

Making working theories visible in teaching and learning: Our working theories about working theories

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Keynote presentation at Victoria University of Wellington
Early Childhood autumn seminar “Making teaching visible”

14 May 2016



THE UNIVERSITY OF
AUCKLAND
Te Whare Wānanga o Tamaki Makaurau
NEW ZEALAND

**EDUCATION AND
SOCIAL WORK**

Outline of presentation

- The construct of working theories: origins & description in *Te Whāriki*.
- Two vignettes of working theories.
- A complex notion – and “jargon” to those both inside and outside ECE.
- How might we make what we understand working theories to be more explicit to various audiences?
- How might teachers approach making working theories visible in teaching and learning?



Guy Claxton and Carl Bereiter write that developing work-in-progress ideas about knowledge and inquiry are lifelong endeavours, so the idea of working theories applies throughout our lives as we confront new ideas and experiences.



In keeping with *Te Whāriki's* view of children as competent, capable learners, children might be considered as careful, creative and critical thinkers striving to make meaning of and about their worlds as they participate in all kinds of experiences with adults, peers and community members. Inaccuracies are part and parcel of us all—adults included—developing our knowledge.



Te Whāriki

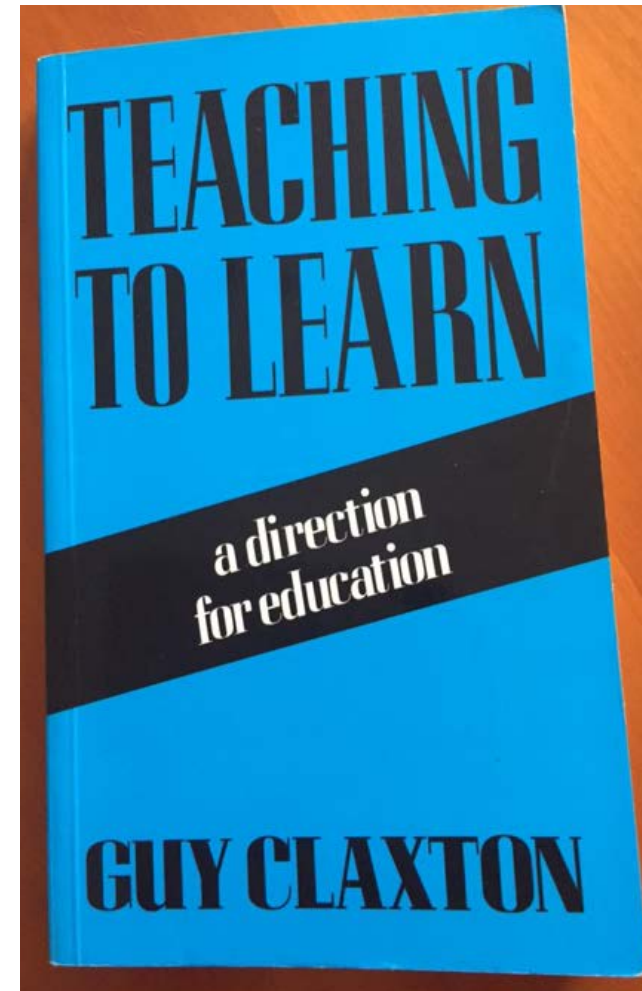
- Two innovative, holistic outcomes: learning dispositions and working theories that ought to be interdependent in considerations of teaching and learning.
- Complex notions: require teacher knowledge, reflection, dialogue and partnerships with families to understand.
- Working theories the “neglected sibling” of the two outcomes.



Minitheories

Guy Claxton (1990) is acknowledged in the draft of *Te Whāriki* (Ministry of Education, 1993) as the inspiration for working theories.

Construct of “minitheories”:
collections of ideas that gradually become connected and meaningful.



“In early childhood, children are developing more elaborate and useful working theories about themselves and the people, places, and things in their lives.

These working theories contain a combination of knowledge about the world, skills and strategies, attitudes, and expectations.

Children develop working theories through observing, listening, doing, participating, discussing, and representing within the topics and activities provided in the programme.

As children gain greater experience, knowledge, and skills, the theories they develop become more widely applicable and have more connecting links between them.

Working theories become increasingly useful for making sense of the world, for giving the child control over what happens, for problem solving, and for further learning.

Many of these theories retain a magical and creative quality, and for many communities, theories about the world are infused with a spiritual dimension” (Ministry of Education, 1996, p. 44).

Hedges & Jones (2012) definition

Working theories are present from childhood to adulthood. They represent the tentative, evolving ideas and understandings formulated by children (and adults) as they participate in the life of their families, communities, and cultures and engage with others to think, ponder, wonder, and make sense of the world in order to participate more effectively within it. Working theories are the result of cognitive inquiry, developed as children theorise about the world and their experiences. They are also the ongoing means of further cognitive development, because children are able to use their existing (albeit limited) understandings to create a framework for making sense of new experiences and ideas (p. 36).

Project methods and ethics

- Value of collaborative video analysis
 - Analytic reflection, dialogue
 - Strengthen understandings of working theories
 - Guiding meaningful responses
- Ethics
 - Confidentiality an overriding consideration
 - Partnership with parents



Chloe learns to jump

On three occasions over five months, video footage was captured of Chloe, aged 17–22 months, and her interest in learning to jump. The excerpts identify her growing capabilities and ways teachers supported these through environmental provision, encouragement, naming actions and involving same aged and older peers in Chloe’s goal.



Chloe's movements, actions and early language were attended to carefully by the research team to infer her working theories. Based on deep knowledge of Chloe, her family and her activity choices in the centre, it appeared evident that Chloe thought carefully about all her intended actions and physical capabilities. She gradually learned more both cognitively and physically until she achieved her self-initiated goal successfully.



Long before Chloe can understand the scientific logic and rules of gravity, height, distance or trajectory, she illustrates intuitive knowledge of these principles. Put simply, Chloe is learning what jumping entails.

In a literal and metaphorical ‘courageous leap’, Chloe illustrated that ‘a shrewd guess, the fertile hypothesis, the courageous leap to a tentative conclusion – these are the most valuable coin of the thinker at work’ (Bruner, 1960, p. 3).



Chloe's working theories about jumping unpacked as combinations of knowledge, skills & strategies, attitudes & expectations

Knowledge	Skills and strategies	Attitudes and expectations
<ul style="list-style-type: none"> - Intuitive knowledge of height and distance - Safety sense - Body positioning to achieve a physical task (e.g., feet position, bent knees, draw shoulders in) - Counting to three precedes an action - Adding 's' for plurals – mat/mats 	<ul style="list-style-type: none"> - Memory of previous experiences to draw on - Risk assessment - Ability to climb a ladder - Bending knees to aid momentum and cushion landing - Observation of other children - Making predictions/judgements (of height/distance) - Counting and subitising one and two - Trying different ways to achieve a goal - Problem-solving 	<p>Attitudes:</p> <ul style="list-style-type: none"> - Curiosity - Courage - Risk taking - Perseverance - Caution <p>Expectations:</p> <ul style="list-style-type: none"> - The physical learning environment and the teachers will empower learning - A teacher will respond if you ask them for help



Chloe learns to jump – making teaching visible

Principles of *Te Whāriki*

- empowerment
- relationships
- holistic development
- family and community



Lily-Hinetu

Background and context

A strong interest in animals

Some whānau sheet comments:

- *“My favourite books are animal books”*
- *“Favourite toys – panda, dog & tiger soft toys”*
- *“I love dogs and cats”*

(January 2011)

Portfolio (March 2011):

- *“Lily [Hinetu’s] best friend is doggy. He sits by Lily [Hinetu] when she is sitting and sleeps with her when she has a nap”*



An interest in animals at Small Kauri

Lily-Hinetu was one of many children interested in animals.

When we looked more deeply we realised each child was interested in a different aspect of animals.

Other interests:

- facts, and questioning who was the strongest
- an interest in families
- a fear of animals

Lily-Hinetu – how to care for animals



Dogs need to be kept safe too

Four excerpts of video footage of Lily-Hinetu and Zoe making and testing a helmet for the toy dog, with Daniel taking an interest in their work, pointing out developments and contradictions that occurred.



Some teaching strategies

Genuine pleasure

Inviting elaboration

Affirming talk

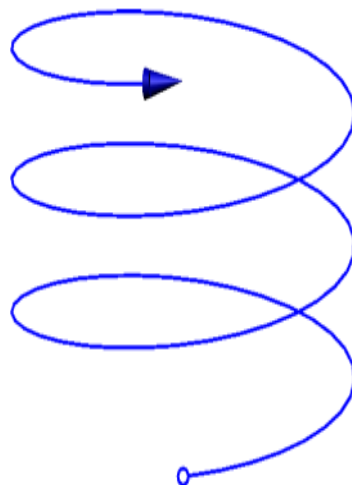
Challenging thinking

Recapping

Highlighting
contradictions

Promoting peer
interactions

Having fun



Children's working theories



Questioning

Full attention

Slowing down

Learning together

Being curious too

Taking children's
concerns seriously

These strategies are underpinned by providing time and space,
developing strong relationships and being available

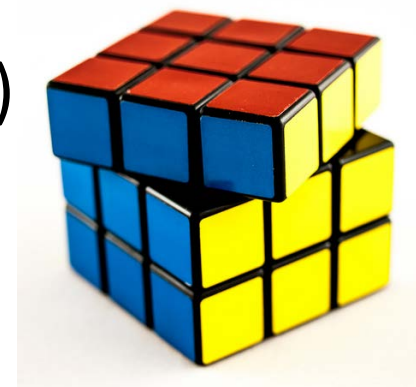
Making teaching and learning visible

- A tension between the holistic child, and a growing demand for documentation of specific learning.
- Documentation possibilities:
 - document the elements of the broader working theory concepts being developed, while recognising the specific (narrow) elements;
 - document the process of working theory development,
 - document the working theory development as a journey in learning
- A tension between child-led learning and the nature, timing and content of teacher input

Visibility

RESEARCH

- Three TLRIs and two practitioner research projects in NZ; academic and practitioner-focused articles and presentations
- One project in the UK
- Four PhDs-in-progress (that we know of ...)



Visibility

TEACHING AND LEARNING

- 2016 seems to be “the year” of wider interest ... ?
- But how far have teachers moved from an activity-focused environment towards one that responds to children’s inquiry-based interests, learning dispositions and working theories?
- Ethical and pragmatic considerations around teacher use of videos and photos, related write-ups, and use of non-contact time.



Key points / So what?

- Complexity of learning and teaching involved in everyday experiences that may go un/under-recognised.
- Deep knowledge of children & families essential.
- Understanding the “parts” to understand the “whole”.
- What might documentation look like to make working theories and teaching and learning visible?

Reflective questions

- What everyday experiences in your setting might be taken for granted?
- How might you identify the complexity of learning and teaching occurring in everyday experiences?
- How will you trial documenting working theory development over time?



Further possibilities

- Teacher practice to foster the development of working theories can include looking deeper at children's interests and related working theories.
- Working theories are continually developing and being refined by children.
... and adults
- As teachers and researchers, we never reach an endpoint ... much more to do...



Acknowledgements

We warmly acknowledge all the children, families and teachers at Small Kauri ECE Centre who participated in the project, the Ministry of Education funding via the Teaching and Learning Research Initiative, equivalent teacher release funding from the centre owner, Linda Petrenko, and the ethical approval of the project by the University of Auckland Human Participants Ethics Committee.

Key references

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- See also: <https://helenhedgesworkingtheories.wordpress.com/>