Key competencies in the New Zealand curriculum: development through consultation

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Abstract
The Curriculum/Marautanga Project was launched in 2003 to build on the recommendations of the Curriculum Stocktake Report (Ministry of Education, 2002) in reframing the national curriculum. A key change to the curriculum is the proposed replacement of the essential skills with key competency groups. The process of co-construction, through various forms of contribution, has led to the development of a framework of five key competency groups. This article reflects upon those contributions and traces movements in thinking around the concept, construction, and inclusion of key competencies in the New Zealand Curriculum Project. Key themes of exploration include the “concept” of key competencies, the definitions it encompasses, and the theories of learning, teaching, and curriculum it implies. Questions about the place of key competencies within the New Zealand curriculum in relation to the essential learning areas and defining and naming a key competency framework relevant to New Zealand are also explored.

Introduction
In 2003 Cabinet agreed to the Ministry of Education undertaking redevelopment of the curriculum to focus on high-quality teaching and empowering schools to meet the needs of all students. While the Curriculum Stocktake Report (Ministry of Education, 2002) concluded that the New Zealand Curriculum Framework and Te Anga Marautanga o Aotearoa are coherent, sound statements, it recommended modifications to ensure a clearer focus on high expectations for all students and more flexibility for teachers and schools to help students achieve these expectations.

Believing that revised curriculum policy is not sufficient in itself, the Ministry decided to take a co-constructive approach to the Curriculum...
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Project. The Ministry sought engagement with the sector in the redevelopment of the curriculum by consulting with teachers, principals, advisers, lecturers, and students, both face to face and through an online discussion forum. The Ministry also sought a range of position papers and discussion documents based on current theory and international research. This article is based on the feedback provided by those processes.

The Māori medium strand of the Curriculum Project is entitled *Te Anga Marautanga o Aotearoa*. This project follows the same goals and premise as the Curriculum Project. Perspectives relevant to Māori medium curriculum, including issues surrounding essential skills, values, and attitudes, have been sought through concept papers still due for submission. These perspectives have not been included in this article.

A definition of competencies

In 2004 the Ministry commissioned a background paper to consider the implications of the OECD Defining and Selecting Key Competencies (DeSeCo) project for the New Zealand curriculum. The paper (Brewerton, 2004a) takes the DeSeCo definition of competencies as representative of the international scene and shows an acceptance of the work of the OECD as it is based on extensive and robust cross-disciplinary research and international debate. As the OECD framework may be used as the basis for international assessments such as PISA\(^2\) and ALL,\(^3\) alignment with their work would make these international assessments more directly useful for evaluating the effectiveness of New Zealand policy and practice. The OECD framework has also been adopted as a starting point by New Zealand’s tertiary education policy developers for their work on key competencies.\(^4\) A brief explanation of the competencies model is given in Figure 1.

Position papers and other contributions to the discussions on competencies illustrate aspects of the definition worth highlighting, namely:

- the complex or holistic nature of competencies;
- the key components of competencies (knowledge, attitudes, values, and skills);
- the context-dependent nature of competencies;
- the interactive nature of key competencies; and
- the difference between key and specific competencies.
Any fruitful discussion of key competencies relies upon a universal understanding of the concept. Co-construction has offered an opportunity to clarify basic concepts in an ongoing process of shared meaning making. For example, discussions of key competencies where the word “skills” is used interchangeably with the term “key competencies” highlight areas of misunderstanding, with the result that communications have been directed in more productive ways. The concept of competencies offers a response to the call for curriculum structures that are more helpful in fostering a holistic approach to learning outcomes.

Competencies encompass all the components that are needed for effective performance or to meet the demands of a task, and so address the debate about whether skills can, or should, be separated from knowledge, attitudes, and values. As a holistic, integrated concept, the introduction of competencies into the New Zealand curriculum takes into account recent work on outcomes-based education that can be demonstrated in
performances that reflect what the student knows, what the student can do with what he or she knows, and the student’s confidence and motivation (Brewerton, 2004a).

Rychen (2003) outlines the OECD definition of competency, on which Brewerton’s work is based:

A competence is defined as the ability to successfully meet complex demands in a particular context through the mobilisation of knowledge, cognitive skills but also practical skills, as well as social and behaviour components such as attitudes, emotions, and values and motivations.

(Rychen, 2003, p. 3)

Such thinking is well supported by theory and consistent with the recommendations of the Curriculum Stocktake Report:

The report recommends combining skills and attitudes, holding that teachers should consider the use of skills alongside the attitudes of motivation (inclination) and discernment (intention). If we are going to go down this route, then we should go the whole way: skills are also knowledge-constitutive and value-laden, so in the end there needs to be a coherent position developed on how all four—knowledge, values, attitudes, and skills—are woven into a whole.

(Clark, 2004, p. 77)

Furthermore, the concept offers the recommended alignment of the curriculum with Te Whāriki in the Curriculum Stocktake Report, being consistent with Te Whāriki’s conception of learning outcomes as dimensions of holistic learning combining knowledge, skills, and attitudes (Brewerton, 2004a).

Feedback through the Ministry’s portal CMP Online⁵ (Ward, 2004) suggests that New Zealand teachers may support such a framing of the curriculum. Comments such as “need to move away from the notion that subjects are discrete” and “time is right to step back from the focus on coverage, achievement objectives, and ‘knowledge’ to look more closely at what we want for our learners, now and for the future” demonstrate an enthusiasm from professionals towards an exploration of curriculum that offers a holistic lens.
In response to Brewerton’s (2004a) background paper, Carr (2004a, 2004b, 2004c) suggests further explorations of theoretical frameworks. Carr (2004a), quoting Greeno, Collins and Resnick (1996), Rogoff (2003), and Sfard (1999), combines their work as perspectives of learning helpful in weaving a coherent theoretical framework. Her statements that “Learning is distributed across the resources of self, other people, cultural tools (for thinking and making meaning), and community. Learners need skills for accessing and developing these resources and for recognising their purpose over time and place” provide an overarching view of learning in relation to the key competencies.

Carr has explored the competency model as part of a series of position papers contributing to the curriculum project (2004a, 2004b, 2004c). She stresses the importance of the attitudes component of competencies and states clearly that “competencies are more than skills. They include the capacity to recognise their relevance on different occasions, the responsibility to reflect on their value and intent, and the motivation to exercise them” (Carr, 2004c, p. 6). It is important to remember that key competency groups also include the vital component knowledge. The competencies model recognises that knowledge recall is insufficient for coping with many of the complex demands of modern life (Rychen, 2003). The competencies model involves the higher level of mental complexity involved in using and examining knowledge to meet the demands of a task. The DeSeCo work concludes that “a competence results in a person taking action” (Rychen & Salganik, 2003, p. 48). Barker, Hipkins, and Bartholomew (2004, p. 3) consider the phrase “to meet the demands of the task” significant, as it presumes the prior definition of “the task”, which they see to be a task of the essential learning areas. Participants in an online forum exploring key competencies discussed notions of “operacy” (which was defined as the skill of “doing”, or “action”) and raised the issue that such a concept should be more closely aligned with proactivity rather than reactivity (On-line discussion on key competencies, 2004).

**Specific competencies**

Discussions about the competency model also need to consider the role of specific competencies. Rychen (2002, p. 7) makes it clear that “key competencies do not substitute for domain-specific knowledge and basic
skills of reading, writing, and calculating”. As Brewerton (2004a) explains, people do not just use one competency at a time; they use “constellations” of competencies together: a combination of specific competencies and generic or key competencies. Specific competencies are those specific to one or a limited number of contexts, while key competencies are those needed by everyone across many life contexts. The teaching of specific competencies needs to be integrated with the teaching of key competencies if learners are to be able to use them effectively in practice.

Barker et al. (2004) consider competencies in relation to Science in the New Zealand Curriculum through a discussion of science competencies. They state that the broad, generic nature of key competencies means they “may not simply be inserted into the structure of the science curriculum where skills were formally located” (p. 3). They explain the link between key competencies and essential learning areas as a “reciprocal integration”, claiming that competencies “would need to provide a suitable platform for education in each of the seven Essential Learning Areas (ELA)” … conversely, each ELA should have the capacity to contribute to the competencies” (p. 1). Their report begins to define science competencies at the level of the New Zealand science curriculum, taking into account literature on current social trends and projections about the world of the future. These science competencies are to resonate with the key competencies of the curriculum framework, and the two-way transfer of competencies (from generic to specific, and vice versa) needs to be transparent.

Compton (2004) states that any discussion of specific competencies in relation to the technology curriculum would require an exploration of “technological knowledge”. Her paper recommends that further work be done to construct meaning and validate identified categories of technological knowledge within technology education. These kinds of epistemological examinations are called for in Clark’s (2004) critique of the Curriculum Stocktake Report.6

Consultation over the past year has led to the development of a key competency framework ready to enter the next stage of the co-construction process. In March 2005 all schools in New Zealand received a discussion document seeking to engage teachers in the consultation process. Figure 2 represents the concepts and principles used to develop the key competency framework to be distributed for wider consultation.
Key competencies in the New Zealand context

The proposed key competency framework includes five interacting groups of competencies: Thinking, Making Meaning, Participating and Contributing, Managing Self, and Relating to Others.

Selecting key competency groups

The DeSeCo group considered particular groups of competencies to be “key” if they were instrumental in meeting the demands of multiple areas of life, were necessary for all individuals, and contributed to the outcomes of a successful life and a well-functioning society (Rychen, 2003). Carr (2004a, 2004b) and Carr and Peters (2004) offer further principles for a key competency framework to be developed for the New Zealand curriculum. For them, the key competencies should align with a coherent view of learning. Each category should be “broadly defined, allowing for local definitions and implementation” (Carr, 2004a, p. 1), thus giving a “small but powerful core set that are not too broadly defined and not too narrowly prescribed” (Carr, 2004b, p. 9). Brewerton (2004a) also looked for consistency with policy work in New Zealand’s early childhood, compulsory, and tertiary sectors, and the recommendations of the Curriculum Stocktake Report, as well as alignment with kaupapa Māori.

In her February (2004a) report Brewerton presented four interactive and interdependent key competency groups:

- thinking;
- relating to others;
- independence (or self-management); and
- language, literacy, and numeracy (or using language, symbols, and technology).

Her framework differed from that of the DeSeCo report in that “thinking” has become a competency group in its own right, rather than taking on the comprehensive nature given to it in the DeSeCo project. For the DeSeCo project, “reflectivity” was seen as a mental prerequisite for key competencies and thus “all three activities [in the DeSeSo array] require a reflective approach to life” (Rychen & Salganik, 2003, p. 83). The move to designate thinking as a separate competency group reflects the argument
**Figure 2. Concepts and principles: key competencies in the New Zealand curriculum**

- **Knowledge, skills, attitudes, and values cannot be separated**
  
  The components of competencies (knowledge, skills, attitudes, values, and motivation) are inextricably interconnected.

- **Key competencies are used in combination**
  
  In real life, people do not use just one competency at a time; they use combinations of key (generic) competencies and specific competencies (for example, subject-based skills and knowledge).

- **Key competencies are developed throughout life**
  
  People develop expertise in key competencies throughout their lives. Increased proficiency is better thought of as the ability to combine and use key competencies appropriately in increasingly complex situations, rather than as a “straight-line” development of individual competencies.

- **Key competencies encapsulate skills**
  
  Key competencies encapsulate a general understanding of the skills needed for life. They must be specific enough for teachers (and others) to understand what needs to be taught, but not so finely itemised that they result in a checklist approach to assessment. While detailed definitions of key competencies can be illustrative, overly detailed lists of skills lead to poor implementation.

that the model itself is fully interactive; that is, the knowledge, values, skills, and attitudes that compose each competency group would be employed in conjunction with other competencies in meeting the demands of tasks.

However, Dinning (2004) calls for a return to the across-the-board view of “thinking” from a technology education perspective. Compton argues that the strength of the DeSeCo work should not be taken lightly, and that arguments against developing something that is so “distinctive” to New Zealand needs to be considered more closely. In response to the Brewerton paper she states that “employing the DeSeCo framework
as is would not compromise any key aspects of technology, and would serve to strengthen New Zealand’s position with regard to inputting into future developments in the area” (Compton, 2004b). Given the crucial role that reflectivity plays in underpinning the DeSeCo framework, the implications of tampering with it need to be fully explored.

**Interrelated, situated groups**

A later paper by Brewerton (2004b), which explores the characteristics of a successful school leaver, presents the four key competencies together with the added component of “belonging” as a central feature:

At the centre is the learner, with identity, well-being and belonging at the core. This also recognises the importance of the environment in establishing the conditions in which the learner belongs and learns. (p. 37)

Her newer model seeks to highlight the interrelated nature of the key competency groups, their interconnection with the essential learning areas, and their situated nature within meaningful and real-life learning contexts (as presented in Figure 3). These ideas reflect current research on effective teaching and learning and are consistent with DeSeCo statements such as: “while the acquisition and maintenance of competencies is in part a matter of personal effort, it should be recognised that it also is contingent upon the existence of a favourable material, institutional and social environment, and appropriate social arrangements”. This perspective is one in which the individual learner and the learning environment are closely connected in dynamic ways (Carr, 2004a).

Brewerton (2004b) notes that at the time of her paper there was continuing discussion about whether the framework should separate “relating to others” and “participating and contributing”, thereby having five key competency groups. Separation of the “participation and contributing” cluster (with the inclusion of “belonging” in this group) would be consistent with the *Curriculum Stocktake Report*’s recommendations and with *Te Whāriki*’s mana whenua/belonging strand. This cluster is seen to be different from “relating with others” as it places an emphasis on the environment and on connections with other places in children’s lives, in line with the ideas of Bronfenbrenner (Carr, n.d.).
Belonging
The place of “belonging” within the key competency framework has been an issue of some debate. Notions of belonging have been discussed alongside issues of identity, identities, and relationships. During initial stages of the discussion, belonging was added to the framework as a separate competency group. Similarly, it was suggested that a key competency expressing “to come to terms with being a well-functioning individual in an increasingly complex society” be considered (On-line discussion on key competencies, 2004). Since then, discussions at the Curriculum Reference Group meetings have suggested that, for some, belonging is viewed more as a condition for learning, and for others as an outcome of learning, although there is general agreement on its importance (Carr, 2004a).

The OECD considers “a sense of belonging” to be a key aspect of student engagement (along with student participation) that relates to

Figure 3. The Brewerton model (October 2004)
student learning and represents a disposition towards schooling and lifelong learning. Belonging is seen as the psychological component of engagement, pertaining to a sense of attachment to school and feelings of being accepted and valued by peers and others at school. The OECD report on PISA results, *Student Engagement At School*,\(^8\) considers a sense of belonging and participation as important schooling outcomes in their own right (Willms, 2003).

An action research project looking at key competencies across the early childhood and primary sectors found that teachers were able to “make sense” of the belonging, participating, and contributing competency group by developing indicators, assessment procedures, and elaborations of the category in terms of kaupapa Māori (Carr & Peters, 2004). The report recommends that the phrase “students will experience an environment in which …” act as a precursor to each of the key competencies, thus emphasising the situated learning perspective of the DeSeCo competency framework.

Research strongly suggests that identity (or identities), wellbeing, and belonging are the foundations for effective learning (and participation in life) and, as such, are the basis for teaching, learning, and implementation of curriculum (Brewerton, 2004b). For Barker et al. (2004), questions of being are related to questions of thinking, and suggest that science competencies need to address “issues of belonging, ownership, cultural identity and questions about the kind of world one wants to live in and, ultimately, the kind of person one wants to be” (p. 7). They recommend “thinking and being” as a general competency.

Given the importance of belonging and corresponding debates around the role of identity and identities within learning—“Identity is everything!” (Carr, 2004a, p. 4); “Belonging was seen as vital” (Education Reference Group, 2004)—discussions over its place within the curriculum continue. At the time of writing, the place of belonging is an issue being considered in a paper by the Ministry of Education that explores possible principles for the curriculum framework. Considering the significance of claims such as “Re-examining what we are asking the learner to do must also include whom we are asking the learner to become” (Litowitz, 1993, in Carr, 2004c, p. 6), this would seem a discussion worthy of deeper exploration.
Movement and thinking

Consultation has also raised the place and importance of “movement” within the competencies. Culpan (2004, personal correspondence) refers to Arnold (1979) and Tinning, Kirk, and Evans (1993) when he argues “movement is central to human existence and it is through the moving body that one experiences and engages the world and discovers ‘who am I’”. Movement is a unique medium through which students develop knowledge of themselves and others, and social skills that enable them to contribute positively to relationships. Movement does more than enable people to contribute to relationships; it helps them to explore and understand the environment, to play, to love, to celebrate, to work, and to exercise.

A concern has been expressed that the competency “thinking” encourages a perception of body–mind dualism that is counterproductive to a socioecological perspective. Other views maintain that movement plays a role in the specific competencies integral to each of the key competencies and is best expressed within essential learning areas, an argument also applied to thinking. Such debates include thoughts about being and moving, and the relationship between the physical world and the social world, with notions of self, ability, and disability, and a reconceptualisation of “the person” around notions of embodied consciousness. Culpan suggests that the centrality of the core competencies should be based around what it means to be human and “thinking, moving, feeling” are the key components that all other competencies radiate out from (2004, personal correspondence).

Feedback suggests that the competency group “thinking” incorporates a wide variety of concepts and types of thinking, which require further clarification to develop shared understanding (On-line discussion on key competencies, 2004). While some argue for a distinction between critical and creative thinking, others note the lack of reference to intuitive thinking and futures thinking.

School curriculum development

Consultation on key competencies, at a time when the Ministry of
Education is also promoting school curriculum development, has seen many schools seize the opportunity to consider each component of the concept from their own community’s perspective. This has led to the development of various models, diagrams, and projects exploring the potential of the key competency view to offer a school-specific approach to the curriculum. In 2006 the Ministry will fund targeted clusters of schools involved in school curriculum development, in support of research into the implications of the introduction of key competencies for the work of schools and teachers.

**A draft framework for consultation**

In 2005 the work on key competencies has moved into the next stage, that of wider national consultation. The March consultation document asked schools to explore and provide feedback on the key competencies framework, how it may be used to enhance learning outcomes, what it means for teacher practice, the benefits it offers, and the challenges it poses. Figure 4 shows the draft key competency framework that was distributed for feedback.

Five overarching and interconnected key competences are proposed in the draft framework.

*Thinking* is about all kinds of thinking, in all kinds of contexts. It includes creative, critical, and logical thinking, and the ability to think about thinking, as well as self-awareness, reflection, and judgement.

*Making meaning* is about discovering meaning in ideas, represented (as they may be) in any of their countless forms. It is about interpreting cues and clues, getting below the surface, and wanting to get to the bottom of things.

*Relating to others* is about the knowledge, skills, values, and attitudes needed for living, working, and playing with others. It includes the ability and inclination to take a variety of roles in group situations—for example, leadership, conflict resolution, and negotiation—and to demonstrate consideration for others.
Managing self is about making good decisions for ourselves while recognising that we are part of a wider, interdependent, social context. It is about the inner independence that comes from being given manageable amounts of responsibility and choice. Managing self includes the ability to make plans, set goals, and estimate the time needed for activities. It also means developing strategies to overcome hurdles, and knowing when a change of course is needed.

Participating and contributing involves gaining a panoramic view of what is possible. It is about seeing one’s potential to be a member of multiple communities—for example, family, iwi, and friendship networks, or groups of artists, problem solvers, sportspeople, or mathematicians. By participating, we gain the sense of achievement that comes from making a contribution to local and global communities.

2005 has seen another round of position papers and discussion documents contributing to the process. A background paper providing insight into current thinking and research into the assessment of key competencies.

**Figure 4. The draft key competency framework**
is due for November release on the Ministry’s Te Kete Ipurangi website (www.tki.org.nz). Further papers exploring the implications of the key competency framework for each of the essential learning areas have been presented to the key competencies writing group and are publicly available on the same website.

The current process has seen the development of a key competency framework with a distinctive New Zealand flavour. The Curriculum Project’s co-constructive exploration of key and specific competencies has continued to “uncover the complexity of viewpoints” from participants, stakeholder groups, ethnic groups, education professionals, and academics, a process necessary in developing a national curriculum (McGee, 2004). The alignment of work in the curriculum project with that of the Schooling Strategy (Ministry of Education, 2004), Brewerton’s October (2004b) paper examining the characteristics of successful school leavers, the Learning for Living Te Ako mo Te Ora project’s exploration of key competencies in tertiary education, and Carr and Peters’ (2004) research into links between the compulsory sector and early childhood education have provided the setting for broader discussions on the focus, framework, aims, and principles of the New Zealand curriculum. As Chamberlain (2004) states:

> Clarifying the educational outcomes that are important for students to work towards will involve debates about what matters most and will raise questions about the nature of knowledge (epistemological questions). (p. 79)

The role of the curriculum is to set the direction for learning. A statement about what the Ministry of Education considers to be the key competencies will contribute to that direction. As the curriculum project moves forward, ideas on learning, ontology, epistemology, and pedagogy will continue to contribute. Work by Harpaz (n.d.) suggests that clarity in this area is crucial; he argues that contradictions between educational goals and “logics of instruction” impact on praxis. It is understood that curriculum development is but one co-emerging activity in the educational change process (Begg, 2004). The influence of change within the curriculum will be complex. “Competencies assume certain views about society and learning” (Carr, 2004c).
The summary of thinking presented in this article leads to further questions and areas for exploration. The development of a strong key competency framework will continue to integrate wide consultation with research and theory. Discussions on the learning theory underpinning the key competencies framework have helped develop a community of policy makers, researchers, and practitioners focused on curriculum issues. Notions of belonging, thinking, and movement are being further explored in terms of their role within the curriculum as educators continue to explore themes key to New Zealand’s educational aims. Further work is progressing on topics such as the relationship between the key competency framework and assessment frameworks, and the implications of the introduction of key competencies for schools and teachers.

Discussions about defining and using the key competencies will continue to be important in the curriculum implementation process. The Ministry needs to continue to explicitly demonstrate its commitment to relationship building and the development of a common language between communities, institutions, and sectors. The next phase will be entered with optimism, as the Ministry works with the wider educational community to jointly address our common goals of improved student outcomes.

References


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Notes
1. This article is not a position paper and is not intended as Ministry policy.
2. Programme for International Student Assessment (PISA): a 3-yearly survey of 15-year-olds in over 40 countries, concentrating on reading literacy, mathematical literacy, and scientific literacy.
3. Adult Literacy and Life-skills Survey (ALL): an international study involving 15 countries that gives statistics on adult skill levels in prose literacy, document literacy, numeracy, and problem solving.
4. See the discussion document *Learning for Living, Te Ako mo Te Ora: Key Competencies in Tertiary Education*.
5. Curriculum Matauranga Project On-line (or CMP On-line) is an online community facilitated through a Talk2Learn forum.
6. McGee (2004) argues the curriculum stocktake process devoted time to discussions on philosophical and epistemological ideas around principles underlying the curriculum framework and their relationship to aims, objectives, and content.
7. Brewerton’s (2004b) paper also explores the importance of contexts for learning, proficiency levels for key competencies, and the place of key competencies in relation to the characteristics of a successful school leaver.
8. This report can be found at www.unb.ca/crisp/pdf/0306.pdf
9. This work also sits alongside developments of key Ministry projects such as the Iterative Best Evidence Synthesis Programme and the Schooling Strategy.

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