

‘If they can say it they can do it’: redesigning pedagogies in senior secondary physical education

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Abstract

Pedagogical practices are central to teachers’ work, and in the spaces of schooling bear a potential to impact on students. This impact is particularly significant for students attending schools where low socio-economic factors prevail, as these students rely heavily on formal schooling for their educational resources. Interrelationships between pedagogical practices, senior-secondary physical education curriculum, and the learning experienced by students from a school located in an area of socio-economic disadvantage are explored in this paper. The specific focus is action research conducted by a physical education teacher and university academics, which investigated pedagogical redesign for a ‘skill acquisition unit’. Of key interest are pedagogical practices that sought to scaffold the acquisition and application of scientific literacies, which are fundamental to academic success in senior secondary physical education. Findings reveal high levels of student engagement, successful utilisation of scientific literacies specific to motor-skill acquisition and application of new learning to life-world situations. We argue that pedagogical practices that breach the divide between student life-world knowledge and powerful or specialised knowledge can disrupt default modes of teaching theoretical concepts in physical education, which marginalise and exclude students from low-socio-economic backgrounds.

Key words: physical education, pedagogies, vertical and horizontal discourses

Introduction

Pedagogies are central to teachers work, and in the spaces of schooling bear a potential to impact on student engagement and achievement (Lingard 2007; Lingard & Mills 2007; Lingard & Keddie 2013). Teachers and their pedagogical practices can make a difference, albeit, not all the difference (Lingard 2005, 2007), which suggests both are important for students from disadvantaged socio-economic backgrounds, who rely heavily on formal schooling for their educational resources (Munns 2007; Hayes, et al. 2009). Pedagogies are, therefore, a significant issue for those concerned with enhancing educational outcomes for students and concomitant social justice effects of schooling (see Comber & Kamler 2004; Lingard & Mills 2007; Munns 2007; Hattam & Prosser 2008, Hattam, et al. 2009; Hayes, et al. 2009; Williams & Wilson 2010; Lingard & Keddie 2013).

Social justice agendas for schooling are often informed by imperatives to address issues of economic distribution and cultural recognition (Keddie 2012; Lingard & Keddie 2013). Keddie (2012) elaborates further in noting that such measures embrace inclusive schooling practices which seek to provide access to valued forms of knowledge and communication for students from less socially powerful positions. However, inclusion, when used in relation to pedagogical practices is a somewhat nebulous term, open to multiple and ambiguous readings (Lingard & Mills 2007). Common-sense understandings of inclusive pedagogies for physical education, for instance, prioritise the facilitation of equal opportunities for all as a means for ensuring continued participation in the learning area (Tinning 2002; Byra 2006). Commonly there is little consideration of the nature of the learning experiences to which students ought to have equal access, or the consequences for knowledge and identity construction (Wrench & Garrett 2012).

In less mainstream terms, inclusive pedagogies are a social justice issue (Lingard & Mills 2007), and, hence, have implications for socially-critical orientations amongst physical education teachers (Tinning 2002). From this perspective, pedagogies of physical education are inherently more complex than

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teaching skills, activities and, in the senior secondary years, transmitting knowledge of the human movement sciences. In this paper we are working from understandings of pedagogy as complex and encompassing relationships between teachers, learners, curricula content and knowledge generated (Lusted 1986; Cummins 2006; Tinning 2008, 2010). Consequently, how one teaches curriculum content, forms relationships to students, as well as the nature of student learning are all significant (Garrett & Wrench 2011).

Pedagogies of physical education inform ways of thinking, the acquisition of dispositions, and constitution of subjectivities (Tinning 2010). They also impact on student success and positioning in relation to societal and cultural assumptions (Wright 1997; Tinning 2008, 2010). Pedagogies of senior secondary physical education typically focus on knowledge drawn from the sub-disciplines of human movement sciences. As a consequence, scientific rationality and certainty around the body, physical activity, and health are privileged (Tinning 2010). Tinning elaborates further in describing a preferred pedagogical genre that privileges the linear transmission of valued, factual knowledge by the 'authoritative' teacher.

When pedagogy is constructed as an instrumental, linear process, the default classroom script (Gutierrez, et al. 1995) encompasses teachers and students adopting predictable roles, whereby knowledge is transmitted by teachers, to be unproblematically received by learners (Smyth 2001). The underlying premise is that teachers impart valued knowledge to students within neutral learning environments (Cummins 1996). It is assumed that teachers control the pedagogical process, and should impart a curriculum that reflects values, norms and understandings, which are hegemonic in wider society. However, there is little evidence to support the efficacy of such approaches in building capacities, and enabling learning (Hayes, et al. 2009), including the development of scientific literacies associated with success at senior secondary physical education (Tinning 2010).

From a social justice perspective, concerns arise when such approaches fail to recognise the habitus, including language, dispositions and cultural understandings of students, to 'scaffold traditional school learning methods and contents' (Hattam, et al. 2009, p. 304). When this occurs, pedagogical practices of schooling are directly implicated in the reproduction of social inequalities founded on middle-class, male, Anglo-Saxon culture (Williams & Wilson 2010). There are implications for students from socio-economic disadvantaged backgrounds in particular, because, as Hayes et al. (2009) argue, these students are profoundly reliant on schooling to develop capacities and skills for maximising life chances and opportunities.

Pedagogies for improved academic and social justice outcomes, in relation to senior secondary physical education, are central to this paper. Our specific focus is a case study of pedagogical redesign, enacted by a physical education teacher at a school based in the northern suburbs of Adelaide, which is an area of persistent high social and economic disadvantage (Wrench et al. 2013). The case study we describe was incorporated into a whole of school project of pedagogical redesign, as means for building educational achievement to support student aspirations. In this paper we first describe the broader project before addressing theoretical perspectives. We follow with an outline of the research undertaking, then illustrate and discuss the pedagogical redesign. We argue that pedagogical change in health and physical education, across the levels of secondary schooling is necessary if teachers are to truly enhance educational outcomes for all students.

School of Education Aspirations Project

A key priority of the Rudd/Gillard Australian governments was ensuring the nation's future prosperity through increased participation in education and skills training (Tyler et al. 2010; Woodman & Wyn 2010). This was evident in a commitment to the *Review of Australian Higher Education* (Bradley et al. 2008) and aims to increase participation in higher education amongst students from traditionally

underrepresented equity groups (Gale & Tranter 2011; McLeod 2011). In accord with the long established utilitarian value of mass schooling, as a means to manage perceived societal problems and strengthen its prosperity (Hunter 1994, 1996; Rose 1999), consequences exist for schools catering for students from these equity groups. Whilst these consequences may appear overtly governmental (Foucault 1982), they also provide opportunities to address social justice issues around schooling and education outcomes for students from disadvantaged backgrounds.

More specifically, these consequences highlight the necessity of building and supporting aspirational achievements and improved educational outcomes for students living in low socio-economic communities (Wrench et al. 2013). Prosser et al. (2008), for instance, contend that students living in regions of persistent socio-economic disadvantage, hold high aspirations for their futures. They are, however, faced with challenges to their educational attainment that reduce their capacity to realise these aspirations.

The University of South Australia, School of Education Aspirations Project (SEAP), was developed in line with these concerns and the goals of the Rudd/Gillard Australian Governments, in collaboration with the Northern Regional Office of the Department of Education and Child Development (DECD) in South Australia. It comprised networks of schools working on action research based professional development projects, which grappled with the challenge of providing intellectually demanding learning experiences, whilst supporting students to be academically successful. The project undertaking was sustained through a sequence of professional development activities, curriculum/pedagogical redesign, implementing the redesigns with action research, and allowing time for teachers to make sense of what was learned (Wrench et al. 2013).

Literacy for academic success: vertical and horizontal discourses

Young (2008) argues that in 'modern' societies, such as Australia, schooling should be about providing students with access to *powerful knowledge*. He argues further that *powerful knowledge* increasingly exists as specialised knowledge, and differs from knowledge acquired in everyday life. From a social justice perspective, concerns arise when the pedagogical endeavours of schooling fail to breach differences that might exist between students' life-world knowledge and *powerful* or specialised knowledge required for success. Similar concerns arise when pedagogies are premised on notions that there is an incompatibility between intellectual rigour associated with such knowledge, and ensuring relevance and supportive classroom environments (Williams & Wilson 2010, 2012, Lingard & Keddie 2013).

Bernstein's (1999) theorisation of 'vertical' and 'horizontal' discourses provides a means for understanding difficulties encountered around integrating specialised knowledge with students' life-world knowledge (Williams & Wilson 2010, 2012). Bernstein (1999) argued that horizontal discourses incorporate every-day, or 'common sense' forms of knowledge developed in the various social spaces of individuals' life-worlds. Typically they are 'oral, local, context dependent and specific, tacit, multi-layered, and contradictory across but not within contexts' (Bernstein 1999, p. 159).

In contrast, vertical discourses account for explicit and discipline-based academic knowledge (Bernstein 1999) of, for instance, human movement sciences. Bernstein elaborated further in explaining that in addition to systematically structured and hierarchically organised knowledge of sciences, vertical discourse could also incorporate specialised languages of the humanities and social sciences, known as horizontal knowledge structures.

Senior secondary physical education curriculum is a form of powerful knowledge and incorporates a cluster of vertical discourses. Curricular content is re-contextualised from the various disciplinary knowledge of human movement sciences, including motor learning, biomechanics, and physiology. Typically the curriculum is highly structured, with paced, sequential delivery, and pre-ordained formalised endpoints, such as high stakes assessment (Williams & Wilson 2010).

Research by Williams and Wilson (2010, 2012) along with Lingard and Keddie (2103) challenge Bernstein's conjecture that it is difficult for teachers to deploy pedagogies that integrate the 'horizontal discourses' of students' local knowledge and 'vertical discourses' of powerful knowledge. This paper engages with this debate and reports on a project of pedagogical redesign, which attempted to provide access to vertical discourses of senior secondary physical education via movement experiences and horizontal discourses embedded in students' life-world experiences and physical activity backgrounds.

This research

Data presented in this paper is drawn from a case study incorporating practitioner action research, and concomitant *reflection-on-action*, by Tom, a physical education teacher, in professional dialogue with the authors, as critical friends.

A case study approach enables the presentation of detailed accounts and deeper understandings of events, experiences, and perceptions (Basit 2010; Flyvberg 2011). This case study was an exploration of the enactment of redesigned pedagogies, subsequent reflections and meaning making. In order to capture the experiences and knowledge generated by Tom and his students, unstructured and semi-structured interviews as 'extended conversations' (Holland & Ramazanoglu 1995) were conducted on a regular basis over an eighteen month period. These conversations supported the process of generating rich data (Gubrium & Holstein 2003). Student work samples, photographs and discussions provided sources of additional and complimentary data.

Participatory Action Research, incorporates 'self-reflective enquiry' (Carr & Kemmis 1986, p.162) undertaken by participants in specific social situations, including schools and classrooms. It recognises the centrality of practitioners to the research process and seeks to improve practices, understandings of the rationality and justice implications of these practices and the situations where these practices are enacted (Carr & Kemmis 1986; Kemmis & McTaggart 2000; Gilmore & McDermott 2006; Altheide & Johnson 2011; Levin & Greenwood 2011).

Reflection as a form of action is integral to practitioner action research (Leitch & Day 2000; Smyth 2001; Goodyear et al. 2013). The work of Schon (1983) around *refection-in-action* and *reflection-on-action* has proved pivotal to practitioner inquiry, which focuses on pedagogies, relationships and concomitant impact on student engagement and learning (Smyth 2001; Goodyear et al. 2013). In building on Schon's seminal work, Smyth (2001) suggests four questions as means of action; What do I do? (describing), What does this mean? (informing), How did it come to be like this (confronting) and How might I do things differently (reconstructing).

Smyth's questions challenge taken-for-granted or normalised pedagogies and as such resonate with what Foucault refers to as 'an ethics of discomfort' and concomitant incitement to avoid 'being completely comfortable with your own certainties' (Foucault 2007, p. 127). Of significance to this action research undertaking, is the potential inherent in an 'ethic of discomfort' to unsettle certainties associated with normalised pedagogies of senior secondary physical education and their impact on student learning (Harwood & Rasmussen 2004).

Our initial meetings with Tom sought to clarify the focus of the action research so that the cyclical process of planning, action, observation and reflection could proceed. In accord with Smith's (1984) principles for ethical educational research, Tom, as practitioner researcher, was central in identifying issues and solutions or answers. Here, Smyth's (see 2001) questions provided initial impetus and clarification in identifying the issues, contributing factors and action taken in the form of pedagogical redesign.

Tom identified issues around low student participation and success in Year 12 secondary physical education, which he believed was partially founded on a mismatch between the theoretical demands of the subject and pedagogies he was using to develop students' scientific literacy skills. The culmination of

this reflective process was Tom's identification of the following goals, which were central to his pedagogical redesign:

- To develop and implement a SACE Stage 1 unit of work in Skill Acquisition that aims to increase literacy skills and confidence of Year 11 students to engage with theoretical concepts.
- To design learning experiences that help students to transfer the skills learnt into other subjects and their wider lives.

An interpretative lens was adopted in analysing the data and in identifying key insights and themes (Patton 2002). Tom's reflections on the first three questions posed by Smyth (see 2001) focused attention on data that was captured by the theme of 'Comfortable pedagogies'. Tom's attempts to address 'what' and 'how' he might do things differently were encapsulated through the theme of 'Pedagogies of discomfort'. Data that focused on student learning and participation is presented through the theme of 'Pedagogies for enhanced student learning'.

As this inquiry was conducted with one teacher we do not make claims for empirically generalisable findings, but present findings from this unique and particular context as a means for expanding understandings (Smith 1984; Gilmore & McDermott 2006). In attempting to broaden perceptions we conclude by make an argument for pedagogical redesign in physical education in the earlier years of schooling.

Comfortable pedagogies: PE or Theory?

As established above, Tom made connections between low student participation and success in year12 physical education, and students' scientific literacy skills. Many of his students were attracted to the learning area because they were practical 'doers' and physical activity seekers (Tinning 2004). Yet the normalised organisational structures of senior secondary physical education reinforce theoretical/practical and mind/body binaries (Tinning 2010), evident in the following question from one of Tom's students: 'Are we doing PE or theory today'?

In reflecting on the question '*What do I do?*' Tom described his reliance on a linear pedagogical model in teaching theoretical content. The question, '*What does this mean?*' prompted Tom to identify that whilst he was controlling the flow of information and making all the pedagogical decisions, students were passive participants in his classes. Further to this, Tom was aware that as a consequence of his reliance on 'comfortable' pedagogies, students struggled to engage with theory components and discipline-based concepts.

Tom elaborated further in explaining that he determined how curriculum content was delivered, the manner and pacing of its dissemination and nature of student participation. In describing his 'comfortable' pedagogies Tom noted that typically he spoke to the topic content on power point slides, used explanatory examples from his own sporting background, students answered questions in a workbook, and responses were subsequently checked with the class as a whole. As a consequence Tom acknowledged that he did well over ninety percent of the talking in class. Implications arose here in terms of how the official curricular knowledge of physical education circulated, functioned as a relation of power (Foucault 1982) and limited possibilities for Tom and his students as subjects.

In challenging these pedagogical 'certainties', Tom suggested that as passive participants, his students were not learning how to use and apply scientific literacies required for academic success in senior secondary physical education. He also believed that the students needed to do more talking in classes in order to become more comfortable in using these scientific literacies. This process of 'confronting' certainties also resulted in Tom acknowledging that he was, 'bored with how [I] he delivered the content of ...lessons and this carried forward to ...students'.

Tom suggested that 'it *had come to be like this*' because he was relying on 'traditional' and normalised pedagogies that reinforce a mind-body dualism (Williams & Wilson 2012). He was reproducing pedagogical practices that he had experienced as a student in senior secondary physical education. In reflecting on what was transpiring for students in terms of engagement and learning, Tom identified that he needed to take action and therefore not be completely 'comfortable' with certainties (Foucault 2007) associated with normalised pedagogies of senior secondary physical education.

Pedagogies and ethic of 'discomfort'

Tom's pedagogical re-design for a skill acquisition unit was premised on breaking down the divide between theoretical disciplinary knowledge or vertical discourse and the non-technical language and understandings students used in relation to physical activity, sport and exercise, which was founded in their life world and sporting experiences (horizontal discourses). It was also premised on openness, honesty and trust, as is evident in the following information provided by Tom to his students.

We are going to be doing some things that are going to make you feel silly, but they are designed to make you feel silly so we can figure out why.

In terms of an 'ethic of discomfort' Tom prepared his students for teaching and learning arrangements that contrasted with the default and comfortable arrangements all were familiar with. We also propose that whilst Tom took risks in with his pedagogies he also prepared his students for taking risks with their learning. Risk taking in supportive learning environments has been identified as significant in enhancing learning and achievement by students from disadvantaged backgrounds (Sawyer et al. 2013). In preparing the students for 'discomfort' and 'risk', Tom also provided a safe and supportive learning environment.

Another key premise was the desirability of providing students with opportunities to actively engage with curriculum content through, in the words of Tom, 'real world experiences of teaching, coaching, and learning motor skills themselves' (as opposed to sitting through a power point presentation and doing workbook tasks for the four week block). A third premise was encouraging student discussion about concepts they were physically engaging with. Collectively these premises resonated with possibilities for breaching the vertical/horizontal discourse divide (Lingard & Keddie 2013; Williams & Wilson 2010, 2012).

What was done differently (reconstructing)

In planning the 'new' Skill Acquisition unit, Tom's starting point was students' prior knowledge. This is evident in his opening move in teaching the re-designed unit, where he asked students to brainstorm their understandings of '*what a skill is*', '*how we learn skills*' and '*what makes someone skilled*'. Student responses to the question about what a skill is included: 'something you learn', 'something Lizzie has', and 'being good at something'. Responses to the question about how we learn skills extended to: 'practice', 'effort to train', 'by being taught by someone who has these skills', 'by listening', 'being shown'. Whilst responses about what makes someone skilled comprised: 'succeeding at what they are good at, 'doing a task over and over again really well'. In these responses the language was general and couched in the everyday or horizontal discourses of students' movement and life experiences.

Key to the pedagogical re-design were movement tasks Tom devised for each of the five key conceptual areas, *Definition and descriptions of learning styles*, *Classification of skills*, *Characteristics of a skilful performer*, *Learning process/ models of learning* and *Stages of learning*, included in the Skill Acquisition unit. More specifically Tom described how,

Within each concept there will be an activity designed to deepen students' understanding of the theory content. For each activity students will receive a feedback sheet and their feedback and my observations will inform me about the success of this.

The activities were conducted before or after theory content depending on situation and included:

- Types of learners: Frog balance (verbal, visual and combination instructions)
- Open and closed skills: Basketball dribbling, (students rotated through the roles of ball-handler, defender and observer completing guided observations sheet)
- Characteristics of a skilful performer: Video analysis (notes about and observations of elite compared to novices)
- Information processing: The ship (completed a drawing without visual and/or verbal feedback)
- Stages of learning: Juggling, (new or novel task for all)

What happened?

The first activity (frog balance) highlighted personal learning preferences, (for example verbal instructions, demonstrations, or a combination), but also highlighted uniqueness, similarities and understandings that one approach does not suit all. This activity developed a sense of personal recognition of learning preferences, engagement and confidence. This was evident in responses from students' to questions on feedback sheets.

It helped me understand that there are different ways that people learn: visual, verbal or both. It also showed me that the more times we tried the better we would get. (Casey)

Yes, it helped because by explaining the activity in three different ways it showed us how different people learn and how I like to learn. (Bronte)

The second activity, along with guiding worksheet questions, provided scaffolding for student learning around the nature of motor skills as 'open' or 'closed' and the significance of the environment, and/or conditions in performing skills. Student responses on feedback sheets provided evidence of learning and engagement with scientific language.

It helped me realise the difference when it is open and closed. Closed is when the ball handler was running and bouncing. Open is when the defender came into play. (Brendon)

Because it helped me understand gross and fine movements as well as discrete, continuous and serial movements. (Joel)

It gave me a better understanding of what fine/gross motor are and what is an open or closed skill scenario. (Kim)

The strategy of guiding questions to scaffold learning was also used by Tom in the third activity which incorporated viewing, reflecting upon, discussing and then recording understandings about the differences and similarities between novice and advanced levels of skill performance. Student responses on feedback sheets indicate evidence of this learning as well as the value of these strategies.

I saw two different standards of game so I could see characteristics of a skilled performer. (Jason)

It helped me see the differences between the characteristics of a skilled performer and a novice. (Brendon)

Watching did not help but writing it up later and expanding on it was beneficial. (Clint)

It gave me a better understanding that a skill performer makes things look effortless and has good technique. (Kim)

The development of conceptual understandings about information processing provided a focus for the fourth activity. As with the previous activities Tom facilitated and guided group discussion about the experience of following instructions without/with visual feedback. Student reflection about this task ranged from personal experience and feelings to explicit engagement with technical or scientific terms, and knowledge. The following examples provide evidence of that breadth.

By only hearing instructions and drawing blind was harder to draw and understand than seeing what was being drawn and also hearing. (Brendon)

It helped me better understand how important feedback is in learning a new skill. (Bronte)

It helped me understand the learning process model of skill. That is input → information processing → Output → Feedback. (Jordan)

Tom chose juggling as a means to facilitate or scaffold learning about 'Stages of Learning'. In introducing this activity, Tom explained that in learning to juggle the students would be 'putting everything they had learnt into practice, by following the stages of learning whilst learning a "foreign" skill'. In learning to juggle students would be putting their new knowledge into action. This was expressed by Josie, in the following comment.

The teacher explained why we did this and the steps we have been learning in this topic, which made sense.

Here we suggest that Tom attempted to reinforce the links between activities, key concepts and students' application of their learning to a new situation. Students' grasp of key conceptual understanding and associated scientific language was evident in the following comments.

We started at a cognitive stage with only one ball getting a feel of the movement and then proceeded to a second ball. (Brendon)

It helped me understand learning stages, for example cognitive and associative. (Jordan)

Pedagogies for Learning

To reiterate, the five movement or activity experiences, were central to Tom's pedagogical re-design. While Tom continued to use power point presentations, this was in a complementary fashion in concert with other pedagogical strategies. Another strategy was the use of quite specific guiding questions and directions for student observations, which students' recorded. This data was subsequently used to promote discussions, designed to provide students with opportunities to clarify and expand on their knowledge and understandings about key concepts. Through these systematically planned interrelated

tasks and approaches, Tom demonstrated to the students that theory and practical learning experiences are not necessarily separate phenomena.

The activities, in the words of Tom, gave students ‘a feeling of what happens when you learn about movement’. As such they provided an initial link between understandings founded in students’ movement backgrounds and the curriculum content of skill acquisition. The guiding questions, conversations, worksheets, and student observations provided scaffolding that worked to diminish the divide between horizontal discourses, founded in everyday language and life-world experiences that students bring to classes and vertical discourses associated with human movement science.

Tom also stopped being the talker and started listening to student conversations, and facilitated their use of technical language. For Tom an important axiom to emerge was that ‘the person doing the talking is the person doing the learning’. This was also premised on his premise that ‘the more students used the language the easier they would find it to write their assignments and the better quality they would be’ (Tom). As Cole Mooney and Nanlohy (2013) argue, when students ‘have a voice’ they are enabled to drive their own learning. This was clearly evident in Tom’s reflection that, ‘as the unit progressed, students drove the conversations about the power point slides’.

Tom did not overtly correct students’ use of less sophisticated language but used facilitative questions such as: ‘What is another word for that? In this way, he jettisoned instrumental, pedagogical practices and default classroom scripts (Gutierrez et al. 1995). He worked purposely and deliberately to integrate the development of movement experiences and classroom activities into student held scientific literacies (Zammit & Callow 2013). In disrupting the familiar and unsettling certainty (Foucault 2007; Harwood & Rasmussen 2004) power relations circulating in Tom’s classes functioned to construct different possibilities for the students as knowledge producers and Tom as a facilitator of this.

As is evident in the following comment, Tom also reflected on the significance of the chosen tasks and the learning environment to student engagement and learning.

If I had picked out activities that I thought they all would succeed, straight away, and they didn’t have to put any thought into how to get there I don’t think it would have been as beneficial...definitely there were levels of embarrassment, fun and learning.

This reflection concurs with findings made by Sawyer et al. (2013) who, in describing classroom conditions that support students from disadvantaged backgrounds in taking risks with their learning, suggest that enjoyment and fun contribute to feelings of security, satisfaction and achievement in related to cognitive challenges. Together with notions of an ‘ethic of discomfort’ the affective domain can be considered significant in this pedagogical redesign and stimulating deeper learning.

Performing learning

Tom also sought sound evidence of student learning in relation to skill acquisition and improved scientific literacy skills. As such he provided students with multiple means to perform their learning. These strategies included the use of memory boxes, where students recorded their knowledge about a particular concept and shared this with other students. The white board was also used for comparing prior and post unit knowledge. Where prior-knowledge was expressed in general terms associated with horizontal discourses, knowledge recorded on the whiteboard at the end of the unit reflected the increased use of technically correct language or vertical discourses. For example, post unit, a skill was described as ‘a learned ability that can be performed accurately with minimum effort and maximum results.’ Whilst someone who is skilled, ‘seems calm and has all the time in the world’ and has ‘the ability to repeat a skill with rarely any mistakes’. Brainstorming about how we learn skills included, ‘feedback from results, which changes in accordance with the results’. Students also identified that people ‘learn in stages’ and that learning involves the ‘cognitive and affective domains’ amongst others. Visually this was a powerful strategy as it provided student with clear feedback about their collective learning.

Students' performance of learning was formalised through an end of unit written assessment. As a means of collecting evidence about the impact of his redesigned pedagogies, Tom compared writing samples from this assignment and a similar assessment task completed at the conclusion of a unit taught via his traditional manner. As is evident in the following examples from the assessment attached to the unit taught earlier in the year, students relied on less technical language and also used words in ways that failed to demonstrate understanding of concepts.

To be a Judo competitive you have to be able to train and complete all of these fitness components at a high standard because these are important and are needed to be successful in judo. (Micha)

And doing it by specificity which is you get what you train for. (Nathan)

In contrast and in general terms Tom found that at the conclusion of the skill acquisition unit students wrote with greater fluency and used terminology (vertical discourses) appropriately to communicate effectively.

The throw technique is in the 'Discrete' category of skills as this skill has a distinct beginning and end even though it may repeat." (Micha)

Feedback would then be given to maximise the results of the athlete's technique (Nathan)

Concluding thoughts

This paper reported on action research and reflections on a pedagogical re-design for senior secondary physical education. The work was informed by understandings that academic success in senior secondary physical education is premised on access to specialised knowledge or the vertical discourses of human movement science. This is particularly significant for the participants who, as students from an area of persistent social disadvantage, rely heavily on schooling to provide them with their educational resources (Hayes et al. 2009).

General findings suggest that through his pedagogical redesign, Tom was able to provide his students with the means to move from a reliance on everyday language or horizontal discourses situated in their life-world movement experiences toward using vertical discourses of human movement sciences, as applied to skill acquisition. Student learning was evident in comparisons between responses to the pre-unit and post-unit brainstorming activity. This evidence was in terms of using technical terminology or language, as well as depth of understanding of key concepts. Academic achievement was also apparent in the formal summative assessment for this unit where enhanced fluency and coherency in written language, correct use of terminology and application to real life situations was evident.

At another level we suggest that the nature of the learning environment provided by Tom, contributed to student success and learning. Tom was open with his students and foregrounded that he was taking risks in his teaching and prepared them also for risk taking in their learning. In choosing a combination of movement experiences, student observations, record taking and facilitative questioning, Tom challenged existing complacencies and predictable script lines in his classroom (Gutierrez et al. 1995). Student voice and autonomy (Cole et al. 2103; Lingard & Keddie 2013,) was valued and Tom facilitated the repositioning of himself and the students beyond teacher/authority and student/receptors of knowledge pedagogical relationship.

In many respects Tom's redesigned pedagogies for skill acquisition align with elements of the productive pedagogies, especially in relation to providing a supportive learning environment, connecting with student life worlds and ensuring intellectual rigour (Lingard 2007; Mills & Keddie 2007). Further to this

Lingard and Keddie (2013) in challenging Bernstein's (1999) contention about the incompatibility of vertical and horizontal discourse propose that productive pedagogies can provide means to challenge this divide for students from disadvantaged backgrounds.

It is important to reiterate that this case study was conducted with one teacher, and hence, we do not make claims for empirically generalisable findings. However we do argue for a rethinking about the pedagogies of physical education used with students from disadvantaged backgrounds, at all levels of secondary schooling. In doing so we revisit Foucault's argument for an 'ethics of discomfort' (2007) and the challenge of unsettling taken for granted pedagogies. Here we advocate for reflection about how and where pedagogies of physical education facilitate connections between student life-world knowledge and powerful or specialised knowledge as a means for supporting academic achievement and aspirations amongst all students. After all, in the words of Foucault (1983, p. 231), it 'is not that everything is bad, but everything is dangerous'.

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