005). *Personalising learning—mentoring & coaching, and workforce development*. London: Specialist Schools and Academies Trust.
- Hargreaves, A., & Moore, S. (2000). Educational outcomes, modern and postmodern interpretations: Response to Smyth and Dow. *British Journal of Sociology of Education*, 21(1), 27–42.
- Haste, H. (2001). Ambiguity, autonomy, and agency: Psychological challenges to new competence. In D. S. Rychen, & L. H. Salganik (Eds.), *Defining and selecting key competencies* (pp. 93–120). Seattle: Hogrefe & Huber.
- Hemara, W. (2000). *Māori pedagogies: A view from the literature*. Wellington: New Zealand Council for Educational Research.
- Hipkins, R. (2006). *The nature of the key competencies: A background paper*. Wellington: New Zealand Council for Educational Research.
- Holyoak, K., & Thagard, P. (1996). *Mental leaps: Analogy in creative thought*. Cambridge Mass.: MIT.
- Inagaki, K., & Hatano, G. (1987). Young children's spontaneous personification as analogy. *Child Development*, 58, 1013–1020.
- Jones, E. (1986). *Teaching adults: An active learning approach*. Washington: National Association of Young Children.
- Kamler, B., & Comber, B. (2005). Designing turn-around pedagogies and contesting deficit assumptions. In B. Comber, & B. Kamler (Eds.), *Turn-around pedagogies: Literacy interventions for at risk students* (pp. 1–13). Newtown, Australia: Primary English Association.
- Kelly, P. (2006). What is teacher learning? A sociocultural perspective. *Oxford Review of Education* 32(4), 505–519.



- Kemmis, S. & McTaggart, R. (2000). Participatory action research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed.) (pp. 567–605). London: Sage.
- Lave, J. (1996). Teaching, as learning, in practice. *Mind, Culture, and Activity*, 3(3), 149–164
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.
- Macfarlane, A., Glynn, T., Grace, W., Penetito, W., & Bateman, S. (2008). Indigenous epistemology in a national curriculum framework? *Ethnicities*, 8(1), 102–127.
- Macfarlane, A. (2007). *Discipline, democracy, and diversity: Working with students with behavioural difficulties*. Wellington: NZCER Press.
- McChesney, J. (2004). *Number sense in a secondary school context*. Doctoral thesis. Hamilton: University of Waikato.
- Metge, J., & Kinloch, P. (1978). *Talking past each other: Problems of cross cultural communication*. Wellington: Victoria University Press.
- Ministry of Education. (1996). *Te Whāriki. He Whāriki Mātauranga mō ngā Mokopuna o Aotearoa: Early Childhood Curriculum*. Wellington: Learning Media.
- Ministry of Education. (2002). *Curriculum stocktake report*. Wellington: Ministry of Education.
- Ministry of Education. (2006). *The New Zealand Curriculum. Draft for consultation*. Wellington: Learning Media.
- Ministry of Education. (2007). *The New Zealand Curriculum*. Wellington: Learning Media
- Ministry of Education. (2004 & 2007). *Kei tua o te pae. Assessment for learning: Early childhood exemplars*. Wellington: Learning Media.
- Moss, P. A., Girard, B. J., & Haniford, L. C. (2006). Validity in educational assessment. In J. Green, & A. Luke (Eds.), *Review of Research in Education 30*, 109–162.
- Perkins D. N., Jay, E., & Tishman, S. (1993). Beyond abilities: A dispositional theory of thinking. *Merrill-Palmer Quarterly*, 39(1), 1–21.
- Perrenoud, P. (2001). The key to social fields: Competencies of an autonomous actor. In D. S. Rychen, & L. H. Salganik (Eds.), *Defining and selecting key competencies* (pp. 121–150). Göttingen: Hogrefe & Huber.
- Peters, S. (2003). “I didn’t expect that I would get tons of friends ... more each day”: Children’s experiences of friendship during the transition to school. *Early Years: Journal of International Research and Development*, 23, 45–53.
- Peters, S. (2004). *“Crossing the border”: An interpretive study of children making the transition to school*. Doctoral thesis. Hamilton: University of Waikato.
- Peters, S. (2005). Making links between learning in early childhood education and school using the “key competences” framework. *Teachers and Curriculum*, 8, 9–15.
- Peters, S. (in press). Responsive, reciprocal relationships: The heart of the Te Whāriki curriculum. In J. Moyles (Ed.), *Learning together in the early years: Relational pedagogy* (pp. 24–35). London: Routledge.
- Pollard, A. & Filer, A. (1999). *The social world of pupil career: Strategic biographies through primary school*. London: Cassell.
- Rinaldi, C. (2006). *In dialogue with Reggio Emilia: Listening, researching and learning*. Routledge: Oxford.
- Ritchhart, R. (2002). *Intellectual character: What it is, why it matters, and how to get it*. San Francisco: Jossey-Bass.
- Rogoff, B. (2003). *The cultural nature of human development*. Oxford and New York: Oxford University Press.

- Rutherford, J. (2005). Key competencies in the New Zealand curriculum: Development through consultation. *Curriculum Matters, 1*, 210–227.
- Rychen, D. S., & Salganik, L. H. (Eds.). (2003). *Key competencies for a successful life and a well-functioning society*. Göttingen: Hogrefe & Huber.
- Rychen, D. S. (2003). Key competencies: Meeting important challenges in life. In D. S. Rychen & L. H. Salganik (Eds.), *Key competencies for a successful life and a well-functioning society* (pp. 63–107). Göttingen: Hogrefe & Huber.
- Salomon, G. (Ed.). (1993). *Distributed Cognitions: Psychological and Educational Considerations*. Cambridge: Cambridge University Press.
- Sammons, P., Siraj-Blatchford, I., Sylva, K., Melhuish, E., Taggart, B., & Elliot, K. (2005). Investigating the effects of pre-school provision: Using mixed methods in the EPPE research. *International Journal of Social Science Methodology, 8*(3), 206–224.
- Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher, 27*(2), 4–13.
- Sfard, A., & Prusak, A. (2005). Telling identities: In search of an analytic tool for investigating learning as a culturally shaped activity. *Educational Researcher, 34*(4), 14–22.
- Sfard A., & Lavie, I (2005). Why cannot children see as the same what grownups cannot see as different?—Early numerical thinking revisited. *Cognition and Instruction, 23*(2), 237–309.
- Shulman, L.S., & Shulman, J. H. (2004). How and what teachers learn: A shifting perspective. *Journal of Curriculum Studies, 36*(2). 257–271.
- Siraj-Blatchford, I., Sylva, K., Taggart, B., Sammons, P., & Melhuish, E. (2002). *EPPE Technical paper 10—Intensive study of selected centres*. London: University of London Institute of Education.
- Sizer, T. R. (1992). *Horace's school: Redesigning the American high school*. Boston: Houghton Mifflin.
- Smith, A. B., Taylor, N. J., & Gollop, M. M. (Eds.). (2000). *Children's voices: Research, policy and practice*. Auckland: Pearson Education.
- Sternberg, R. J. (2003). What is an “expert student”? *Educational Researcher, 32*(8), 5–9.
- Valle, A., & Callanan, M. A. (2006). Similarity comparisons and relational analogies in parent-child conversations. *Merrill-Palmer Quarterly, 52*(1), 96–124.
- Wagner, J. F. (2006). Transfer in pieces. *Cognition and instruction, 24*(1), 1–71.
- Wenger, E. (1998). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.

# Appendices



## Appendix A: Lucas's learning story

<p><b>Thinking</b></p> <p><input type="checkbox"/> questioning &amp; exploring alternatives</p> <p><input type="checkbox"/> thinking imaginatively</p> <p><input checked="" type="checkbox"/> choosing right strategy for situation and self</p> <p><input type="checkbox"/> reflecting &amp; evaluating</p> <p><input type="checkbox"/> adapting learning to new contexts</p>	<p><b>Learning Story</b></p> <p><b>Name:</b> Lucas Walmisley</p> <p><b>Date:</b> 11 August 2005</p> <p><b>Kaupapa:</b> numeracy session</p> <p><b>Written by:</b> Nikki O'Connor</p>
<p><b>Making meaning</b></p> <p><input checked="" type="checkbox"/> exploring &amp; expressing</p> <p><input checked="" type="checkbox"/> interpreting &amp; understanding</p>	<p><b>Learning Story</b></p> <p>The numeracy adviser, Viv, came to visit us and do a maths session with us. When she had finished with Lucas' group I asked the tamariki to say 'Kia ora' to Viv for coming to help us. The tamariki all said 'Kia ora' and Lucas followed it up by saying "Nikki, I would like to sing Viv a waiata to say thank you." He was very keen and excited to do this. Unfortunately he was unable to do so due to Viv's time restraints.</p>
<p><b>Managing self</b></p> <p><input type="checkbox"/> experimentation</p> <p><input type="checkbox"/> persisting</p> <p><input type="checkbox"/> risk-taking</p> <p><input type="checkbox"/> knowing self as learner</p> <p><input type="checkbox"/> taking responsibility for learning</p> <p><input type="checkbox"/> planning</p>	<p><b>Analysis</b></p> <p>Lucas found a way of thanking Viv that reflected our Homebase culture. On several occasions we had sung waiata to say thank you and Lucas had obviously remembered this. He was also acting within the wider context in acknowledging Viv. Choosing to sing a waiata also shows respect for tikanga Māori and demonstrates Lucas' ability to find an appropriate way of choosing to thank somebody.</p>
<p><b>Relating</b></p> <p><input type="checkbox"/> honouring &amp; respecting self as a unique indiv...</p> <p><input checked="" type="checkbox"/> honouring &amp; respecting Te Tiriti o Waitangi</p> <p><input checked="" type="checkbox"/> honouring &amp; respecting others</p>	<p><b>Possible next steps?</b></p> <p>Lucas could lead a Homebase waiata in the future when we have visitors to thank.</p>
<p><b>Belonging, participating &amp; contribution</b></p> <p><input type="checkbox"/> recognising &amp; sharing uniqueness in self &amp; others</p> <p><input type="checkbox"/> trusting (self, others, place &amp; process)</p> <p><input checked="" type="checkbox"/> acting within the bigger picture/wider context</p> <p><input type="checkbox"/> caring for environment</p>	



# Appendix B: Examples of the key competency, *relating to others*

The following are three examples of from Rotorua Primary School of the key competency “relating to others. The examples are from the school’s second working paper (R2).

## 1. Nga Ture

In the following episode, three boys are playing with a jigsaw puzzle, attribute blocks and dice. They are playing independently, but are working beside each other on the mat. The boys are in year zero to one in a Māori medium classroom.

### IN THE CLASSROOM

Tawera: “Whaea, Eru has taken the dice away.”

Eru looks down at the ground. Tawera begins teasing Eru. Eru’s eyes fill with water and he begins to sob.

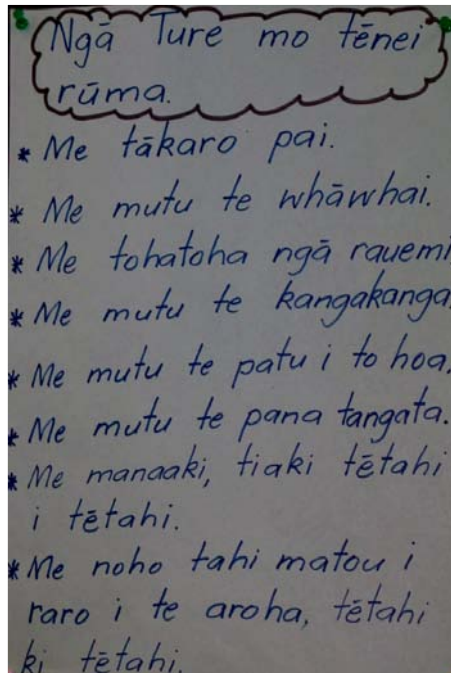
The teacher walks over to Eru and points to the board that has the classroom rules on it.

The teacher asks “He aha tētahi o ngā ture o te ruma?” (What is one of the rules of the classroom?)

The teacher points to one of the rules on the board and reads it out aloud, “Me noho tahi matou i raro i te aroha, tētahi ki tētahi . Learn to share Eru.”

The teacher reiterates “mahitahi, kei te pai ” (work co-operatively) as she walks away from the group.

Figure A1 The rules of the classroom



In this example, the teacher takes an active role in gently reminding Eru about the rules of the classroom and how to relate to others. She asks “He aha tetahi on nga ture o te ruma ? What are the rules of the classroom?” Pointing to one of the rules she says “Me noho tahi matou i raro i te aroha, tetahi ki tetahi. We work together as one with love.” This is one example of the way the competency of relating to others is strengthened in the classroom setting, with the teacher taking the direct lead.

## 2. An ethic of care (manaaki)

BEFORE SCHOOL

Janelle : “Whaea!”

The teacher turns around and looks at the two girls entering the classroom.

Janelle : “Whaea, she tripped over!”

Teacher walks over to the two girls who are now standing just inside the door.

Janelle turns to Desiree and kisses her on the forehead and then leaves the classroom.

The teacher sits down on a chair and Desiree climbs on her knee. They awahi (hug) each other.

Teacher: I aha koe?” (What happened?)

Desiree : I (E) trip” and shows the teacher her grazed knee.

Teacher: Haere mai, māku e whakapai i tō waewae. (Come with me, I will make your leg better)”

Desiree nods her head. The teacher stands up and leads Desiree out the classroom to the sick bay.

The key competency of relating to others came through once again in this classroom example. This episode took place before the beginning of the school day. Janelle, a Year 6 student in the Māori/bilingual stream, escorts her sister Desiree a year zero student in the Māori/bilingual stream into the classroom. The researchers at Rotorua Primary comment as follows:

In this episode, Janelle demonstrates an ethic of care (manaaki) . She appears to be concerned for the welfare of her younger sister and escorts her to the classroom. She gains the attention of the classroom teacher ,and before she leaves the room she kisses Danielle on the forehead - demonstrating the value of aroha (love) . The teacher gives Danielle a warm embrace and they talk about what has happened.

So as you can see once again, a lot of emphasis is placed on the competency of relating to others, with both the teacher and the students taking an active role here.

## 3. Relationships across settings and age groups

In the next example, three children (all girls) are playing on the adventure playground. Wendy and Ann are from the English stream and Jan is from the Māori medium stream. Ann is Year 2, Jan is a Year 3 and Wendy is Year 1 (5, 6 and 7 years old). It is not uncommon to find children from the English medium stream and those from the Māori medium stream playing together. This is encouraged.

IN THE PLAYGROUND

Wendy swings across the low beams.

Wendy : “You know my name?”



Jan: “No.”

Ann: “Ann, ruma 3”...

Wendy: “Can you do that?”

Jan : “Yeah, washing machine.”

Wendy watches Jan and Ann, doing the washing machine.

Jan: “I can show you, come over here.”

They go to the lower bar, Jan holds Wendy but Wendy wants to get down.

Wendy: “I’m scared.”

Jan and Wendy return to the bar to try again.

Jan: “ Like this.”

Wendy: “Stop, down” ( meaning hang upside down by your legs and let your head drop).

Jan laughs: “Can you do this?”

Jan is still hanging on the bar by her legs.

Wendy calls: “Stop down.”

Jan upside down on bars, hair hangs down.

Wendy moves over to Jan and strokes her hair.

Bell rings, Jan drops down from the bars and they both walk away to class.

In this short episode, Wendy who is five draws on all the resources available to her to establish a relationship with some new friends. She asks the older students—do you know my name? Ann responds with her correct name and room number. She responds using Māori words which is interesting as she is in the English medium stream. Jan takes on the role of a teacher or more skilled peer , scaffolding Wendy’s skill development on the bar. She demonstrates aroha and manaaki (an ethic of care) when she puts Wendy back on the ground after Wendy says that she is scared. Wendy shows an ethic of care towards Jan by stroking her hair while she is hanging upside down on the bars. This episode demonstrates that the children are enhancing the key competency of relating to others all on their own.

Once again the competency of relating to others is coming through strongly in the actions of the children.



## Appendix C: Knowing self, knowing others, knowing place

*Knowing self* is about recognising who you are, where you have come from, and what you have to offer the wider world. It is about being proud of who you are, liking yourself, and feeling confident that you are making a valued contribution to those around you and the wider world. We want to instil in children that the most important person in their lives is themselves. That they are taonga and that no matter what their outside circumstances may be, they are important and they do have an enormous amount to offer. We want children to know that they have a voice, that they will be heard, and they will be listened to. To achieve this we believe children need to be aware of where they came from, their whakapapa that brought them here. Whakapapa is a valued concept within te ao Māori and we believe this is inherent in all children.

*Knowing self* is also about knowing what your strengths are and about how, and when, to utilise them. It relates closely to personal rights, self-justice and choice.

A personal theory of mine is that children are born with resilience; we do not create resilience in children, that in fact, if anything society destroys this reliance. It is therefore, our role to guide and nurture this resilience in children. Not that we will wrap them up in cotton wool and pretend that everything in life is rosy, because we know it's not. However, we will provide an environment where children will have the dispositions and strategies to deal with everything they encounter, the good and the bad. That sometimes you will be crushed and that's how life works, but you can deal with it, because you know there are lots of good things in life too. I believe that this is the grounding that all children need to succeed in life. They need to know that people care and can empathise with them and people value them from the moment they are born. (Andrea)

*Knowing others* is about being able to transfer those dispositions that have helped children to discover themselves to relating with others. It is about children understanding one another, caring for each other, respecting each other, supporting each other and working together to achieve common goals. We often say teachers are the best resource for children within an early childhood environment, we also understand that children are a valuable resource for each other and adults within all environments. If teachers listen, and observe and provide opportunities for children to explore together, than they can achieve anything. *Knowing others* means a child can choose different children to interact with for different reasons. For example, today I will play with Molly, because I know that Molly is a great leader in play, and today I feel like hanging back and being directed in my play. Whereas, in another situation, a child knows that they have the ability to nurture a new child at the centre, so will choose to support this child in settling into this new environment. This does not happen without support from adults, without clear role modelling or the time to experiment, which leads us to our third key factor, *Knowing this place*.

*Knowing this place* is about the children coming to understand these parts of the *fabric* and their role in constructing and strengthening this. How this place is different from, or similar to, other places the

child knows, and the connections they make between these environments is valued here. At Aratupu we position adults as part of the environment. Adults are therefore connected to 'place'. *Knowing this place* is connected to community too, and is about the children understanding their place and role within the centre community. This layer is about knowing when the time is right to step in or step up. It is about knowing you are valued and that you can make an authentic contribution to what goes on here. Whether it is that the children know they can take the lead at a group time, or that they can take responsibility for the settling in of a new child. What is equally important is that the children know the adults here respect their contributions too. An early childhood centre is a cultural setting made up of practices, routines, rituals, expectations, and history that are unique to the setting and those within it. The members of the community that the centre represents will recognise many of these traits, while others may go unrecognised because these are subtler in how they make up the fabric of this place.

We also believe that a relationship to, and respect for, the physical environment is important for all children here. We believe you cannot know yourself without knowing about how you relate to the physical environment. The physical environment of the centre together with the features and stories of the wider community is part of knowing this place.

## Appendix D: Teacher strategies—Aratupu Preschool and Nursery

- Conversing with children
- Giving children the time they require – hand the lead to the children – give children chance to express themselves, letting them ‘give things a go’.
- Offering suggestions to children for how to participate
- Using humour with children
- Using dramatic/fantasy play – work in the children’s zone – naturally transition between real and fantasy
- Helping children make connections to other environments, other people and the wider world by inviting outsiders into the centre through excursions
- Encouraging children to discuss/share experiences from outside the centre spontaneously, planned as an individual or group
- Exploring possible next steps for children’s learning, but also let children decide what next – having goals for children or celebrating learning (sometimes these are goals for teachers not the child) or extension of their lead (bulking up the next step, exploring different avenues, making it wider, opening it up or learning in a different way.
- Documenting stories and other events with children
- Reflecting on whether strategies are working or not
- Opening up their own lives to children
- Acting as scaffolds (stepping in and supporting) when necessary
- Giving children responsibilities and roles e.g. ask children to teach others, buddy systems, pairing-up older children with younger, asking children to show others how to wash hands etc (children then seek responsibility)
- Encouraging leadership in children
- Using the positive behaviour of children as examples to others
- Recalling and retelling stories with children
- Getting parents involved by providing an environment where they feel comfortable and able to share.
- Giving clear feedback or encouragement about behaviour
- Revisiting stories or events (undocumented and documented) with children, recalling the past, making connections for children to other events, places and times
- Arranging the environment to cue children into useful supports
- Offering suggestions, directions, resources and choices to children, e.g. help children to find the help they need, helping children to help themselves
- Pointing out interests, strengths and abilities of children to their parents. Help parents to recognise and respond to the ‘good’ in their children
- Providing resources
- Documenting, revisiting and discussing stories with each other

## Four categories of strategy

### Making and creating opportunities for children

- Mingling environments – stepping out/ stepping in
- Encouraging children to share experiences
- Exploring possible next steps for children’s learning for and with the children
- Documenting stories and other events
- *Helping whanau recognise how great their children are*
- *Setting up the environment, providing and making resources*
- Arranging the environment to cue children in to useful supports

### Supporting participation

- Stepping in and supporting
- Giving children roles and responsibilities – ask children to teach each other, pairing up older and younger children, encouraging leadership
- Use the positive behaviours of children as examples of others
- Encouraging children to give things a go
- Helping children to help themselves
- Giving clear feedback and encouragement

### Talking and sharing with children

- Asking real questions
- Offering suggestions
- Opening up own lives, sharing own experiences
- Reflecting on whether strategies are working or not
- Recalling, revisiting and retelling stories with children
- *Identifying with children what they are good at*

### Working within the child’s zone

- Using humour
- Creating a sense of fun
- Merging real and fantasy worlds with children
- Following their lead, letting them give things a go
- Giving them the time they require

# Appendix E: Analysis of teacher strategies— Discovery 1 School

(The similarities to the Aratupu list are highlighted in bold)

<p><b>Dialogue</b></p> <p><b>Discussion</b></p> <p><b>Encourage children to sharing their perspectives and prior knowledge and experiences</b></p> <p>Brainstorming</p> <p><b>Acknowledging children's ideas</b></p> <p><b>Pick up on their interests</b></p> <p>Respecting all contributions and ideas</p> <p>Not judging</p> <p>Displaying children's ideas</p> <p>Modelling</p> <p><b>Providing experiences and challenges</b></p> <p>Introducing the big picture concepts</p> <p><b>Think about where the learning could go</b></p> <p>Analysing the learning</p> <p><b>Revisiting experiences</b></p> <p><b>Revisiting learning to reinforce and encourage further development</b></p> <p><b>Reflecting and providing tools for reflection</b></p> <p><b>Celebrating success</b></p> <p><b>Giving children time</b></p> <p>Letting things unfold naturally</p> <p>Expectations</p> <p>Trusting children</p> <p>Encouraging children to self-assess</p> <p>Expecting children will explore concepts</p> <p>Expecting children to honour their commitments</p> <p>Fostering a sense of belonging</p> <p>Addressing the emotional, social and physical elements</p> <p>Be aware and attentive</p> <p><b>Making opportunities for children to choose their own learning pathway</b></p> <p><b>Facilitating and supporting children to direct the learning pathway</b></p> <p>Follow through with children's ideas</p> <p>Involving teachers in children's plans and ideas</p> <p>Collaboration</p> <p><b>Giving choices</b></p> <p><b>Informing them of the process</b></p> <p>Involve children</p>
--

Treat children as equals

**Stepping back when needed**

**Encourage children to solve their own problems**

**Allow children to experiment and explore**

**Allowing children to learn from each other and inviting them to share (and create opportunities for this to happen)**

Content delivery for different learning styles

Providing multiple opportunities for experiencing things in different ways

Being resourceful

Open and flexible

Willing to change direction

Strong in beliefs and philosophy

Having a sense of **humour**

**Inform and involve parents**

Acknowledge parent contribution

**Looking for links between home and school**

**Making school-wide opportunities for children to be involved in the bigger community**

**Timetabling opportunities to explore the wider community**



# Appendix F: Role of the teacher

## Documenting

The teachers noted their use of noticing, recognising, responding and revisiting as a framework for thinking about the assessments they made day-to-day with children (the in-flight assessments) that largely go undocumented. They noted that their assessment was connected to interactions with children and that documentation could enhance what they were doing for, and with, the children and their families.

The teachers liked the idea of narrative as a means for documenting assessments and began using a Learning Story format. Photos were used to illustrate the events where possible, and learning dispositions were foregrounded as the learning they gave the most value to.

Initially we felt this was something we had always been doing, noticing what children were interested in. However, once we began this process and dropped our own agendas about what we thought we should be doing and seeing, it was amazing. Once we had taken the pressure off ourselves to be providing the learning for the children and instead looked at what learning they were already involved in and interested in, it opened a whole new appreciation and understanding of individual children. They were already full of ideas, interests and direction and we just had to tap into that. (Paula, supervisor)

## Discussing

With the aim of developing a team process that focused on reflection about children's learning and on teacher responses to this, fortnightly meetings were committed to discussing Learning Stories and practice that related to these stories. To encourage everyone to contribute there were agreed expectations, a contract that outlined the sort of atmosphere they were trying to establish, and they worked hard at creating a safe environment where uncertainty and critique were accepted and expected.

The team saw the benefits of seeking multiple perspectives on the stories they were telling, and team talk around stories was one of the ways they felt they could seek these perspectives. Team talk could also provide with critical feedback about the quality of stories, and help evaluate what teachers were doing and support improvement.

A reflective journal was used to document discussions along with the decisions made about the programme for children. In addition to this journal a three-folder system was developed where stories would be placed and later sorted: one copy would be made of the story to go into the individual child's profile book; another would be made for wall display; and third copy for the staff room reflection folder.

## Showing

Storage and presentation of Learning Stories soon became an issue. A wall display was created in the foyer by the sign-in area. Positioning the display area in the foyer and sign-in area had unexpected outcomes - parents had time and space to stop for a while in this area and they could read their children's stories without interruptions. This became a place where parents, children and teachers talked about the stories.

## Learning Journey Books

Learning Journey books were developed for each child. A specifically designed cabinet was made for the storage of the children's books, which was easily accessible by children and families.

## Sharing

The teachers viewed sharing as being about offering what they value to families and children; having information available to families, while also actively making it available through talking and seeking contributions and perspectives from others. The use of narrative, wall displays and the reflective journals were tools that contributed to this sharing and the teachers hoped to gain a balance of input from themselves, the children and the families.

## Storylining

As the sharing of Learning Stories became more established, in addition to parents and children, teachers themselves were acknowledged as an important audience for the stories. The teachers felt that it was important to develop a means of ensuring they were not simply writing stories and making decisions that were soon forgotten. The term 'Storyline' was used to capture the essence of what the categories were about. Storyline emerged when learning was seen as linking in some way.

Children's topic of interest would often form the title of storyline. 'Rugby', 'Cricket' and 'The Axolotls' were early examples of these storyline. Over time they started using titles like 'Developing relationships and friendships', 'Developing independence' and 'Self-help skills', 'Celebration of the moment', but soon moved to focusing attention around the central dispositions evident in stories. Later the story referred directly to the learning disposition or dispositions captured in the Learning Stories.

Storyline are never bound by time or systems. These are used in both nursery and centre areas and could be representative of one child's learning, a small group, large group or of the whole centre. Teachers juggle a number of storyline at any one time and cannot predict when a new story line may emerge. At some point though the teachers make a judgment about whether to continue documenting or displaying a story line on the walls; often this is decided because stronger storyline emerge or because the children's interest has waned.

## Revisiting

With storyline in place teachers now had lines of learning to revisit, (although the concept of revisiting was not new). The teachers concluded that 'revisiting' was one of the most critical aspects of the

success of their approach and happened in both planned and unplanned ways. Revisiting occurred for teachers in the reflection meetings where each fortnight various stories were discussed revisited the following meeting to see what progress had occurred or whether other strategies should be tried. The teachers felt revisiting added another level of credibility to what they were writing. It meant stories were not just written and then stuck away in a book; rather they become a source of information and possible direction for teachers, children and their families. Revisiting also meant children were encouraged to see their own achievements, revisiting previous stories where they could see the changes and discuss these with teachers.

## **Tracking**

Tracking evolved as a concept because teachers wanted to take their idea of continuity to a new level. Teachers wanted to track children over longer periods of time, track dispositions and the development of these, the teacher's documentation and main teaching strategies implemented. This would provide vital information on what was occurring for children, and what was occurring for teachers.

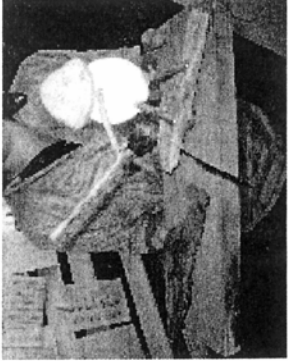


# Appendix G: Two of Kaleb's Learning Stories

## "Exploring Dance" Learning Story

<p><b>THINKING</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> questioning &amp; exploring alternatives</li> <li><input checked="" type="checkbox"/> thinking imaginatively</li> <li><input type="checkbox"/> choosing right strategy for situation and self</li> <li><input type="checkbox"/> reflecting &amp; evaluating</li> <li><input type="checkbox"/> adapting learning to new contexts</li> </ul>	<p style="text-align: center;"><b>LEARNING STORY</b></p> <p>NAME: Madison, Kaleb and Jack DATE: 13 September 2005 KAIROAPA: Exploring Dance WRITTEN BY: Nikki O'Connor</p>
<p><b>MAKING MEANING</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> exploring &amp; expressing</li> <li><input checked="" type="checkbox"/> interpreting &amp; understanding</li> </ul>	
<p><b>WINNING SELF</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> experimentation</li> <li><input type="checkbox"/> recruiting</li> <li><input type="checkbox"/> risk-taking</li> <li><input type="checkbox"/> knowing self as learner</li> <li><input type="checkbox"/> taking responsibility for learning</li> <li><input checked="" type="checkbox"/> planning</li> </ul>	<p><b>LEARNING STORY</b></p> <p>Madison, Kaleb and Jack were having a small group dance session. They began by extracting ideas from the text we were exploring. Using the ideas, they experimented with the elements of dance to help them perfect their moves. They then had to go one step further and share their moves with the other two and work together to incorporate all of the moves into a short dance segment. Together they came up with a sequence and a way of sharing the lead. After formulating a sequence, they realised they needed a way of remembering the order. They decided to write that writing a list would be a good idea. I helped them with this and we also drew symbols to help us. The first time through I helped them by calling out the next move. The following time through they told me I didn't need to call out the moves and that they could try to follow the plan by themselves. With a tiny bit of assistance, they managed to do this. A great team effort.</p>
<p><b>RELATING</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> honouring &amp; respecting self as a unique individual</li> <li><input checked="" type="checkbox"/> honouring &amp; respecting the hiri o Waitangi</li> <li><input checked="" type="checkbox"/> honouring &amp; respecting others</li> </ul>	<p><b>ANALYSIS</b></p> <p>They related well to each other as they worked to combine their moves and danced. They showed trust in each other as they participated together and contributed their ideas. They managed themselves well as they used planning as a means of helping them remember a sequence. They interpreted that text and then through exploring the elements of dance and being imaginative they expressed particular ideas and communicated messages.</p>
<p><b>BELONGING, PARTICIPATING, AND CONTRIBUTING</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> recognising &amp; sharing uniqueness in self &amp; others</li> <li><input checked="" type="checkbox"/> trusting (self, others, place &amp; process)</li> <li><input checked="" type="checkbox"/> acting within the bigger picture/wider context</li> <li><input type="checkbox"/> caring for environment</li> </ul>	<p><b>POSSIBLE NEXT STEPS</b></p> <p>Madison, Kaleb and Jack could polish their piece through practising together. Perhaps they could use the list they created to help them start off. They will be performing the dance to the hamebase 1 and 2 community on Thursday night at our presentation evening.</p>

# “Maui Fishing up the North Island: Learning Story

<p>THINKING</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> questioning &amp; exploring alternatives</li> <li><input checked="" type="checkbox"/> thinking imaginatively</li> <li><input checked="" type="checkbox"/> choosing right strategy for situation and self</li> <li><input type="checkbox"/> reflecting &amp; evaluating</li> <li><input checked="" type="checkbox"/> adapting learning to new contexts</li> </ul>	<p style="text-align: center;"><b>LEARNING STORY</b></p> <p>NAME: Kaleb Hunt-Wheeler          DATE: 21 .11.05          KAUPAPA: Maui fishing up the North Island          WRITTEN BY: Susie Greenslade</p> 
<p>MAKING MEANING</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> exploring &amp; expressing</li> <li><input checked="" type="checkbox"/> interpreting &amp; understanding</li> </ul>	
<p>MANAGING SELF</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> experimentation</li> <li><input type="checkbox"/> persisting</li> <li><input checked="" type="checkbox"/> risk-taking</li> <li><input checked="" type="checkbox"/> knowing self as learner</li> <li><input checked="" type="checkbox"/> taking responsibility for learning</li> <li><input type="checkbox"/> planning</li> </ul>	<p>LEARNING STORY</p> <p>Last week Kaleb attended the dance festival where he danced as Maui, fishing up the North Island. Yesterday Kaleb was at the beach. He looked down and saw a piece of driftwood that looked like the North Island. He said “I thought I’d make Maui pull up the North Island and he could be in his waka which is the South Island”. Kaleb found shells for Maui’s body and head, driftwood for the waka and feathers for the waka paddles. He took the treasures home. Kaleb’s Dad gave him some fishing line to use for Maui’s rod. Kaleb used a hot glue gun to attach all the peices together. “I told Dad about the story of Maui. He didn’t know the story cos he’s in his 40’s and forgets things very fast but he’s a great worker, I know that, he loves wood”. Today Kaleb brought in his Maui sculpture. He shared it with the homebase and explained the story of Maui and how he had created it. Kaleb answered many questions the tamariki had for him. He said he would run a workshop on driftwood sculpture for the tamarik</p>
<p>RELATING</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> honouring &amp; respecting self as a unique individual</li> <li><input checked="" type="checkbox"/> honouring &amp; respecting te tiriti o Waitangi</li> <li><input checked="" type="checkbox"/> honouring &amp; respecting others</li> </ul>	<p>ANALYSIS</p> <p>Kaleb understood the legend of Maui and not only did he interpret it into his dance but then also, by using his imagination, into his driftwood sculpture. This shows Kaleb acting within the wider context of learning. Kaleb knows himself as a learner. He has the confidence to share his work with others. He is honouring and respecting both te tiriti o Waitangi and also the tamariki in his community. He has taken responsibility by offering to run a workshop, to show the tamariki how to create driftwood sculptures.</p>
<p>BELONGING, PARTICIPATING, AND CONTRIBUTING</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> recognising &amp; sharing uniqueness in self &amp; others</li> <li><input checked="" type="checkbox"/> trusting (self, others, place &amp; process)</li> <li><input checked="" type="checkbox"/> acting within the bigger picture/wider context</li> <li><input type="checkbox"/> caring for environment</li> </ul>	<p>POSSIBLE NEXT STEPS?</p> <p>For Kaleb to run his driftwood sculpture workshop next week.</p>

## Appendix H: Example of analysis grid— Aratupu Preschool and Nursery

### Key

Red	Examples of actions and behaviours
Black	Our interpretations
Green	Part of the culture of this place

Story title	Relating to self	Relating to others	Relating to place
<p>“Internet Lady”</p> <p>15.3.05</p>	<p>Protects/defends her identity. Tells of how she didn’t like being called “internet lady” “‘cause I don’t like nicknames, my name is Libby”.</p> <p>Uses/stretches knowledge across environments. Incorporates her knowledge about the internet from home into her play.</p>	<p>Shares her knowledge, ideas and interests with other children and adults.</p> <p><b>Tells Andrea and Reuben about the internet.</b></p>	
<p>“Goodbye”</p> <p>8.4.05</p>		<p>Recognizes and celebrates the achievements of others.</p> <p>Speaks up for others who may not be heard (Tuakana Teina).</p> <p><b>Notices Carter says “goodbye” and tells others about this.</b></p>	<p>Tunes into the culture of this place (celebrates achievements). Is very excited about this event and plans to tell Carter’s mum all about it.</p> <p><i>Her excitement for others will be reciprocated.</i></p>





# Appendix I: Working papers

These working papers from the research project are either complete, in draft, or in preparation. They will be available during the second half of 2008 from the Wilf Malcolm Institute of Educational Research, University of Waikato.

## **New Brighton**

NB1: Continuity: framing it up.

NB2: Continuity: three case studies.

NB3: The space where intentional learners and intentional teachers meet.

NB4: Rethinking the language for infants and toddlers: reshaping the Learning Story frame

## **Aratupu**

A1: Relating Stories.

A2: Libby: the empowered child.

A3: “Why is this play not ok?”: the ethical dilemmas of a teaching team.

A4: Teaching Strategies: what teachers do to support relating.

A5: Gaynor, strategies-in-action

## **Rotorua Primary**

R1: Teachers talk competencies

R2: Exploring the key competencies at “our place”.

R3: Pipi, kūtai or toheroa? Finding a metaphor for the key competencies at our place.

## **Parkview**

P1: Integrating key competencies and learning areas

P2: Strengthening key competencies across two years of school

## **Discovery 1**

D1: Establishing a Key Competencies and Learning Story database at Discovery 1.

D2: Key competencies over time, pedagogy underneath.

D3: Diana's co-constructed pathway of learning

## **General**

G1: Themes and dilemmas in a TLRI project in progress

G2: Dimensions of strength for key competencies

## Appendix J: Research team members

Margaret Carr	University of Waikato (co-director)
Sally Peters	University of Waikato (co-director)
Tina Williams	University of Waikato (co-ordinator)
Keryn Davis	University of Canterbury (co-ordinator)
Sue Molloy	University of Canterbury (co-ordinator)
Mere Simpson	Rotorua Primary School (teacher researcher)
Nikki O'Connor	Discovery 1 School (teacher researcher)
Susie Greenslade	Discovery 1 School (teacher researcher)
Yvonne Smith	Parkview School (teacher researcher)
Andrea Wilson-Tukaki	Aratupu Preschool and Nursery (teacher researcher)
Paula Berry	New Brighton Community Preschool and Nursery (teacher researcher)
Nadine Bashford	New Brighton Community Preschool and Nursery (teacher researcher)
Claire Bartlett	New Brighton Community Preschool and Nursery