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Acknowledgement of Reviewers

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UNTAPPED POTENTIAL? KEY COMPETENCY LEARNING AND PHYSICAL EDUCATION

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Abstract

This paper reports on a collaborative action research project that directed attention to the opportunities Physical Education presents to develop learning associated with three of the key competencies detailed in the New Zealand Curriculum; thinking; managing self; and relating to others. Three teachers in one secondary school explored the meanings each of these key competencies could take on in physical education and, specifically, ways in which adjustments to learning intentions, content, pedagogy and assessment variously helped them bring key competency learning to the fore. Attention is drawn to the benefits teachers saw arising from an enhanced focus on learning, shifts to more student-centred pedagogy, and questions that the research generated for the department's curriculum planning. Discussion also highlights the value of research approaches that emphasise collaboration and support professional learning.

Key words

Health and Physical Education; New Zealand Curriculum; pedagogy; assessment

Introduction

Development of key competencies is identified in the New Zealand Curriculum (NZC) (Ministry of Education, 2007) as "both an end in itself (a goal) and the means by which other ends are achieved" (p. 12). Key competencies are thus intended to provide a focus for learning *and* enable learning that is fundamental to all young people's future lives and participation in communities and society. A number of previous studies focusing on the key competencies (for example, see Cowie, Hipkins, Boyd, Bull, & Keown, 2009; Hipkins, 2009; Hipkins & Boyd, 2011) have highlighted the complex nature of the key competencies, and noted that their potential to transform curriculum is often neither realised nor well recognised. The research reported here responds to this situation and explores the transformative potential that an explicit focus on key competency teaching and learning may present in the Health and Physical Education (HPE) learning area. It particularly directed attention to physical education.

In 2009 Sport and Recreation New Zealand (SPARC) commissioned a literature-based study focusing on the potential development of key competencies in sport and recreation contexts (Gillespie, 2008, 2009), but there remains a lack of school-based research. This research project thus sought to seek further insights about ways in which physical education pedagogy can connect with and contribute to key competency learning. The research involved three teachers from an HPE department in a secondary school and was designed to extend shared understandings of what key competency learning could be developed and supported in physical education, and how this could be achieved. As we discuss below, the focus on key competency learning led to teachers questioning several aspects of their established practice in physical education, relating to curriculum, pedagogy, and assessment. From the outset the project sought to link exploration of key competencies with a broader critique of curriculum aims, design, and the relative alignment of curriculum, pedagogy and assessment (Penney, Brooker, Hay, & Gillespie, 2009).

The project focused on three of the key competencies; *thinking; managing self;* and *relating to others.* These three key competencies were selected for several reasons. Physical education offers clear opportunities to bring these key competencies to the fore, and successful engagement in movement contexts requires these key competencies of students. With respect to *thinking,* physical education is rich in terms of both opportunities and a need for problem solving, decision-making and creative thinking (Grehaigné, Godbout, & Bouthier, 2001; Light & Fawns, 2001). As Burrows (2005) has stressed, there is need for *managing self* to be conceived in a way that foregrounds the connectedness

of self to others at an interpersonal level, and to institutions and communities. Burrows (2005) thus signalled the need and potential for development of this key competency to align with the sociocultural orientation of the HPE learning area. *Relating to others*, and the interpersonal relations and skills that are associated with this key competency, can be seen as central to learning and participation in physical education and are an explicit learning focus in the HPE learning area.

International research evidence also pointed to the scope for pedagogies in physical education and sport to facilitate learning associated with these key competencies. Research has particularly illustrated ways in which learning associated with thinking and decision-making, self-management skills, and interpersonal skills (including communication and cooperation) can be supported and extended through various pedagogical models and approaches that have been developed in physical education. The Sport Education model (Siedentop, 1994; Siedentop, Hastie, & Van der Mars, 2011) and Teaching for Personal and Social Responsibility (TPSR) model (Gordon, Thevenard, & Hodis, 2011; Hellison, 1995) in particular have been shown to present opportunities to foreground the development of key competencies. Several key features of these models also align closely with the emphasis inherent in the New Zealand Curriculum, that learning relating to the key competencies should be *active*, *authentic*, *purposeful*, *relevant* and *empowering*, for *all* students. In addition, the Teaching Games for Understanding (TGfU) model (Bunker & Thorpe, 1982) holds significant potential to develop student thinking skills. While many physical education teachers in Aotearoa New Zealand may be familiar with these models, we were aware that research is lacking that specifically considers the potential role these and/or other pedagogies present in relation to development of key competencies.

Finally, we were aware that anecdotal evidence suggests that a common assumption made in school curriculum planning may be that *participating and contributing* is the obvious key competency for physical education to direct attention to, with the scope to make a notable contribution to other competencies. The development of the key competencies of *thinking*, *managing self* and *relating to others* within physical education are therefore in danger of being overlooked. The project therefore sought to expand thinking about the teaching and learning potential that physical education presents and provide insights into how teachers could explore this potential.

The KCs in PE Project

As indicated, the project involved us working closely with teachers from one secondary school. Our plan was to work with two teachers throughout the school year. A staff change mid-year meant that one teacher was involved for the whole year and two other teachers were each involved for half a year. Broadly, the project was undertaken as a collaborative action research endeavour, in which we all committed to learning from each other, and ensuring that the direction and pace of the research was negotiated and firmly linked to the opportunities and challenges presented by the specific school context. The intention was to work through two cycles of action research,[i] the first focused on exploring and better understanding current teaching, curriculum and learning in relation to opportunities to make links to the three key competencies, and the second involving changes to teaching and learning programmes in order to pursue identified opportunities. Ultimately, the process and progression was more iterative in nature, such that the shift in emphasis from exploration and understanding of current practice to changes in their practice was gradual and incremental. This occurred as teachers recognised possibilities to foreground key competency learning and gained confidence in doing so. Below we discuss some of the insights emerging from our collective "unpacking" of the three key competencies, and from the teachers' exploration of ways in which they could make connections between one or more of the key competencies and their work with Year 9 and 10 students. This variously involved adjustments to unit planning, assessment tasks, teaching approaches and learning relations (between teachers and students, and between students) in physical education lessons.

Two teachers from the department volunteered to be part of the project following a presentation made to the full department at the end of the 2011 school year. As indicated above, one of the teachers left mid-year, and a member of staff returning to the school after a period of leave then joined the project

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[i] See for example, Kemmis & McTaggart (1988); Mills (2003).

for the second half of the year, bringing the total number of teachers in the study to three. The teachers chose year groups and specific class groups after collective discussion about the opportunities and challenges that different units of work, student groups and learning contexts presented for developing key competency learning. The data collection during the project was designed to enable regular collective review and reflection. Data comprised unit planning, lesson planning and assessment task materials, field notes from observations, data arising from short "on-the spot" style conversations with teachers immediately following lessons, and field notes and audio recorded data from team meetings. A series of meetings were conducted throughout the 2012 year to bring the team together to discuss teaching experiences, emerging findings and to explore the teachers' next steps. Below we discuss some of the defining moments in the project and key issues emerging that related to curriculum, pedagogy and assessment in physical education at the school.

More than a name: Exploring the meaning of the KCs in PE

Our first planning meeting with the initial two teachers enabled us to openly explore understandings of the three selected key competencies and ways in which they might be developed within the physical education programme at the school. In a brainstorming session we collectively 'unpacked' ways in which each of the key competencies could be seen to link to learning in physical education drawn from the achievement objectives in the NZC. We tried to delve beyond the names of the key competencies, asking, for example, what particular thinking skills could be seen as relevant and worthy of development in and through various physical education contexts. Table 1 is an extract from our whiteboard notes and shows the depth we tried to achieve in exploring what, from a physical education perspective, could be seen as lying within the names of the key competencies.

The conversations prompted by this exercise highlighted a number of points that remained significant throughout the project. Questions posed about key competencies opened the door to broader discussion directed toward learning that the school physical education programme as a whole, and units of work within it, were currently focusing on. This in turn enabled us to explore the relationships between the programme and the achievement objectives for HPE in the NZC, and prospective development of key competency learning. A predominant programme focus on Movement Concepts and Motor Skills,[ii] particularly in relation to unit assessment tasks, was recognised as possibly limiting this potential. Planning for key competency learning thereby prompted an in-depth look at the scope of learning being developed in individual units and across the physical education programme, and drew attention to the need to adjust planning for learning connections.

Discussion also foregrounded the influence that summative end of unit assessment tasks had in shaping teaching and learning content and pedagogy, and the need for alignment between assessment tasks and methods and intended learning. It also highlighted that different pedagogical approaches and grouping strategies could have an important role to play in extending opportunities to link to the key competencies. We identified ways in which inquiry and student-centred approaches, seen in models such as TGfU and Sport Education, could be used to foreground some of the learning identified in our brainstorming (see Table 1, this can be found on next page).

A further point to come from this session was the need to consider how learning linked to the three key competencies could be extended and concentrated over time, and across units. In this regard, there was an appreciation that learning expectations needed to be extended rather than the same learning being replicated in a different context (e.g., dance followed by large ball games) as students went from one unit of work to another. We were thus challenged to explore what more sophisticated learning relating to each of the key competencies might involve in physical education and how this could be built into programme planning.

[ii] Commonly referred to as "Strand B".

Table 1:   Unpacking the KCs

Thinking	Managing self	Relating to others
– problem solving – decision making – evaluating – criticality, creativity – planning and thinking ahead – questioning – challenging self – values monitoring driven/self-reflection – reflection – motivation	– independence – autonomy – time management – resilience – goal setting – adapting – seeking knowledge/fdbk – proactive about learning – fair play knowing self – organisations understanding – responsibility trength/weakness – reliable – self motivation intrinsic reward/pride	– communication—working together—inter p. skill – empathy – leadership/fellowship – awareness of difference→inclusivity – acceptance of diversity – how we treat others/how to act – picking up on cues/understanding context/accepting boundaries – negotiation – motivating others—making things happen

NB: the original whiteboard think tanks have been typed for enhancement to publication resolution.

Discussion about key competencies thus raised significant issues relating to curriculum, pedagogy and assessment in physical education. These issues served as ongoing points of reference for the teachers as they reflected on their current units of work and began to explore ways in which they could begin to bring aspects of learning relating to *thinking*, *managing self* and *relating to others* to the fore in their planning and practice. Below we outline some of the changes the teachers made and discuss the opportunities and challenges associated with developing key competency learning that became apparent during the project.

Shifts in practice: Bringing KCs to the fore of teaching and learning

The project reaffirmed that a progressive and supportive process is fundamental to achieving meaningful changes in practice. From the outset our emphasis was that the teachers should look for adjustments that they could confidently make. Building on the discussions at our planning meetings, we had designed a template that the teachers could use for reflection on current practice and to identify potential changes. As Table 2 illustrates, initially the focus was on individual lessons, and we encouraged teachers to be thinking about both content and pedagogy.

The reflection process promoted teachers' recognition of how changing pedagogy could open up opportunities for key competency learning. Sharing learning intentions with students and making links to prior learning and aims of the overall unit became a more regular feature of lessons. With a more explicit focus on learning, the adjusted activities were seen to have more meaning and relevance for students. Changing pedagogy from somewhat direct teaching to more student-centred and group-based approaches was fundamental to creating opportunities for learning aligned with the three key competencies *thinking*, *managing self*, and *relating with others*. Developing aspects of learning linked to each of these key competencies came through when teachers talked about their pedagogy. One commented:

> When they are working in own groups … [the] learning focus does need to be layered, explicitly layered e.g., We are working on improving our ball ability and skills, but we are also working on how … [to] work with others for max improvement … [and to] think about what we are doing as we do it … [to] work on focussing for max improvement and supporting others to stay focussed.

Table 2:   **Reflection template for teachers**

Going into the lesson
1.   What opportunities did you foresee to make **an explicit** teaching connection with one or more of the key competencies (thinking, managing self, relating to others)?—*which KC/s and what is the connection envisaged?*   2.   What opportunities did you foresee to make a less direct teaching connection with one or more of the key competencies (thinking, managing self, relating to others), with the emphasis on **supporting/developing** KC learning?—*which KC/s and what is the connection envisaged?*
In the lesson
3.   What specific learning opportunity/ies were you able to create/pursue linked to one or more of the KCs?—*which KCs, the specific connection/s, were the opportunities "as planned" or did they arise during the lesson as more of a "teachable moment"?*   4.   Can you see other learning opportunity/ies linked to one or more of the KCs that arose but that you were unable to pursue?—*which KCs, the specific connection/s and WHY was it not possible to pursue the learning opportunity?*   5.   In essence, what if anything, do you think the students have learnt about one or more of the KCs from this lesson?—*which KC/s, and what learning specifically?*   *6.*   What was most important in facilitationg this learning?   7.   What inhibited/limited this learning?
Looking ahead
8.   Can you identify ways in which the KC learning you connected with in this lesson can be taken further in a future lesson?—explain the specific learning and how you think it can be extended in a future lesson.

Reflections from teachers indicated an understanding that becoming more student centred enabled greater opportunities for the development of key competencies, as shown in the following comments:

> As a teacher, learning to step back and let the girls discuss problems rather than trying to solve [things for them].

> It has made me realise how capable this class is and how much more responsibility I can give the students during the lesson.

One of the teachers reported that she "recognizes how much the students have risen to the opportunities to be student centred but I feel like a spare part at times". Lessons were described as becoming "more self-managed" and teachers' expectations of students had changed.

> They have started taking more responsibility for their team, we looked at managing self and the concept of asking for help as a way of managing their needs.

As students were challenged to set their own goals and use peer- and self-checking, teachers saw more opportunity to extend students with higher expectations. One reflected:

> By planning explicitly for managing self, and unpacking it with the class for this unit as planning, independence, organisation, taking ownership, there has been a change in their motivation and they are much quicker getting changed and straight into the warm-up as a direct response from them thriving from the responsibility they have been given.

The brainstorming material (Table 1) was also used to develop learning prompts displayed in changing rooms and as a focus for questioning during and at the close of lessons. One of the teachers saw important links emerging between the key competencies, explaining: "I think thinking was a strong KC that came out here as they really had to come up with how they could manage self, what would it look like in the unit". A focus on strategy in a game context facilitated further engagement with thinking skills:

> … this unit aimed to get the class to understand thinking by understanding strategy and how it was used in bb as well as other games—verbal,
>
> non-verbal, understanding their position so they could them create strategies, knowledge of the game and what it looked like.

From our lesson observations, we began to see more explicit links between curriculum learning and key competencies. For example, when providing opportunities for the students to discuss what it means to be a good leader, an effective group member and a good follower, one of the teachers made clear and explicit links to student understanding of self-management and relating to others.

Teacher reflection shifted from individual lessons to units of work and to assessment that could support key competency learning. One teacher explained that they were

> using goal setting at the beginning of lessons so they take responsibility and have an idea of what they have achieved. Seems also like a good way to be formatively assessing throughout the unit.

> Students are more aware of what skills they need to learn and now the onus is on them to achieve a set goal.

The adoption of self-assessment formative checks on the development of group work (relating to others and managing self) skills within a unit saw students taking greater responsibility for their learning. Items on the self-check assisted students to unpack key interpersonal skills and also asked for "next steps"—"what can I do to improve?"

Amidst these shifts to more student-centred pedagogy and assessment, teachers recognised the merits of a clear focus for learning endorsed with direction and support:

> Hopefully I have done the scaffolding with them so we just build on them [the KCs] now.

> The success criteria that focused on Relating to Others and Thinking added so much value to the unit. There was so much more learning that went on and it was hand in hand with the practical lessons that they were learning. Normally they would only have focused on the physical aspect of aerobics and maybe some focus on confidence to perform. But I have never run a unit that gave the students so much ownership over their own ability to succeed. This was powerful and will need to be taken into another unit to get more understanding in this area. It does go hand in hand with the goal setting they did so it will be easy to build into the next unit.

Recognising some of the potential changes to make moving forward, one teacher stated:

> Next time I would have one or two KCs that I worked on directly and more that were less direct so that it really got them thinking through just the couple and it would allow them to have a greater outcome and go more in depth.

By mid-year teachers were planning to adapt units for the next period of teaching. This prompted further brainstorming and discussion about possible links between learning derived from Achievement Objectives and the key competencies. This enabled the teachers to clearly see how they might adapt the pedagogy, the learning focus and their assessment to achieve alignment. For example, during the last term of the project, a Dance Unit assessment focused on working in a group towards a final performance, whereas previously it had centred exclusively on the final performance. Teachers thus saw that a focus on the key competencies and clear learning intentions enabled a focus on specific Achievement Objectives and vice versa. Table 3 illustrates links identified.

Table 3:   **Linking key competencies to HPE Achievement Objectives**

A1		B1	Managing self thinking	C1	R. M.	D1	T. R.
A2	M.R	B2	R. M. T.	C2	R. M.	D2	T.
A3	T	B3	T	C3	R. M.	D3	
A4	T. R. M.	B4	R. M.			D4	M.R.T
Self Self/other Other/society							

NB: the original whiteboard think tanks have been typed for enhancement to publication resolution.

(A-D = NZC HPE curriculum strands—Personal Health and Personal Development; Movement Concepts and Motor Skills; Relationships with Other People; Healthy Communities and Environments; T = Thinking; R = Relating to Others; M = Managing Self)

Subsequently, we used the framework in Table 4 to look in more depth at specific units.

Table 4:   **Unit planning template**

Unit Learning	AOs	Context (e.g., Gymnastics)	KCs	How?—teaching and learning activities	How will I know?—formative and summative assessment

NB: the original whiteboard think tanks have been typed for enhancement to publication resolution.

Conclusion: Realising some of the potential and looking ahead

The project spanned one school year and during that time some notable changes were seen in teaching and student learning. The focus on key competencies prompted a far stronger emphasis on learning in physical education planning and pedagogy, such that the teachers involved saw the scope and need for further development to be taken forward by the whole department. There was an appreciation that developing key competency learning needed to be linked to holistic curriculum planning, developing better understandings of connections between Achievement Objectives and key competencies, and between curriculum, pedagogy and assessment. A major shift was teacher acknowledgement that the units of work within their programme were too short, focused predominantly on performance, and that a lot more learning could be developed and supported by changing the learning intentions while retaining the established contexts. At the end of the year the teachers led a whole department meeting to share their experiences and engage colleagues with challenges around the need to plan differently for learning in HPE. As a small-scale study, this project pointed to important potential that the HPE learning area presents to support key competency learning. Equally, it demonstrated how a focus on the key competencies can prompt valuable reflection and development of curriculum, pedagogy and assessment in HPE. Finally, it demonstrated the value of research that is underpinned by a commitment to shared learning.

Acknowledgements

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