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Swimming and water safety education: continuing the journey of belief.

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CONFERENCE PROCEEDINGS



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A Defining Time

Health, Physical Education,
Sport & Recreation

27 - 29 NOVEMBER 2013
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Editors

Dr John Quay and Dr Amanda Mooney

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Editorial

It is with pleasure that we present the full papers of the 28th ACHPER International conference.

The papers presented here make an important contribution to the field of Health and Physical Education in Australia at this important time, this defining time, when we are dealing with cementing our place in the Australian Curriculum.

A noticeable thread running through the papers is acknowledgment of the importance of various Australian jurisdictions – Victoria, South Australia, Queensland, Western Australia, New South Wales – to commentary on issues to do with the broad notion of Health and Physical Education. Such identification of State perspective points to a diversity that can only continue to enrich an Australian Curriculum. Additionally, the international perspective contributes to a curriculum discussion that spans more than just one nation.

Consideration is given, across the papers presented, to a range of concerns which continue to define the future development of Health and Physical Education. Much is said about pre-service teacher training and the issues that face this very important section of our community – both lecturers and students. And then there are issues that pervade the contemporary classroom, such as social media and sexuality. How are we confronting these challenges?

Models of teaching and learning in Health and Physical Education are central to the ways in which we discuss our practice, and these feature prominently in the papers presented.

In considering our future it is always relevant to consult the past. The historical perspective is presented around both Health Education and Physical Education as these have developed in Australia. Such retrospection cannot but help inform our attempts to continue to improve. We also welcome perspectives from different countries and different cultures. These continue to add to the intercultural dialogue that must form part of the global future of Health and Physical Education.

Overall, we believe that this collection of full papers helps to illuminate the current situation in Health and Physical Education, enabling us to learn from each other as we all attempt to adjust to an ever changing Australian and international context that continually asks us not only to define, but to redefine, Health and Physical Education.

We commend this collection to you and hope that the papers included will help you in the ongoing quest to improve your understanding and your practice.

Dr John Quay and Dr Amanda Mooney
ACHPER International Conference Program Directors

Contents

Some seed fell on stony ground: three models – three strikes!1

Ken Alexander

Edith Cowan University

The state of Victorian primary school children's swimming ability9

Rhiannon Birch, Bernadette Matthews and Kate Simpson

Life Saving Victoria

Trends in different contexts of physical activity among South Australian school children between 1985 and 201316

Verity Booth, Alex Rowlands and James Dollman

School of Health Sciences, University of South Australia

The voices of children aged 10 and 11 years old: their views on Physical Education and the implications for policy, practice and research in England.24

Barry Paraskevas Costas

University of Hertfordshire, Hatfield, England, UK

Managing student performance anxiety in Sport and Physical Education environments33

Janet Currie^a and Kelly Sumich^b

^aUniversity of Technology, Sydney, Australia; ^bSports Science Education Institute, Perth, Australia

Finding perspective: influencing children's initial and ongoing participation as a contemporary sport-parent38

Sam Elliott and Murray Drummond

Flinders University, South Australia

Enhancing the preparation of tomorrow's teachers through symbiotic cooperative education relationships46

Jenny Fleming and Denise Atkins

Auckland University of Technology

A history of Health Education in NSW government schools from the early origins to the national curriculum54

Michelle Gorzanelli^a and Steve Georgakis^b

^aAustralian College of Physical Education and University of Sydney; ^bUniversity of Sydney

News from WA.....(more than just iron ore and great footy teams) – policy principles to course design.....64

Andrew Jones^a and Dawn Penney^b

^a*Edith Cowan University, Australia;* ^b*The University of Waikato, New Zealand and Edith Cowan University, Australia.*

Shaping adolescent girls' body image perceptions: the effect of social media on Australian adolescent girls74

Stephanie T Jong and Murray J N Drummond

Flinders University, Australia

Swimming and water safety education: continuing the journey of belief.....84

Timothy Lynch

Monash University, Faculty of Education

Teaching swimming for movement variability: an application of Teaching Games for Understanding-Game Sense.93

Terry Magias and Shane Pill.

Flinders University, South Australia.

Developing theoretically informed practice: the forward press in Australian football as an example of the dynamics of a complex system.....102

Shane Pill

Flinders University, South Australia

Class size and Physical Education112

Michael J Reynolds

University of Ballarat (retired)

Translating feedback research in a motor learning laboratory into Physical Education practice120

Kelly Ruecker^a, Sharna Spittle^b and Michael Spittle^b

^a*College of Sport and Exercise Science, Victoria University, Melbourne;* ^b*School of Exercise and Nutrition Sciences, Deakin University, Melbourne*

An examination of pre service teachers' confidence to teach primary Physical Education126

Sharna Spittle^a, Michael Spittle^b and Kim Encel^b

^a*College of Sport and Exercise Science, Victoria University, Melbourne;* ^b*School of Exercise and Nutrition Sciences, Deakin University, Melbourne*

Pre-service teachers' reasons for choosing to specialise in primary Physical Education	133
Sharna Spittle ^a and Michael Spittle ^b	
<i>^aCollege of Sport and Exercise Science, Victoria University, Melbourne; ^bSchool of Exercise and Nutrition Sciences, Deakin University, Melbourne</i>	
SafeLanding: a defining model for addressing the barriers to teachers delivering sexuality education in schools	139
Mandy Stevens	
<i>Family Planning Victoria</i>	
TGfU-GS: an imagined dialogue between a teacher and an academic	148
Steven Stolz ^a and Shane Pill ^b	
<i>^aLa Trobe University, Victoria; ^bFlinders University, South Australia</i>	
A case study of a Queensland Senior Physical Education syllabus: does the rubber (ever) meet the road?	158
Brendan SueSee ^{a*} and Ken Edwards ^b	
<i>^aCavendish Road SHS, Brisbane; ^bFaculty of Business, Education, Law and Arts, University of Southern Queensland</i>	
<i>Kia Marama Te Au Tauira Ite 'Āite'anga Ote Au Peu 'UiTūpuna: students' perceptions of cultural activities in Physical Education</i>	171
Aue Te Ava	
<i>School of Education, Charles Darwin University, Darwin, Northern Territory, Australia</i>	
Perceptions of Health and Physical Education university students about the value of peer assessment in a Sport Education unit.....	178
Ross Williams	
<i>Murdoch University, Western Australia</i>	
Twenty years of Game Sense sport coaching in Australia: 1993-2013 – where are we now?	188
Ashleigh Zuccolo ^a , Michael Spittle ^a and Shane Pill ^b	
<i>^aDeakin University; ^bFlinders University</i>	

Some seed fell on stony ground: three models – three strikes!

Ken Alexander

Edith Cowan University

It's long been thought that secondary PE teachers have neither the training to develop curricula from scratch – nor any inclination to do so. Arguably, their workplace contexts contrive to subvert the adopting and sustaining of curriculum models that are responsive to both curricular policy imperatives and to students' needs and interests. Almost twenty years ago, we gave detailed pedagogical expression, in the form of SEPEP, to Siedentop's 'Sport Education' (Alexander and Taggart, 1995). Ten years ago, we addressed teachers' concerns about their pedagogical content knowledge being 'sidelined' by 'pure SEPEP' and offered a TGFU-SE hybrid in the form of the Clinic Game-Day model (CGD) (Alexander & Penney, 2005). Latterly, I have been promoting, in PDs and to my undergraduate students, a third curriculum model aimed at providing young people with the skills and knowledge to plan, self-manage, and then implement a four-week trial of a personal 'healthy, active, lifestyle' program (HALs). In this paper, I canvas some of the reasons why such ostensibly good ideas fail to germinate and to take root in schools. Included in this presentation is some personal soul-searching as a teacher-educator and sometime curriculum developer, some questions about policy development and implementation, a consideration of school cultures, collegiality and leadership, and some thoughts about the role a professional organization might still play in these matters. I finish with a reprise of what's been regarded as a somewhat controversial proposal from an address I gave in 2008 at the Flinders University 'Play to Educate' Conference: that secondary school HPE departments should deliver main-theme curriculum models for half the time they currently spend delivering 'traditional PE' and devote the freed-up half to co-/extra-curricular programs that explicitly target student engagement with competitive, expressive and other health-related activities beyond the school gate and even the school years.

Keywords: teacher education; curriculum policy; curriculum models; occupational socialisation; washout.

This paper outlines the story I tell my HPE teacher education students (pre-service teachers – PSTs) about the state of play in the profession they're preparing to join. I'm hoping that others might find the story interesting too. This may include other HPE teacher educators who can compare my story with theirs, practising teachers who can confirm or challenge my version of events or PSTs from programs other than my own.

Firstly, though, a little focus. My story is primarily about what is offered to Year 7-9 students as HPE programs. Typically, these are the years when students are a captive audience, having little or no choice about their attendance at HE or PE lessons. My story begins, as most should, with a naked attempt to engage readers/listeners. I assert that many school programs keep three 'dirty little secrets' from those outside the profession: They struggle to develop motor skills (when multi-activity programming – MAP - predominates) they don't develop game performance (requires tactical focus uncommon in MAPs) and they don't develop fitness (often tested but rarely followed through). Apart from that – all's well. Throughout my career I have been involved in developing pedagogies to address all three however, as the title of my paper suggests, largely to no avail.

As those of you who've looked at my abstract will know, I intend to make several assertions that underpin my story's plot line. The first assertion is that the multi-activity program model for PE that developed in the latter half of the 20th Century has retained a strong foothold in schools. Its shortcomings have been well documented

(Ennis, 2000; Kirk, 2004; Locke, 1992; Siedentop, 1977). Its technically focused, short duration sports units disappointingly often only keep students 'busy, happy and good' (Placek, 1983). And this not a recent development. In an article entitled 'Changing Secondary School Physical Education', Larry Locke (1992) began this way:

Evidence suggests that many secondary school physical education programs fail to achieve their objectives. A disturbing number of students report associating required attendance with strong negative feelings about the class, physical activity and themselves. Teachers report that workplace conditions do not allow any serious effort to provide instruction. The nature of these problems is such that neither improving instruction nor upgrading the present curriculum will suffice. I argue that replacing the dominant program model is the only course of action that can save a place for physical education in secondary schools. (p.361)

Twenty years later, scores of my PSTs consistently report that their practica have overwhelmingly been conducted in secondary school HPE Departments using multi-activity programming.

The story I tell my PSTs begins with the assertion that, often lacking meaning and purpose, lessons under the multi-activity program (MAP) arrangement mean that significant educational outcomes are often elusive. I substantiate this (and other assertions in this paper) through the stories of the hundreds of PSTs we de-brief after practicum experiences each semester. Their observations strongly corroborate what the literature tells us about secondary PE – that the dominant curriculum model in use in schools is the MAP and that it's broke!

My second assertion is that, despite that availability of several alternative curriculum models such as Sport Education (Alexander & Taggart, 1995) and its Teaching Games for Understanding variant – the Clinic-Game-Day model (Alexander & Penney, 2005), these alternatives have been unsuccessful in establishing a secure foothold in schools, hence my paper's title: 'Some seed fell on stony ground: three models – three strikes'. Continuing the parable of the sower metaphor, the seeds are (a) the Australian SEPEP program (Alexander & Taggart, 1995) that gave curricular and pedagogical expression to Siedentop's (1982) vision of a better way to teach sports in school PE, (b) the Clinic – Game Day model (Alexander & Penney, 2005) and (c) the ECU 'in-house, unpublished' Healthy Active Lifestyles (HALs) model (Alexander, 2013). All three seeds, in spite of appearing to be 'healthy specimens', have generally failed to germinate in the secondary school PE landscape - thus, the 'three strikes'.

But the story I relate to my undergraduates is only a part of the broader argument I make in this paper. I begin with a story about why their profession clings to the (MAP) as the dominant method for delivering secondary school physical education (PE), why that program seems ineffective and why alternative programs are seldom adopted. I conclude by suggesting why something more radical seems needed and what action a peak professional body like ACHPER might take to help. However, before I share that story, I will briefly argue that discussions of the relative merits of PE programming options should be located within a broader and more nuanced understanding of two commonly over-simplified constructs: 'curriculum' and 'engagement'. Without such insights, it's difficult to shine a light on the merits of secondary PE program options and the circumstances under which such options may be adopted or abandoned. Moreover, the need for radical change, and the role ACHPER could be playing in this can, arguably, be better debated when the complexities of terms such as 'curriculum' and 'engagement' are appreciated.

Recognising curriculum as a multi-faceted concept encompassing textual, perceptual, hidden, operational and null dimensions (Eisner, 1985; Choi, 1992) helps us appreciate that students' *engagement* with *curriculum* is likely to be a highly complex phenomenon. For example, while a physical education (PE) program may purport to be pursuing outcomes specified in *textual* forms of curriculum documentation, such as motor skills or self-management, if its *operationalized* pedagogies simply seek student participation, then *perceptual* and *hidden* responses from students may be other than desired. Such responses can be seen when students engage ritualistically rather than whole-heartedly with our subject matter. Thus, when *engagement* in *curriculum* is viewed simplistically, we can fall into the trap of over-investing in linear-temporal assumptions about its meaning. This can occur when we assume that context → motivation → engagement = participation → learning. As Lawson and Lawson (2013) explain, "the temporal sequence of these constructs/events may be more dependent upon the particularities of students' surrounding cultures, contexts, and ecologies than what quantitative engagement researchers have typically imagined" (p.434).

According to Lawson and Lawson (2013) newer conceptualizations of *engagement* have highlighted the need to look beyond the dominant, linear-temporal conceptions as seen in students' 'affective/emotional, behavioural and cognitive' reactions to the school-based timetabling of lessons. Our understanding of students' *engagement* in learning needs to be more nuanced:

Guided in part by social-ecological analysis and social-cultural theory, engagement is conceptualized as a dynamic system of social and psychological constructs as well as a synergistic process. This conceptualization invites researchers, policymakers, and school-community leaders to develop *improvement models* (emphasis added) that provide a more expansive, engagement-focused reach into students' family, peer, and neighbourhood ecologies. (Lawson & Lawson, 2013, p.433)

It is within such broadened conceptualisations of *engagement* that curriculum '*improvement models*', such as the three alternatives to the MAP I'm discussing today, need to be interrogated. If they are to stand a real chance of *engaging* young people they must offer learning experiences that, in terms of the *perceptual dimension* of curriculum, engender meaning, purpose, enjoyment and justice in the minds of students (Tinning, Kirk & Evans, 1990), connecting them to significant and valued others inside and outside the school gate. Broader conceptualisations of *engagement* invite us to examine the quality of the interpersonal connections alternative curriculum models may foster.

By recognising the socio-ecological (connectedness) dimensions of *engagement*, we can readily see a glaring shortcoming of the MAP. Within the constraints of lessons where students' choices and responsibilities are usually limited, connectedness is often confined to incidental interactions among classmates. Group and team affiliations are often dependent on where students sit upon arrival from the change rooms or on their positions after an activity concludes. Teachers use such incidental seating arrangements as a convenient basis for organising the next practice or game with little appreciation for how more sustained social affiliations (e.g., McPhail, Kirk & Kinchin, 2004) may set the conditions for deeper and more lasting *engagement* beyond just one lesson.

At this point in my story, my PSTs are recognizing that the brand of PE they recall from their own school days had all the hallmarks of the MAP. Few of our 300 students can recall seeing any serious attempt to implement Sport Education, the Clinic-

Game-Day or Healthy-Active Lifestyle models at school. They acknowledge that they, themselves, were among the most highly (motor) skilled class members, an achievement they brought with them from their formative years where, for example, junior sport offered them many thousands of ‘opportunities to respond’ – a fundamental requirement for learning any skill and not commonly a feature of time use in MAP lessons. Moreover, their recollections of interpersonal skills teaching were conspicuous by their absence. So, why aren’t promising alternatives to the MAP adopted? Why do HPE PSTs, upon graduating, fully aware of the shortcomings of multi-activity programming, settle for the very model they so roundly criticise in prac de-briefs and assignments? How does it happen that, once in the role of beginning teacher, HPE graduates settle for the MAP and allow it to become the model upon which their lessons, days, weeks, terms, years and careers are defined? This is where my story begins to explore the nature of HPE teachers’ workplaces. It is where I introduce one of the villains of the piece – ‘Washout’.

The lens through which I try to help my students understand why they may have difficulties implementing particular pedagogies once in the roles of beginning teachers is that of occupational socialisation (Curtner-Smith, Hastie & Kinchin, 2006). Of particular note is the third phase of that process: organisational socialisation (Van Maanen & Schein, 1979) cited in Curtner-Smith, Hastie and Kinchin (2008). Organisational socialisation refers, in effect, to the school as a workplace, and seems highly influential as ‘the process by which one is taught and learns the ropes of a particular organizational role’ (p. 211). Moreover, Lawson (1983) cited in Curtner-Smith et al (2008) suggested “that beginning teachers who had been inducted by quality PETE and possessed innovative teaching orientations at odds with those in the prevailing school culture were likely to be in for a difficult time” (p.100). These ‘ropes’ are tantamount to a particularly conservative set of work practices within which beginning teachers feel the ‘institutional press’ to conform (Zeichner & Tabachnik, 1981; 1983). Etheridge (1989), cited in Curtner-Smith et al (2008), described this process as a period during which beginning teachers ‘strategically adjust’. They “lowered their expectations and standards in order to survive. In time, however, the adjustment would become permanent” (p.100). Effectively, washout would be complete.

One such existing regularity of departmental life (Locke, 1992) seems to be the degree to which many teachers in MAP-mode feel little need to engage in professional discussion of program options or for the need for ‘joint work’ (Little, 1990). Such a workplace can render the soil in which new approaches to teaching might germinate somewhat infertile. In ‘The Persistence of Privacy: Autonomy and Initiative in Teachers’ Professional Relations’, Little (1990) questions the significance of the term ‘collegiality’ in teachers’ work:

When I attend closely to the accounts of teachers’ professional relationships that have accumulated over the past decade . . . I am confronted by certain inescapable conclusions. A few schools stand out for the achievements wrought collectively by their faculties but much that passes for collegiality does not add up to much. Teachers’ collaborations sometimes serve the purposes of well-conceived change, but the assumed link between increased collegial contact and improvement-oriented change does not seem to be warranted: Closely bound groups are instruments both for promoting change and for conserving the present. Changes, indeed, may prove substantial or trivial. Finally, collaborations may arise naturally out of the problems and circumstances that teachers experience in common, but often they appear contrived, inauthentic,

grafted on, perched precariously (and often temporarily) on the margins of real work. (p. 509-510)

Judith Little's seminal work on collegiality may hold a clue to the kinds of program change initiatives that could be robust enough to surmount the inertia of existing regularities in school HPE departments. By taking account of her call for 'joint work', and Lawson and Lawson's (2103) call to develop 'improvement models' that provide a more socio-ecological reach into students' *engagements* with school, we get an inkling as to the kinds of proposals that may have some prospects for germination and growth.

In Stephen Covey's considerable body of work in the field of personal development (e.g., *The Seven Habits of Highly Effective People*, 2004), the 'Law of the Farm' is invoked to convey the significance of preparation. This metaphor is apposite considering the title of this paper. Covey points out that it is fanciful to expect improved yields-per-acre when good seed is planted in poorly prepared soil. Crop rotation, tilling and fertilisation must all be undertaken if yields are to improve. It is the 'Law of the Farm' that frames the proposal for change to which I now turn.

In bringing my story to a close for my students, I suggest that what appears to be missing in our profession is a strong narrative that can guide our mission. Well crafted and coherent state and national curricula can underpin such a narrative, but a simpler story is needed – one around and within which HPE professionals can find vision and commitment. We need a story that can be understood by, and excite school communities; one that is told by our own profession and that can galvanise disparate and fragmented HPE curricula. Such a narrative should provide school communities with a clear picture of some key features of quality health and physical education in schools. Let me be clear. I'm not advocating the promotion of some kind of 'best practice' that assumes particular initiatives are so robust and universally sound that they should and will take root and blossom in any soil (school). I'm questioning whether school *communities* – Principals, teachers, students and Parents and Friends Associations – have any sense of the meaningful, purposeful, enjoyable, just and *engaging* programs (Tinning, Kirk & Evans, 1990) enlightened and collegial departments of HPE *could* be providing. I'm proposing that it become the role of ACHPER to construct and deliver such a broad narrative.

Earlier, in stating the need for something more radical if secondary PE is to be a significant element of young people's education, I had in mind two change concepts that lie at the heart of the work of the Institute for the Future's 'Map of Future Forces Affecting Education' (Knowledgeworks, 2006). These concepts are the process of 'creative breakout' and the activism of 'positive deviants'. Under the former, the teaching profession would experience a creative breakout: "New administrative, classroom, and community roles will differentiate educational careers, attracting new entrants and providing new avenues for experienced educators to branch out" (Knowledgeworks, 2006). Under the latter, ACHPER, acting as a 'positive deviant', would construct a broad new narrative that aims to remove barriers to new ways of working, to assist the process of distributed innovation and to support forward thinking individuals and programs. But what might this broad narrative look like if it were to spawn 'creative breakout'? And what brand of activism would ACHPER have to pursue if it were to adopt the stance of a 'positive deviant'? Who would be the audience for such a narrative, once constructed? In this brief paper, I cannot elucidate my ideas fully.

I can, however, provide two concrete examples – one of ‘creative breakout’ and another of ‘positive deviance’.

As I have argued elsewhere (Alexander, 2008), considerable scope for creativity exists where PE departments could be persuaded to abandon much of their multi-activity programming, replacing it with ‘connectedness’ pedagogies that can tap into deeper and more authentic forms of *engagement*. A key plank of a broad new narrative could be a ‘Welcome Curriculum’ for Year 7 students entering their first term of secondary school HPE. Other ‘connectedness’ models like sport education could follow. Such a curriculum would steadfastly pursue the socio-ecological ‘connectedness’ inherent in Lawson and Lawson’s (2013) conceptualisation of *engagement*. By targeting outcomes like interpersonal skills, and values and attitudes, with games, challenges and initiatives commonly found in materials like ‘Silver Bullets’, ‘Cowtails and Cobras’ and ‘Quicksilver’ (Rohnke, 1984; 1989; 1995), HPE departments could lay claim to a greater centrality (versus marginality), as key players welcoming new students (and families) to school, many of whom would have come from a number of different primary schools and who would benefit from the HPE Department’s efforts in creating a sense of community. *Engagement* of this nature could provide:

a glue that connects student agency (including students’ prior knowledge, experience, and interest at school, home, and in the community) and its ecological influences (peers, family, and community) to the organizational structures and cultures of school. (Lawson & Lawson, p.433)

Arguably, such an initiative could contain the seeds of a Principal’s re-examination of the roles the HPE Department might play in the life of the school. The ‘creative breakout’ inherent in such a proposal would lie in the abandonment of commonly seen first-term programs in which new students fleetingly encounter fitness testing, swimming trials, cricket or netball. Unless connected to a broader narrative about what a vibrant HPE Department can offer young people (and the reputation of a school), such disparate and loosely-coupled sporting activities are destined to remain part of the problem rather than the solution.

A new literacy is needed in school communities – one in which discussions about HPE’s contributions could be more enlightened. The second element in this radical proposal is to challenge ACHPER to act in the role of ‘positive deviant’. The challenge is to recognise that ‘quality PE’ advocacy has been ineffective. PETE programs, continuing professional development (CPD) and new State and National curricula have not budged the MAP. I am proposing that ACHPER acts as a ‘positive deviant’ by selling its broad narrative directly to school communities - seeking a new literacy regarding the contributions HPE could make to the lives of young people. In particular, the story of what *could* be offered by HPE professionals needs to be told directly to Principals and to parent groups. Arguably, these two groups currently have little understanding of the HPE learning area and what it *could* be offering. Ignorance is the enemy of enlightened discourse.

ACHPER, in conjunction with PETE institutions and leading teachers, should strike out beyond the well-crafted but disparate collection of position statements that currently reside on its website. I envisage presentations to Principals’ Associations as well as to peak and individual Parents and Friends associations. Admittedly, in such ‘positive deviance’, there is some delicacy. School communities may begin to ask when *they* can have a Welcome Curriculum for their new students – creating some pressures on their own HPE Departments to respond. But this is a matter for a peak professional

body to address – to ensure that initiatives are pursued inclusively, non-judgmentally but, nevertheless, steadfastly. A new literacy of *engagement* is needed. Not just within our profession, but, within our school communities as well.

References

- Alexander, K. & Taggart, A. (1995). *Sport Education in Physical Education Program (SEPEP)*. Canberra, Australian Sports Commission.
- Alexander, K., Taggart, A. & Thorpe, S. (1996). A spring in their steps? Possibilities for professional renewal through sport education in Australian schools. *Sport, Education and Society*, 1, 23-46.
- Alexander, K. & Luckman, J. (2001). Australian teachers' perceptions and uses of the sport education curriculum model. *European Physical Education Review*, 7, 243-267.
- Alexander, K. & Penney, D. (2005). Teaching under the influence: Feeding Games for Understanding into the Sport Education development-refinement cycle. *Sport, Education and Society*, 10, 287-301.
- Alexander, K. (2008, January). Is there a role for tactical and sport education models in school physical education. *Keynote Address*, First Asia-Pacific Sport in Education Conference, Flinders University, Adelaide, Australia.
- Alexander, K. (2013). *HALs: The healthy, active lifestyles model*. Unpublished manuscript. Edith Cowan University, Perth, Western Australia.
- Choi, E. (1992). *Beyond positivist sport pedagogy: Developing a multidimensional, multiparadigmatic perspective*. Unpublished Doctoral Thesis, University of Georgia.
- Covey, S. (2004). *The 7 habits of highly effective people: Restoring the character ethic*. New York: Free Press.
- Eisner, E. (1985). *The educational imagination: On the design and evaluation of school programs* (2nd Ed). New York: Macmillan.
- Ennis, C. D. (2000). Canaries in the coal mine: Responding to disengaged students using theme-based curricula. *Quest*, 52, 119-130.
- Kirk, D. (2004). Framing quality physical education: The elite sport model or Sport Education? *Physical Education and Sport Pedagogy*, 9, 185-195.
- Knowledgeworks (2006). *Map of future forces affecting education*. Retrieved August 24, 2007, from the Knowledgeworks Foundation web site: <http://www.kwfdn.org/map/>
- Lawson, H. (1986). Toward a model of teacher socialisation in physical education: The subjective warrant, recruitment and teacher education (part 1). *Journal of Teaching in Physical Education*, 2, 3-16.
- Lawson, M. & Lawson, H. (2013). New conceptual frameworks for engagement research policy, research and practice. *Review of Educational Research*, 83, 432-479.
- Little, J. W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record*, 91, 4, 509-536.
- Locke, L (1992). Changing secondary school physical education. *Quest*, 44, 361-372.
- McPhail, A., Kirk, D. & Kinchin, G. (2004). Sport education: Promoting team affiliation through physical education. *Journal of Teaching in Physical Education*, 23, 106-122.

- Placek, J. (1983). *Conceptions of success in teaching: Busy, happy and good?* In Templin, T. and Olson, J. (Eds.). *Teaching in Physical Education*, Champaign, IL: Human Kinetics.
- Rikard, G. & Banville, D. (2006). High school student attitudes about physical education. *Sport, Education and Society*, 11, 385-400.
- Rohnke, K. (1984). *Silver Bullets: A guide to initiative problems, adventure games, stunts and trust activities*. Dubuque, Iowa: Kendall-Hunt.
- Rohnke, K. (1989). *Cowstails and cobras II: A guide to games, initiatives, ropes courses and adventure curriculum*. Dubuque, Iowa: Kendall-Hunt.
- Rohnke, K. (1995). *Quicksilver: Adventure games, trust activities, and a guide to effective leadership*. Dubuque, Iowa: Kendall-Hunt.
- Siedentop, D. (1977). *Physical education: Introductory analysis (2nd ed.)*. Dubuque, Iowa: Wm. C. Brown.
- Siedentop, D. (1982). Movement and sport education: Current reflections and future images. *Keynote Address*, VII Commonwealth and International Conference on Sport, Physical Education, Recreation and Dance, Brisbane, Australia.
- Tinning, R. Kirk, D. & Evans, J. (1990). *Learning to teach physical education*. Erskinvill: Prentice-Hall.
- Van Maanen, J. & Schein, E. (1979). Toward a theory of organisational socialisation. *Research in Organisational Behaviour*, 1, 209-261.
- Zeichner, K. & Tabachnik, B. (1981). Are the effects of university teacher education 'washed out' by school experience? *Journal of Teacher Education*, 32, 2, 7-11.
- Zeichner, K. & Tabachnik, B. (1983, April). *Teacher perspectives in the face of the institutional press*. Paper presented at the Annual Meeting of the AREA, Montreal, Ont., Canada.

The state of Victorian primary school children's swimming ability

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Life Saving Victoria

Drowning is a leading cause of death of children aged 5-14 years in Victoria. Alongside inadequate supervision, two issues thought to contribute to drowning in this group are a lack of swimming ability and a lack of water safety knowledge. The study aimed to estimate the swimming ability and water safety knowledge of Victorian children exiting primary school, the provision of water safety education, and to identify barriers to school-based participation. Method: Surveys of 253 teachers and 212 parents of Year 6 students were collected to evaluate the aims described. Parents provided significantly higher estimates of their children's abilities, with 36% estimating their child was unable to swim 50 metres compared to 60% for teachers. Teachers suggested that 39% of students lacked sufficient water safety knowledge and students born outside Australia had lower reported swimming abilities. Whilst 97% of children had reportedly participated in formal swimming lessons, 42% had never taken part in school-based lessons. Further, 64% of schools provided water safety programs; the most common being classroom-based water safety programs (44%). Program costs were the greatest barrier to schools providing swim instruction. Thousands of Victorian children are potentially leaving primary school with insufficient swimming abilities and water safety knowledge. By addressing barriers to participation, identifying at-risk populations, greater access to quality school-based aquatic education can be provided. The implications of this research are discussed.

Keywords: swimming ability; water safety knowledge, swim instruction, participation

Introduction

Drowning is a leading cause of death of children aged 5-14 years and a greater focus is required to reduce drowning in the age group. Between 2006 and 2011 there was a 68% increase in the 5 year average drowning rate in children in this age group compared to the 2001–2006 average (0.514 versus 0.306 per 100,000 population respectively). There was also a 17% increase in hospitalisations in children aged 5-14 years between the same two periods (2.15 versus 1.84 per 100,000 respectively) (Life Saving Victoria [LSV], 2012).

In addition to reducing drowning risk and providing children with skills that may one day save a life, swimming and water safety skills have demonstrated benefits on child health and development (Doherty & Taylor, 2007; Morgan, 2005). However, an increasing body of research globally (e.g. ACNielson, 2001; Amateur Swimming Association [ASA], 2013; Royal Life Saving Society Australia [RLSSA], 2012b) is reporting a lack of swimming ability in school age children. Whilst it is recognised that inadequate supervision contributes to child drowning, evidence to date suggests that two further issues leading to drowning in the 5-14 age group are a lack of swimming ability and a lack of water safety knowledge which contributes to individuals (often with basic swimming ability) placing themselves in high risk situations in and around water.

Studies indicate that children should be taught basic water safety, survival and swimming skills in the primary school years as this is the ideal time to target children in order to create lasting behavioural patterns (ASA, 2013; RLSSA, 2012b). However, research from the Australian Capital Territory, South Australia and Tasmania indicates that 50,000 Australian children will leave primary school without being able to swim 50

metres or stay afloat for 2 minutes, the recognised standard for water safety (RLSSA and AUSTSWIM, 2010). In other research, 44% of Victorian parents surveyed (n=61) said their child/children could not swim more than 50 metres and 43% said their child/children could not float for more than five minutes (Matthews, 2012).

In order to tackle this significant health and personal safety issue, Life Saving Victoria (LSV) is committed to working with stakeholders to establish a greater understanding of how to increase the number of children engaged in swimming and water safety education, whether in school or through lesson providers and regardless of a child's location, physical capability, cultural background or socioeconomic circumstances.

This paper presents LSV's research, which sought to understand the swimming ability and water safety knowledge of Year 6 children (who are typically 11-12 years old and in the final year of primary school). The primary aims of this research were to:

1. Estimate the swimming ability of Victorian children exiting primary school.
2. Estimate the water safety knowledge of Victorian children exiting primary school.
3. Determine the nature of swimming and water safety instruction being provided by schools and parents
4. Determine barriers to participation in aquatic education from a parental and school perspective.

Methodology

LSV conducted a survey of the teachers and parents of Year 6 students in Victoria regarding the students' swimming ability, water safety knowledge, barriers to participation and swimming frequency. Questions were developed based on those asked previously to assess swimming ability (e.g. ACNielson, 2001; RLSSA and AUSTSWIM, 2010) and reviewed by internal and external stakeholders with expertise in the delivery, development and/or evaluation of swimming and water safety programs. The parent survey sought to identify the swimming and floating ability of each child, their level and type of participation in lessons, swimming frequency, barriers to participation and demographic information. The teacher survey estimated the swimming and floating ability of students, identified barriers to school-based swim programs and compared the swimming ability of children born in Australia with those born overseas. It was expected that teachers who had personally observed their students swimming would have responded to the survey. In order to determine approximate student numbers, teachers provided the number of students in their class and estimated the proportion that fit within each question category.

Survey invitations were sent state-wide either electronically via a web link in targeted emails and newsletters or in hard copy format at community and education events. Participation was voluntary and consent implied through questionnaire return. In total 212 parents completed the survey, representing 215 children. The teacher survey received 253 responses, representing approximately 9,300 students. Swimming ability levels were measured against recommendations of the National Swimming and Water Safety Framework (NSWSF), which recommends that children exiting primary school should be able to swim competently for a continuous distance of 50 metres and scull, float or tread water for 2 minutes (Australian Water Safety Council [AWSC], 2012). Chi-square analyses and general statistical analyses were performed using IBM SPSS

statistics software. The alpha level to determine significant differences between groups was 0.05. Geospatial analyses were performed using ArcMap.

Results

Demographic information

Of 212 parent respondents, 83% were born in Australia, 70% were aged 40-59 years and 72% were from metropolitan areas. This is representative of the wider Victorian community, in which 70-80% of the population within this age range were born in Australia (Australian Bureau of Statistics [ABS], 2006), and where 76% live in metropolitan areas (ABS, 2011). Parent responses were categorised by their postcode of residence into Socio-Economic Indexes for Areas (SEIFA), and scaled from 1 to 10, with areas ranked 1 considered the most disadvantaged and those ranked 10, the most advantaged. Respondents resided largely in areas with higher levels of advantage, with 47% within the top three levels.

For the teacher survey, 54% of schools were in metropolitan areas with government schools making up 75% of responses followed by 21% from independent schools, which is representative of wider Victoria (ABS, 2013).

Aim 1 Swimming ability

Parents and teachers were asked to estimate the swimming ability of Year 6 children, specifically, the maximum distance they could swim and the maximum amount of time they could float, both without stopping or touching the bottom of the pool.

In terms of the maximum swimming distance, teachers estimated that 60% of Year 6 students were unable to swim two or more lengths of a 25 metre pool, the minimum competency requirement for the NSW SF. If this estimate is accurate, this result suggests that over 39,000 Victorian children leaving primary school would be unable to swim 50 metres. Parents provided significantly higher estimates of ability, estimating that 36% were unable to swim two or more lengths. Teachers also estimated that 21% were unable to swim even 25 metres.

Similarly, parents estimated that a significantly higher proportion could float or tread water continuously for 5 minutes or more (60% compared with just over 30% for teachers). Teachers estimated that 40% could not float or tread water for 2 minutes (the minimum competency for the NSW SF), compared with 8% of parents.

Aim 2 Water safety knowledge

Teachers were asked to estimate what proportion of the Year 6 students in their class in 2012 had sufficient knowledge of water safety issues to avoid getting into hazardous situations in and around water. When adjusted for variance between class sizes, an estimated 39% of Year 6 students were believed to lack adequate water safety knowledge as reported by teachers. If this value was generalised to all students leaving primary school, it could be suggested that over 25,000 students may lack sufficient water safety knowledge.

Aim 3 Provision of water safety education

In 2012, 64% of schools surveyed reported that they provided water safety programs alongside, or instead of, formal swimming lessons. The most common programs

provided were classroom-based water safety programs (44%) and surf/beach safety programs (35%) followed by inland waterway safety programs (14%). Significantly more schools in regional areas provided inland waterway safety programs (10% versus 2%).

According to parents, 97% of children had participated in formal swimming lessons; however, 42% had never taken part in school-based lessons. According to parents, 47% of children had been swimming at least weekly over the previous 12 months. This estimate is in contrast to data from the ABS (2012), which found that 26% of children aged 5-14 engaged in swimming (or diving) on a weekly or more frequent basis. This difference may be due in part to the different age groups compared, or that a more active sample of people was surveyed as reflected by the high SEIFA results.

Aim 4 Barriers to participation

The surveys identified a number of barriers preventing schools from engaging in formal swimming lessons. Barriers for families to enrolling their child/children in formal swimming instruction were also identified.

Thirty-seven per cent of schools selected program cost as the greatest barrier to engaging in formal swimming lessons, followed by a crowded curriculum (21%) and transport costs (15%). However, regional schools had significantly higher concerns regarding a lack of qualified instructors (8% versus 0%).

In total, 97% of children had engaged in formal swimming lessons, and therefore limited information was gathered on barriers that prevented participation. Seven children had received no formal swimming instruction, with the main barriers being: time and financial costs, lack of enjoyment and parents teaching their children themselves. The high number of children that had engaged in formal swimming lessons may be a result of the respondents being skewed towards areas of higher SEIFA.

Discussion

Swimming ability

Teacher and parent estimates of swimming ability suggest that thousands of Victorian children are potentially leaving primary school unable to swim 50 metres, the minimum Victorian and national competency targets for the age group. Furthermore, thousands of children are potentially completing primary school unable to float for five minutes or more, the Victorian minimum standard. Both parent and teacher estimates exceeded those suggested by research from RLSSA (2012a) which found that one in five Australian children leaves primary school unable to swim one length of a 50 metre pool or stay afloat for two minutes. These self-reported estimates of parents and teachers indicate that further research is required to establish whether these estimates reflect actual ability and then implement strategies to address this issue.

People who are unable to swim 50 metres place their lives at significant risk should they find themselves in a risky situation in or around water. This lack of ability combined with a lack of water safety knowledge is of further concern. Thus, the need to provide regular aquatic education to children in the primary school years is critical. Regular lessons not only improve swimming ability and water safety knowledge, they also increase fitness, and influence social, psychological and physical wellbeing as well

as fundamental motor skill development, and are best taught in the early school years (Morgan, 2005).

Water safety knowledge

Tens of thousands of children are potentially leaving primary school lacking sufficient water safety knowledge to avoid getting into dangerous situations in and around water. Drowning among children and adolescents occurs in a variety of locations, making prevention a significant challenge. Therefore, in addition to providing safe and well-supervised locations for people to swim, the provision of comprehensive swimming and water safety education programs is required that includes survival and swimming skills and theory to school children, particularly in primary school. Successful implementation and evaluation of such programs would hopefully enable individuals to make informed decisions and perform appropriate actions around aquatic environments.

Provision of swimming and water safety education

A promising result was almost all parents indicating their children had participated in formal swimming instruction. The frequency, type and time since participation were not measured; however these factors would impact on a child's ability and knowledge. With one-third of students potentially missing out on school-based swimming and water safety education, there are theoretically thousands of children who lack the ability to recognise potential risks, cope with accidental entries, or assist someone else in danger. The results also suggest that parents are filling the gaps in the provision of swim lessons where they are not adequately provided by schools.

The primary school years are an ideal time to provide swimming and water safety education to children because they are more receptive to learning new skills and less likely to engage in risk-taking behaviour (RLSSA, 2012b). Over 10% of schools surveyed did not run a learn-to-swim program, which may underestimate the real situation because teachers whose schools do not deliver aquatic education programs may have been less likely to have participated in the survey.

The case for in-school provision of swimming and water safety education is strong because it is easier for children to attend lessons when they are included in the curriculum and provided during school hours. It also enables the participation of children who may otherwise not engage in physical activity. Anecdotal evidence suggests that children from CALD communities, with physical disabilities or from low socio-economic backgrounds, as well as those in remote areas are most at risk of not receiving even basic swimming and water safety instruction (RLSSA, 2012b). This further highlights the necessity of in-school provision of lessons to provide opportunities for children in a safe, organised environment.

Barriers to participation

Despite the importance of swimming and water safety education, barriers exist that prevent or limit participation for schools, families and the aquatics industry itself. Australian water safety advocacy groups are concerned that access to aquatic education is being constrained by a variety of barriers.

Similar to previous studies (e.g. ASA, 2013; RLSSA, 2012a), program costs were the greatest barrier to schools participating in formal lessons, followed by an already crowded curriculum and transport costs. The issues of cost (of lessons and

transport to a venue) require urgent attention in order to improve access for schools. There needs to be a commitment to exploring options for increased collaboration between schools and the learn-to-swim industry.

The barriers for families to enrolling their children in swimming and water safety education must be addressed to increase the accessibility of aquatic education for children. Whilst limited information was obtained from parents, the most prohibitive factors were cost (e.g. pool entry and lesson fees) and time, which are commonly cited by other studies (e.g. ASA, 2013; Caperchione, Kolt, & Mummery, 2009; RLSSA, 2012a).

Conclusion

At least one in three Victorian children is potentially leaving primary school each year without the required swimming skills to keep them safe in and around water for the rest of their lives. Furthermore, two in five are leaving primary school without sufficient water safety knowledge to avoid getting into dangerous situations in and around water. If this lack of swimming ability and water safety knowledge is not addressed, the drowning rate is likely to increase across all age groups in Victoria.

Life Saving Victoria recommends extensive consultation between schools, industry and government to develop innovative solutions to increase participation of Victorian primary school children in swimming and water safety education.

References

- ACNielsen. (2001). *Assessing Student Swimming and Aquatic Skills*. Wellington, New Zealand: ACNielsen.
- Amateur Swimming Association. (2013). *Learning the Lesson: The Future of School Swimming - The 2013 School Swimming Census*. Loughborough, UK: Amateur Swimming Association.
- Australian Bureau of Statistics. (2011). *2011 Census of Population and Housing*. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics. (2012). *2012 Survey of Children's Participation in Cultural and Leisure Activities*. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics. (2013). *4221.0 - Schools, Australia, 2012*. Retrieved from:
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4221.0Main+Features2012?OpenDocument>
- Australian Water Safety Council. (2012). *Australian Water Safety Strategy 2012-15*. Sydney: Australian Water Safety Council.
- Caperchione, C. M., Kolt, G. S., & Mummery, W. K. (2009). Physical activity in culturally and linguistically diverse migrant groups to western society. *Sports Medicine*, 39(3).
- Doherty, A., & Taylor, T. (2007). Sport and physical recreation in the settlement of immigrant youth. *Leisure/Loisir*, 31(1), 27-55.
- Life Saving Victoria. (2012). *2011/2012 Victorian Drowning Report* (pp. 18). Melbourne, Victoria: Life Saving Victoria.
- Matthews, B. (2012). *Play it Safe by the Water Campaign Tracking Report* (pp. 27). Melbourne.

- Morgan, P. (2005). Primary school physical education: Far from realising its potential. *Every Child*, 11(1), 20-21.
- RLSSA and AUSTSWIM. (2010). *2010 Survey of Swim School Managers Report*. Sydney, NSW.
- Royal Life Saving Society Australia. (2012a). *No child to miss out: Basic swimming & water safety education - The right of all Australian children* (pp. 24). Sydney: Royal Life Saving Society Australia.
- Royal Life Saving Society Australia. (2012b). *The Forgotten 50%: Analysis of Drowning in Children Aged 5-19 Years in Australia* (pp. 16). Sydney: Royal Life Saving Society Australia.

Trends in different contexts of physical activity among South Australian school children between 1985 and 2013

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Abstract

It is a popularly held view that participation in physical activity is declining among children and adolescents. A disturbing proportion of Australian schoolchildren fail to meet the recommendation of 60 minutes of moderate to vigorous physical activity (MVPA) per day, which can potentially lead to health concerns later in life. In order to increase MVPA, it is important to understand in what contexts physical activity participation has changed over the past few decades. The aim of this study was to explore trends in particular contexts of physical activity within the school setting in 1985 compared to 2013 among South Australian schoolchildren. The contexts were organised sport, school physical education, active transport to and from school and activity during school play periods. Schoolchildren (aged 9-13y) self-reported their activity at two time points; the 1985 Australian Health and Fitness Survey (n=281), and a replication of this survey in 2013 (n=260). The study revealed that significant decreases had occurred in school sport participation, active transport and in active play during school play periods, however school physical education had remained stable. A national standardised measurement tool is needed to conduct ongoing monitoring of physical activity participation, particularly within the different contexts of children's and adolescents' physical activity. This will provide invaluable feedback to the deliverers of the Health and Physical Education curriculum on where to target interventions and initiatives in order to improve participation rates.

Keywords: Organised sport; active transport; physical education; child

Introduction

Children 'run, skip, spin, and leap because it is fun' (Coulter & Woods, 2011, p. 646). Observation of a playground reveals the enjoyment children feel in physical activity (PA) of all types. PA can result in improvements in cardiovascular fitness, and correlates with improvements in blood pressure, lipid profiles, abdominal adiposity, insulin resistance, inflammatory proteins and body composition (Magnussen, Schmidt, Dwyer, & Venn, 2012; Ortega, Ruiz, Castillo, & Sjostrom, 2008). Research has shown that PA can also benefit child and adolescent mental health and cognitive ability, in particular memory, learning, concentration and mood (Paluska & Schwenk, 2000; Sattelmair & Ratey, 2009). To ensure that children are acquiring these benefits, it is important to monitor PA participation and track whether it has changed over time as well as to inform strategies to increase and maintain participation rates.

Children's PA can be difficult to measure as it is multi-faceted (Ekelund, Tomkinson, & Armstrong, 2011) and occurs within structured and unstructured contexts. Limited trend studies are available that investigated PA within different contexts. This study investigated PA trends among South Australian schoolchildren, using the 1985 Australian Health and Fitness Survey (AHFS) as baseline data (Pyke,

1987) and compared it to a replication of the 1985 research in 2013. Specifically, trends within different contexts of PA were studied: school organised sport, school physical education (PE), active transport (AT) and physical activity during school play periods.

Methods

1985 Australian Health and Fitness Survey

The 1985 AHFS national study included 10 schools of different demographics within South Australia (SA) consisting of schoolchildren aged 9-13y (n=281) (Pyke, 1987). Ten boys and 10 girls per age per school were selected to be included in the study. Subjective methodology was used to investigate the physical activity participation rates among other health-related variables with the aim of increasing the awareness of fitness and health-related life style aspects within the school setting.

Participants

Ten SA schools were chosen by two-stage probability sampling, to match the 1985 SA sample. The ten SA schools randomly chosen in 1985 represented: primary / secondary; government / independent; rural / urban; lower socio-economic status (SES) / higher SES; and co-educational / single sex. Due to demographic changes and closures of some of the 1985 schools, re-sampling was required to attain ten schools for the 2013 study. The 2013 sampling procedure closely replicated the 1985 procedure (Pyke, 1987), and Australian Bureau of Statistics data were used to resample schools according to SES. Within the schools that consented to participate, all schoolchildren aged 9 to 15 years were invited to complete the written questionnaire. Ten boys and ten girls from each age with informed consent were randomly selected for inclusion in analyses, to match the age distributions in the 1985 sample. The same protocol from the 1985 study was replicated for data collection, with a research assistant providing a standardised explanation of the questionnaire and providing further clarification if required. Ethics approval was obtained through the University of South Australia Human Research Ethics Committee.

Definitions of contexts

To investigate the context of organised sport the participants were asked to report sports they played in the previous 12 months, including the setting (club, school, both or neither); however, only the results for school sport are reported in this paper. For the context of school PE, participants were asked to report the number of school PE lessons in which they participated during the last week. The AT context was defined as walking or cycling to and from school reported as the number of times in the last week. Frequent AT was defined as actively commuting three or more times per week. To investigate activity involvement during recess and lunchtime, participants reported their 'usual' activity (three days per week or more), from: "sit and talk"; "walk around"; "run around playing sport or games"; "read, study or prepare for next class" or "other".

Statistical Analysis

The data were analysed in SPSS version 20 (IBM Corp., 2011) and the level of significance was set at $p=0.05$. Analyses were conducted in the whole sample and in

males and females separately. Mann-Whitney U test was used to compare median number of sports played for their school in 1985 and 2013. The other contexts were analysed using Chi-square for changes in proportion of children participating in 1985 and 2013. For the context of activity during recess and lunchtime, the activities that students reported were classed as sedentary activity (“sit and talk”; “study or read”), low-intensity physical activity (“walk around”) and MVPA (“run around and play sport or games”).

Results

For the 2013 sample, only seven schools consented to participate. Therefore, data from only seven demographically matched 1985 schools were used, and the age range was altered to 9 to 13 years. Four hundred and seventy five (475) children and adolescents with informed consent completed the AHFS questionnaire in 2013, and 260 participants results were randomly selected to be included in the analysis (refer to Table 1).

School sport

There was a decline in the median number of school sports played. Across the whole sample, the percentage of children reporting no sports for their school significantly increased by 13.6 percentage points (39.9% to 53.5%, $p=0.008$). The largest change was seen in boys’ school sport participation, with a significant increase in the percentage playing no sport of 18.6 percentage points (33.1% to 51.7%, $p=0.006$), as seen in Table 2.

School physical education

Boys’ school PE participation remained consistent for both 1985 and 2013 across all categories (i.e., no PE participation, once per week and more than once per week [$p=0.928$]). Girls’ school PE participation showed a small non-significant decrease in participation in the category of “more than once per week PE” and an increase in the category of “no participation” ($p=0.119$), as seen in Table 2.

Active transport

There was a significant decrease in the percentage who frequently (≥ 3 times per week) cycled to and from school across the whole sample (19.6% to 5.4%, $p=0.000$), and boys and girls separately ($p=0.000$, $p=0.039$). There was a similar significant decrease in the percentage of children who do not walk to and from school, (48.6% to 66.9%, $p=0.000$) and a decrease in the percentage who frequently walk (45.4% to 23.5%, $p=0.000$). The total percentage of schoolchildren who did not cycle or walk to and from school significantly increased by 29.4 percentage points (32.5% to 61.9%, $p=0.000$), as seen in Table 2.

School play periods

The proportion of children engaged in sedentary activity during recess significantly increased across the whole sample (13.2% to 22.7%) and among girls (13.2% to 32.4%, $p=0.000$). Mixed results were found within the context of lunchtime activity, with a slight increase in the percentage of schoolchildren who reported participation in sedentary activity (12.8% to 15.8%, $p=0.048$), as seen in Table 2.

Discussion

The aim of this study was to explore trends in children's and adolescents' participation in different PA contexts in the school setting between 1985 and 2013. The contexts studied included: school organised sport participation; school physical education (PE); active transport (AT); school play periods. The findings showed that a significant change had occurred within three of these four contexts. The context of school sport significantly declined and the context of AT revealed a significant decline (bike, walk and combination of both). Some significant declines also occurred for participation in MVPA during school play periods along with an increase in sedentary activity during school play periods. However, the context of school PE remained stable.

School organised sport

It is unclear why participation in school sport has decreased. It is possible that changes in school volunteer regulations since 2005 have had an impact on the capacity of schools to offer organised sport. The necessity for all volunteers, including parents, to undergo police clearance may deter adults from adopting a supervisory role in school sport (Andrews, Dooley, & Le Duff, 2005).

Active Transport

This study found declines occurred in AT between home and school. Lewis and colleagues suggested concerns about traffic safety may have contributed to declines in AT (Lewis, Dollman, & Dale, 2007). Safe pedestrian and cycling conditions are an ongoing concern for parents and schoolchildren, and the need to cross several roads, lack of lights or crossings, can negatively influence AT (Timperio, 2004). Environmental interventions such as making roads and neighbourhoods more children friendly have been found to not only promote AT but also generally benefit the neighbourhood (Carver, Timperio, & Crawford, 2008).

School Play Periods

The current study reported an increase in the percentage of children and adolescents engaging in sedentary activities during recess and lunch between 1985 and 2013. Factors influencing physical activity in school break periods include availability of loose equipment, teacher supervision, painting of courts and line marking (Willenberg et al., 2010) as well as play space relative to the number of children (Ridgers, Fairclough, & Stratton, 2010). There is no published evidence that these aspects of the school environment have declined substantially in recent decades and therefore the reasons for the trends observed in this study remain unclear.

School Physical Education

Participation in school PE, represented as the frequency of classes per week, remained consistent, at just below 90% of children in 1985 and 2013. This can be seen as an encouraging observation given the introduction of the National Action Plan for Literacy and Numeracy in 2008 which has been suggested as a possible threat to curriculum time for PE (Crawford, 2009; Light, 2011). Notably, a review of the relationships between academic outcomes and physical activity in the school context (PE, sport and free play)

has made an important contribution to this debate (Trudeau & Shephard, 2008). The authors highlighted the strong evidence that additional curriculum time for PE has a small but positive influence on memory, concentration, classroom behaviour, and that there was no support for the hypothesis that other learning areas suffer from reduced contact time to accommodate additional PA in the curriculum (Trudeau & Shephard, 2008).

Limitations

This study relied on self-reported PA, the validity of which is limited by cognitive capacity to accurately recall salient events and social desirability bias (Dollman et al., 2009). The seasons of data collection did not match: 1985 data were collected during winter (July and August) while 2013 data were collected during Autumn (March and April). Seasonal effects on physical activity have been reported (Sallis, Prochaska & Taylor, 2000) and this may have confounded comparisons between time points in the current study. Further, school sport participation was represented by the number of sports in the previous 12 months and did not include the number and duration of training sessions. Similarly, PE participation was limited to the frequency of classes per week and did not capture the proportion of time in each class for which children were actively engaged. The questionnaire used in both time points has not yet been tested for reliability or validity. Despite this, the study had a fundamental strength of consistency by replicating the sampling procedures and questionnaire from 1985 to obtain a second time point of data in 2013.

Conclusion

This study identified declines in South Australian children's PA in three school-related contexts, school sport, active play in school breaks and active transport, highlighting the need for future research to identify correlates of context-specific PA to better target interventions, policies and programs for PA promotion in children (Stanley, Ridley & Dollman, 2012). Given that motor skills in children are associated with participation in sport and free play (Barnett, van Beurden, Morgan, Brooks & Beard, 2009), it is particularly appropriate for PE curriculum to continue to emphasise motor skill development as a key outcome at all levels of schooling.

References

- Andrews, J., Dooley, A., & Le Duff, G. (2005). *Screening and criminal history checks policy guidelines*. South Australia: Government of South Australia.
- Australian Bureau of Statistics. (2007). *Children's participation in organised Sport - 2000, 2003, 2006*. Canberra: Australian Bureau of Statistics.
- Australian Bureau of Statistics. (2012). *Children's participation in cultural and leisure activities*, cat. no. 4901.0, ABS, Canberra.
- Australian Curriculum, A. a. R. A. (2010). My school. Retrieved May 20, 2013, from <http://www.acara.edu.au>
- Barnett, L. M., van Beurden, E., Morgan, P. J., Brooks, L. O., & Beard, J. R. (2009). Childhood motor skill proficiency as a predictor of adolescent physical activity. *The Journal of Adolescent Health, 44*, 252-259.

- Carver, A., Timperio, A., & Crawford, D. (2008). Playing it safe: the influence of neighbourhood safety on children's physical activity. A review. *Health Place*, 14(2), 217-227. doi: 10.1016/j.healthplace.2007.06.004
- Coulter, M., & Woods, C. B. (2011). An exploration of children's perceptions and enjoyment of school-based physical activity and physical education. *Journal of Physical Activity and Health*, 8, 645-654.
- Council of Australian Governments. (2008). *National partnership agreement on literacy and numeracy*. Canberra.
- Crawford, D. (2009). *The Future of Sport in Australia*. ACT: Australian Government.
- Ekelund, U., Tomkinson, G., & Armstrong, N. (2011). What proportion of youth are physically active? Measurement issues, levels and recent time trends. *British Journal of Sports Medicine*, 45(11), 859-865. doi: 10.1136/bjsports-2011-090190
- IBM Corp. (2011). IBM SPSS Statistics for Windows (Version 20.0). Armonk, NY: IBM Corp.
- Lewis, N., Dollman, J., & Dale, M. (2007). Trends in physical activity behaviours and attitudes among South Australian youth between 1985 and 2004. *Journal of Science and Medicine in Sport*, 10(6), 418-427.
- Light, R. L. (2011). Accessing youth sport in Australia: schools and clubs. In S. Georgakis & K. Russell (Eds.), *Youth sport in Australia*. Sydney: Sydney University Press.
- Magnussen, C., Schmidt, M., Dwyer, T., & Venn, A. (2012). Muscular fitness and clustered cardiovascular disease risk in Australian youth. *European Journal of Applied Physiology*, 112(8), 3167-3171. doi: 10.1007/s00421-011-2286-4
- Ortega, F., Ruiz, J., Castillo, M., & Sjostrom, M. (2008). Physical fitness in childhood and adolescence: a powerful marker of health. *International Journal of Obesity (London)*, 32(1), 1-11. doi: 10.1038/sj.ijo.0803774
- Paluska, S. A., & Schwenk, T. L. (2000). Physical activity and mental health: current concepts. *Sports Medicine*, 29(3), 167-180.
- Pyke, J. (1987). *Australian health and fitness survey*. Adelaide: Australian Council for Health, Physical Education and Recreation (ACHPER).
- Ridgers, N. D., Fairclough, S. J., & Stratton, G. (2010). Variables associated with children's physical activity levels during recess: the A-CLASS project. *International Journal of Behavioral Nutrition & Physical Activity*, 7, 8.
- Sallis, J. F., Prochaska, J. J., & Taylor, W. C. (2000). A review of the correlates of physical activity of children and adolescents. *Medicine and Science in Sports and Exercise*, 32(5), 963-975.
- Sattelmair, J., & Raley, J. J. (2009). Physically active play and cognition: an academic matter? *American Journal of Play*, Winter, 365-374.
- Stanley, R., Ridley, K., & Dollman, J. (2012). Correlates of children's time-specific physical activity: a review of the literature. *International Journal of Behavioural Nutrition and Physical Activity*, 9. doi: 10.1186/1479-5868-9-50
- Timperio, A. (2004). Perceptions about the local neighborhood and walking and cycling among children. *Preventive Medicine*, 38(1), 39-47. doi: 10.1016/j.ypmed.2003.09.026
- Trudeau, F., & Shephard, R. J. (2008). Physical education, school physical activity, school sports and academic performance. *International Journal of Behavioral Nutrition and Physical Activity*, 5(10), 12. doi: 10.1186/14795868-5-10

Willenberg, L. J., Ashbolt, R., Holland, D., Gibbs, L., MacDougall, C., Garrard, J., Waters, E. (2010). Increasing school playground physical activity: a mixed methods study combining environmental measures and children's perspectives. *Journal of Science and Medicine in Sport*, 13(2), 210-216. doi: 10.1016/j.jsams.2009.02.011

Table 1
Study sample mean age

	1985		2013	
	Age (mean±S.D.)	<i>n</i>	Age (mean±S.D.)	<i>n</i>
Whole Sample	10.93 (±1.39)	281	11.06 (±1.40)	260
Boys	11.00 (±1.39)	145	11.22 (±1.40)	118
Girls	10.85 (±1.39)	136	10.92 (±1.39)	142
Rural	10.94 (±1.41)	98	10.89 (±1.31)	92
Urban	10.92 (±1.39)	183	11.15 (±1.45)	168
Primary	10.33 (±1.09)	206	10.46 (±1.23)	181
Secondary	12.56 (±0.58)	75	12.42 (±0.57)	79

Table 2

Percentage of schoolchildren who participate in different contexts of physical activity for 1985 and 2013 cohorts

	Whole Sample		Boys		Girls	
	1985	2013	1985	2013	1985	2013
School sport participation						
No	39.9	53.5**	33.1	51.7**	47.1	54.9
Yes	60.1	46.5**	66.9	48.3**	52.9	45.1
PE participation						
No PE	12.8	16.5	15.9	17.8	8.1	15.5
Once per week PE	22.8	24.2	26.2	28.0	19.1	21.1
> 1 per week PE	64.4	59.2	56.6	54.2	72.8	63.4
Cycling to and from school						
No AT	79.3	91.9****	72.2	89.0****	86.8	94.4*
Infrequent AT	1.1	2.7****	1.4	4.2****	0.7	1.4*
Frequent AT	19.6	5.4****	26.4	6.8****	12.5	4.2*
Walking to and from school						
No AT	48.6	66.9****	52.1	68.6****	44.9	65.5**
Infrequent AT	6.1	9.6****	6.9	12.7****	5.1	7**
Frequent AT	45.4	23.5****	41	18.6****	50	27.5**
Cycle and/or walk to and from school						
No AT	32.5	61.9****	29.2	62.7****	36	61.3**
Infrequent AT	3.2	8.8****	3.5	11.9****	2.9	6.3**
Frequent AT	64.3	29.2****	67.4	25.4****	61	32.4**
Recess						
Sedentary	13.2	22.7****	13.1	11.0	13.2	32.4****
Low-intensity	28.5	13.1****	20.7	6.8	36.8	18.3****
MVPA	57.7	40.0****	65.5	55.9	49.3	26.8****
Missing data	0.7	24.2	0.7	26.3	0.7	22.5
Lunch						
Sedentary	12.8	15.8*	10.3	9.3	15.4	21.1
Low-intensity	26.0	15.4*	15.2	7.6	37.5	21.8
MVPA	59.1	45.0*	71.0	60.2	46.3	32.4
Missing data	2.1	23.8	3.4	22.9	0.7	24.6

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, **** $p < 0.0001$

Note. No = no participation in organised sport within the last year.

Yes = participation in ≥ 1 organised sports in the last year.

AT = active transport; Infrequent = < 3 times per week.

Frequent = ≥ 3 times per week.

The voices of children aged 10 and 11 years old: their views on Physical Education and the implications for policy, practice and research in England.

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This paper has evolved out of a much larger doctoral thesis which looked specifically at the voices of year 6 children in the borough of Hackney in east London. The data collected contributes to an existing body of knowledge where the vast majority of the work on pupil voice has been concerned with the core subjects and with secondary schooling. The re-emergence of pupil voice as a pedagogical approach to inform curriculum design is encouraged throughout. The data collected showed that children do value their health, and were asking for a greater range of physical activities to be made available to them.

Keywords: children; physical education; learning; teaching;

Introduction

Taking a constructivist-interpretivist stance, this mixed methods case study gave a voice to 236 children from four different schools between 2007 and 2010 through the use of questionnaires and interviews. The aim was to explore what the children thought about Physical Education (PE), with a view to illuminating and informing current policy, practice and research in relation to the aims which under-pin the national curriculum. The children's voices, conspicuously absent from any significant discussions about their physical education, over the last twenty years, give a view of the curriculum from the recipient's perspective. In addition to valuing children's voices, this paper shows that through democratising the discussion the children were more than just 'empty vessels' and were able to offer informed views at year 6 aged 10 and 11 years.

Defining Physical Education

As a number of commentators have acknowledged, defining PE is notoriously difficult. Whilst there are many definitions for example, Kirk (2010), the Youth Sport Trust (YST) (2010), and The Association for Physical Education (afPE) (2010), none appear to be any more authoritative than another. Penney and Chandler (2000), argued that the most enduring and resistant characteristic of PE is the focus on physical activity, and what people, *do* with these physical activities and how they are practised.

The YST (2010) has made a distinction between PE and Sport and separated the terms. Likewise, through defining PE, the afPE (2010) has at its heart the desire that all young learners should be involved in physical activity, and experience positive beneficial learning experiences. These experiences should include personal well-being, achievement for all learners, and an understanding of what makes a healthy life style. Taking into account these informed views in defining PE, it is not unreasonable to summarise that PE is about giving children a broad range of physical experiences, presented in a positive way, where they can experience fun, enjoyment and success at whatever level they access the physical activity, sport or game. If this aspect of the process is executed well, then hopefully the children will continue to participate and be

involved in their preferred activities, games or sports, thereby continuing to be physically active and involved at a variety of levels for the remainder of their lives. Moreover PE is I contend, also about helping young people to understand and value their physical selves, how the body works, and how to look after it for a lifetime.

The context of the research

In a democratic society, however one interprets it, the learner has a stake in what is taught in school, and I argue that there needs to be a vigorous debate about *who* and *what* education is for. At the heart of White's narrative (2004, 2007) where he explores what a curriculum fit for the 21st century might look like, is a call for imaginative thinking instead of the kind of tired thinking that condemns children to years of study which may benefit no-one at all. One of the ways forward I contend is to include the pupil voice as a means of informing the debate surrounding the aims of education. It is by no means a new way of thinking about curriculum aims, but it is an area still largely ignored. In this paper I use pupil voice to uncover a flavour of their views and thoughts on PE in a way that White would have encouraged as a means of understanding what the curriculum is like for the children receiving it.

Following the latest changes to the NC (2013), we have seen the present Minister for Education actively call for a return to an emphasis on traditional team games. PE remains a foundation subject in the NC as opposed to a core subject. A core subject in the NC has greater importance than a foundation subject, for there is a very clear and acknowledged hierarchy present. English mathematics (and science) are core subjects and dominate the primary school curriculum particularly at Key Stage Two.

Giving Pupils a voice and ethical considerations – Methodology

Pupil voice is seen as imperative throughout this paper as a means of valuing what the pupil has to say in their own right. That is not to say that everything that is said is always correct or indeed of value but as a pedagogical tool, pupil voice can be a very useful teaching tool. Penney (2004) calls for a radical refocus, and for a more flexible, interconnected and inclusive curriculum which is geared to children's current and future lives with greater opportunities for choice given to schools and pupils. These views sit comfortably with those advocated by White in terms of making the curriculum relevant to young people in the twenty first century, and by bringing it up to date. What better way to find out what works, what does not and to invite suggestions from the key stakeholders in the overall process, than to ask the children? As part of such a process to be made possible, Penney argues that physical educationalists may need to consider a radical re-orientation and re-structuring of their subject and in that process embark on a possibly uncomfortable view of their own professional identities. Moreover this challenge will involve moving away from the notion that activities or sports are ends in themselves, and that performance or sport performers are justifiable aims alone, to a consideration of the idea that the activities or sports are vehicles capable of facilitating and providing the contexts for a rich array of learning and where teaching and learning will extend beyond out-dated boundaries and connect with the needs, interests, and lives of all children and their roles in the transformation of communities and societies (Penney:2004:149)

Prior to commencing the data collection in 2007 and in 2010, written agreement from the head teachers and the boards of governors was sought and gained.

All children and parents/guardians were given, and were required to complete, an informed consent form detailing the nature of the proposal and relevant background information. All involved had the right to withdraw at any time without prejudice. All parties involved were assured that all information collected, would remain strictly confidential and only used for the purpose of this research.

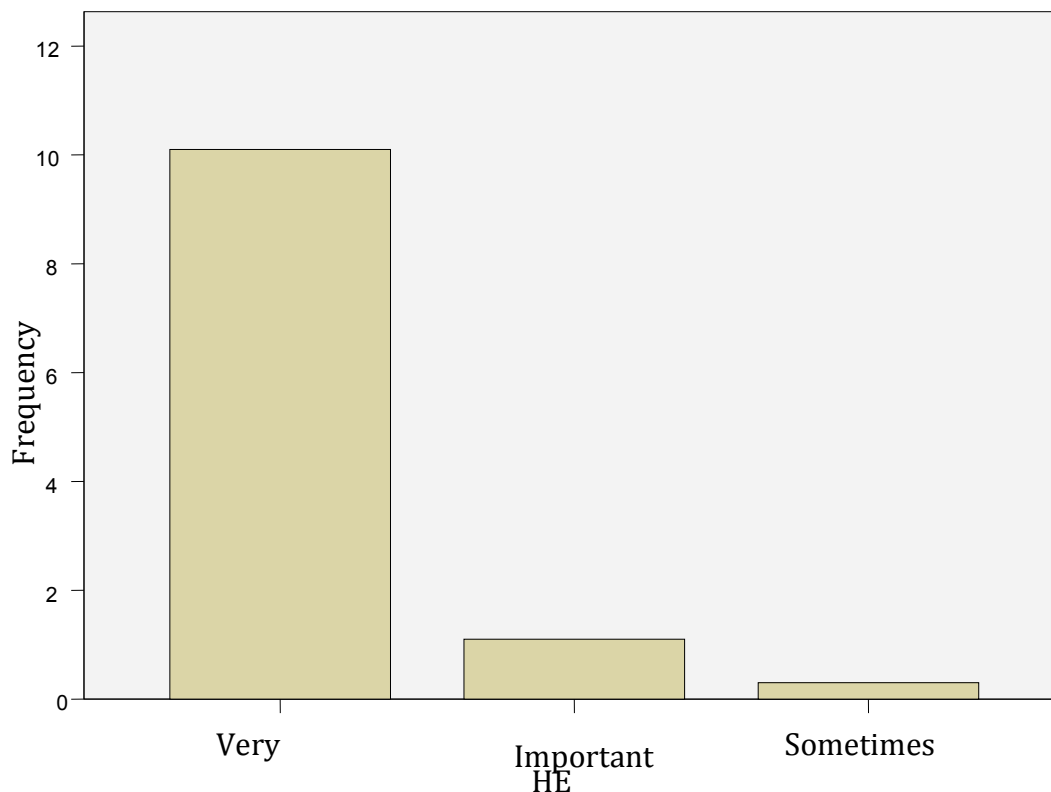
Data was collected from eight classes totalling 236 children in Year 6, aged ten or eleven years old in 2007, and then again 2010. A decision was taken to work with this year group because it was the children's last year of primary schooling and much would change in their lives when they started secondary schools. Most children in year 6 would also be able to draw upon at least seven years experience of primary school PE. The children's first names are used to demonstrate the very rich cultural make up of the area in which the research was carried out, but school names have been changed. Equally the voices and views of the children are presented exactly as they were recorded or written, their own language is used and nothing has been changed or edited.

Presentation of the data – an Overview

Through the use of questionnaire and follow up interviews, responses from the children were sought and gained to a number of key questions, all of which could not be included here. For example, please see figure 1 below, where the children of 2007 and 2010 were asked to tell me about the importance of their health, and their understanding of health education. Every child except one from both data sets offered an opinion about what they thought health education was, and in some cases more than one definition was offered. Almost half of the children felt that health education was all about understanding what being healthy is. Others felt that it was about diet and doing exercise. However what is explicitly clear is that, as figure 1 below demonstrates, the children do understand the importance of their health and indeed value it. The views of individual children are most illuminative. For example Ahmed at Green Park thought that: 'health education is teaching about your health and how important it is.' Anisha at Abney Park wrote that: 'health education is when you learn to be healthy for when you grow up.' Luke at Central Park felt quite strongly that: 'Health Education is a lesson where children learn about the body, how to keep fit, and what we need to survive.' Luke also made the connection that it could include learning and understanding about the body.

Responses from the children were both interesting and informative and showed a genuine level of care about their health. For example, Terrance at Abney Park felt that his health was very important because: 'If you keep healthy you can live longer.' In the same discussion Izzy added that his health was important because: 'It can expand your life span and you will live longer if you keep healthy.' Ozenc at Green Park offered the view that his health was very important to him because: 'if you are healthy you will be able to do lots of things. You can do other things when you are older. If you don't care about your health you can have a heart attack.' These examples show the children making connections with 'life-long physical activity' afPE (2010), and one of the key components in my defining of PE, Costas (2011)

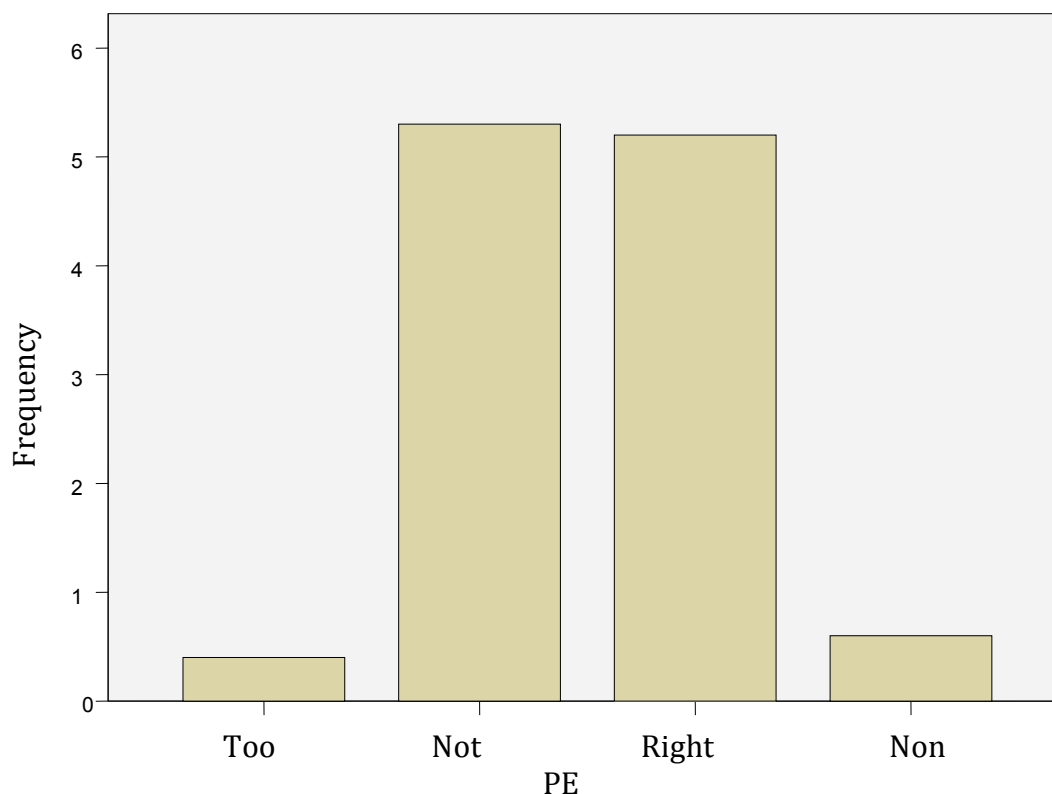
How important is your health?



I also wanted to know the children's views on the amount of time that they spent doing PE, Please see figure 2 below, and what this looked and felt like from their perspective. Every child who took part in the research offered an opinion as to what PE actually meant to them.

Shakeela at Abney Park thought that PE should take place: 'Everyday for like half an hour after lunch because children feel sleepy and they can't concentrate. They need to let their food digest.' Jack C at Lea Park offered an interesting and differing view that: 'It should be more optional like after school.' Regarding PE curriculum content I invited the children to tell me about activities that they 'loved' doing and 'hated' doing. These two terms were chosen by children from a school in a pilot study who did not take part in the substantive research. Again the responses were both informative and fascinating and I include only a few examples here to represent both sets of feelings. The children's answers were not surprisingly very varied. For example, Annika at Abney Park wrote: 'I love doing athletics, basketball and any other outdoor activity.'

How do you feel about the amount of PE that you do?

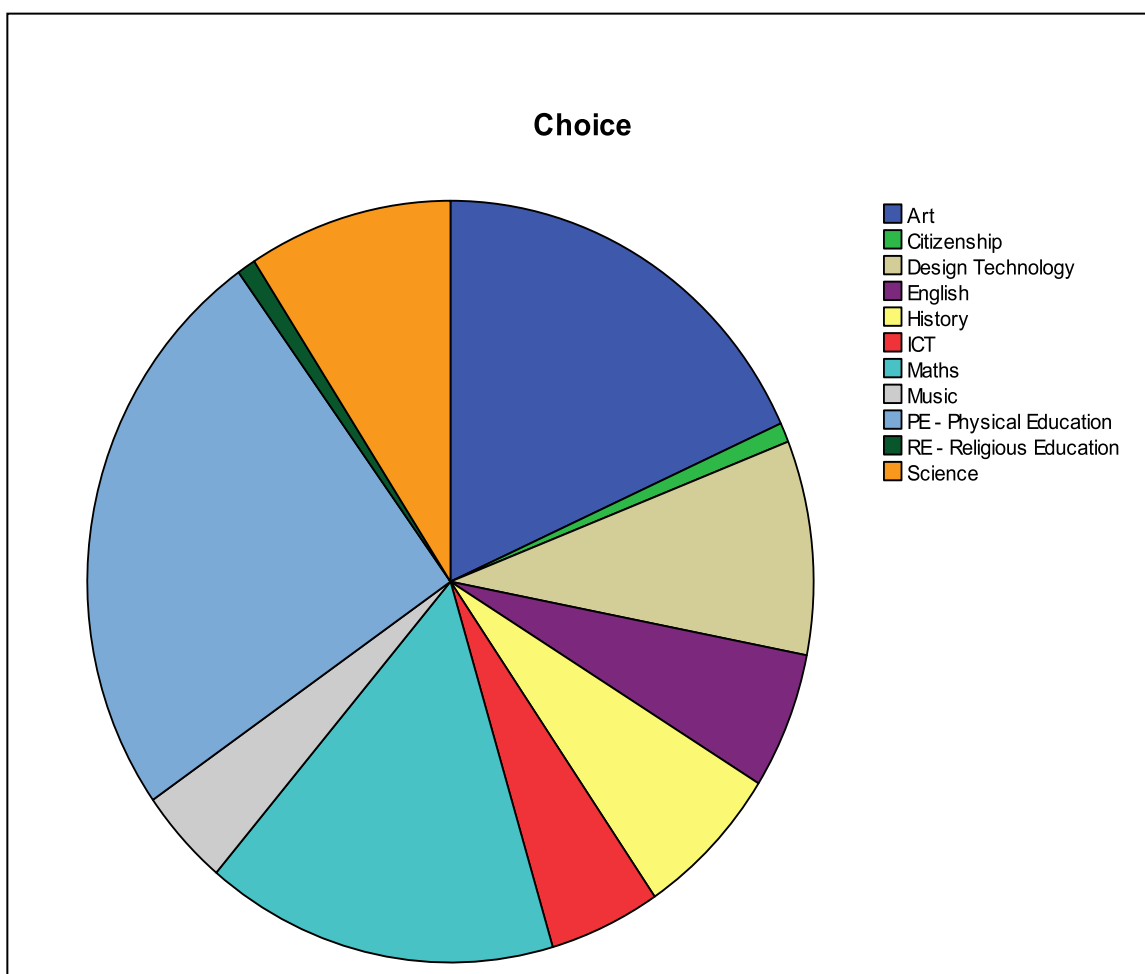


Ahia at Abney Park appeared to enjoy most Sports and stated ‘football, cricket, swimming, badminton, tennis 100%.’ Mohammed at Central Park admitted that: ‘I love doing football because you get to have a bit of a laugh and run around.’ Another point interesting to note here was that twenty-seven children, 23.5% nearly a quarter of the cohort in 2007, stated that they did not ‘hate’ or dislike anything. By contrast however, Alphonso at Green Park had very clear reasons as to his choice, because he wrote: ‘I really hate dancing because sometimes you have to dance with a girl.’ Anna also disliked dancing but for a very different reason: ‘Dancing, because I’m not good.’ Hafiz at the same school wrote: ‘I hate gymnastics because you can easily pull a muscle and you cannot run for a moment.’ For some children the teachers and how the lessons were taught were significant factors in making a judgement. This was especially the case if the teacher was seen as impatient and bad tempered. Having gained an insight of pupils’ views on PE, I then turned my attention to how pupils viewed PE in relation to other curriculum subjects, and asked them to tell me about their favourite subject and why they had made the choice.

As figure 3 below shows, just under a quarter of the cohort in 2010 chose PE as their favourite subject, followed by Art with 22, and Maths with 19 selections. Calvin at Lea Park wrote that he chose PE as his favourite subject because, ‘it can make you have exercise and you can have lots of fun.’ Michelle at Green Park chose PE, ‘because we get to learn new sports and have fun, but most importantly you learn how

to play the game.’ Ben recorded: ‘because you learn about your muscles and move a lot of the time. And you learn new stuff like how to control a ball and dribble a ball. And it is good exercise.’ In telling me ‘why’ they had chosen PE as their favourite subject, words and phrases like doing exercise, being energetic, being active and moving were also mentioned. The data showed that the children were able to make the link between PE, physical activity, and health and fitness and therein understand the uniqueness of PE as a curriculum subject. Further examples included Ryan from Central Park who felt that, ‘PE is my favourite subject because you learn to keep yourself active.’

Figure 3: Curriculum choice



Tyreke went further and noted how he valued PE, ‘because you get to exercise your body and it makes your heart beat fast and quicker.’ Elizabeth kept it simple and to the point and chose PE: ‘because it’s fun and it helps keep you fit healthy and feeling good.’ Elizabeth summed it up rather well and this leads me into another area of my data analysis.

Pupil Voice and the implications for future policy and practice

It was very clear when reading the children’s questionnaires and talking to them that fun was very important to them in PE lessons. In both data sets the vast majority of

responses were positive. Children talked and recorded continuously about ‘having fun’ ‘enjoyment’ and having the opportunity to work and ‘play with friends.’ Gul at Green Park wrote ‘FUN’ in capital letters, Gwen at the same school, also used the term, and Arlene at Lea Park wrote that she ‘absolutely loved cycling.’ In the data set of 2010, of the 30 children who chose PE as their favourite subject, 14 just under half of the group wrote the word fun on their questionnaire. Other words that they associated with PE were love, like, enjoy and exciting. For example Christine at Lea Park stated ‘I like PE because I love playing games.’ Jessie at Green Park wrote that she chose PE ‘because it’s fun and exciting. It also makes you exercise a lot.’ Stanley at the same school selected PE: ‘because I am a sporty person, and I love swimming.’ Robert at Central Park wrote that it was ‘because it gets me outside the classroom and the games are fun.’ What was also very evident was the positivity in which the children talked about their favourite subjects, and although the reasons varied the language was always upbeat. The theme of fun, enjoyment, and positivity are areas that are never really far away for the children. This point was not lost on Wright (2004) where the concept of ‘happiness’ was explored in relation to children’s learning in primary PE.

The data provided in this overview have shown that children might have, and are able to hold, sensible views on PE and health issues; that they have their own thoughts and ideas on a range of things. The data that the children gave me with regard to what they thought about PE was very specific. For example, and just taking a further sample from the full data set collected, 80% said they loved games, 64.3% stated that they loved gymnastics, 80.9% loved outdoor and adventurous activities (OAA), 73% loved swimming, 38.3% loved dance, and 60.9% loved athletic activities.

The data provided by the children showed that , 46.1% of the cohort felt that they did not do enough PE, whereas only slightly less 45.2% were generally very happy with the amount of PE provision that they were receiving, and felt that they did the right amount of PE. What the children collectively recorded was that they wanted a larger variety of activities to be included in the PE curriculum, not more of the same traditional formats. These views are certainly in line with the work of Penney (2004) where they explicitly show that different children like different sorts of activities and sports. This was substantiated by some of the things that the children wrote and recorded at interview. Shakeela noted ‘We should have more choice of what we do in PE. We need more fun, a mix ’n’ match of things.’ Louisa at Lea Park said ‘We should do more things, a bigger variety of sports, not only doing games.’ Inez continued ‘We don’t do enough types of sport. Ok, we did Aussie rules which was fun, but we didn’t even do like, cricket.’ The question that does not go away easily, is that if *the children* in this research are recording that they do value their health and well being highly and enjoy PE, then why does PE continue to remain only a foundation subject in the NC? As Carney & Winkler (2008) have argued in their conclusion to the paper ‘*The Problem with Primary Physical Education*’ the debate needs advancing. Giving pupils a voice is one way forward, and a re-consideration of the aims of education and pedagogical approaches is another way of advancing the discussion. As has been demonstrated so far, the children involved in this research were, perfectly willing and able to inform current debates on a range of issues. The data offered by the children suggests that they are able to play a greater role in their own education and in curriculum design. As Lawton (2000), and Fielding (2004, 2008) argue, and White contends so forcibly (2004, 2007), it does appear to be the case that there is a mismatch in terms of pedagogical approaches, between the NC (a transmission model), and the child’s role in their own learning.

Moreover, as White argues, the real problem lies in the lack of clarity regarding the basic aims that underpin education. What common goals and aspirations are we striving for? Should they include the views of the young people, the recipient group of our views and aspirations? That is to say, should they have a role to play in their own learning and should they be encouraged to enact this role and be given greater responsibility? Advocates like Mullan (2003) argued that an educational system, which focuses on the rights and responsibilities of the child, will involve children in decision making processes in all aspects of school life, and where the emphasis should not be on absorbing curriculum content alone.

Summary Findings and Recommendations

It has been argued that there has been little or no dialogic relationship with regard to pupil voice, in year 6, PE, or their views on health when compared with the 'core' subjects or with secondary schooling. It could be argued that a focus on traditional team sport only, will be prohibitive for many primary children, and the positioning of PE within the NC framework has been challenged. Children are asking for a greater variety of activities to be offered to them, not more of the same, Costas (2011). This is crucial if they are to be encouraged to be physically active. If a curriculum that distinguishes between core and foundation subjects is to remain, then PE would need to be given core status, (and I understand that PE is to be a mandatory subject in the latest re-drafted NC 2013), if the children's own valuing of their health is to be acknowledged. Although the data did not show that the children were asking for a move towards cross curricular thematic teaching, (and why would they?) many of their responses did link subjects. This linking across subjects does of course give a distinct insight into how children view their world and is at odds with a subject centred curriculum. Indeed, vast areas of learning are inseparable and intrinsically linked in the young mind (see, e.g, Vygotsky's notion of the transferability of learning skills in Vygotsky, 1962, and Bernstein's conceptualisation of 'weak classification' in Bernstein 1971). It is, rather, the adults who place boundaries as to when one subject starts and another one finishes.

Conclusion

Children do have a voice worth listening to if given the opportunity. The children have shown that the National Curriculum needs further significant reviewing. A curriculum that is based on a model from 1904, and is not fit for purpose in the 21st century, as the under-pinning philosophical aims do not take into account that children can be intrinsically involved in their own learning. If one of the emerging pedagogical approaches for the 21st century is for a greater emphasis on pupil voice in order to enlighten the debate surrounding restructuring the NC, then perhaps now is the time to give the children, the chief stake holders in education the opportunity to make up their own minds for themselves. It seems at best unwise at worst invidious not to include them in discussions surrounding their own education when as this research shows they are clearly fit able and willing to speak for themselves if given the opportunity.

References

- Association for Physical Education,(2010). Homepage.[Online] Available at: <http://www.afpe.org.uk> [Last accessed on 23rd November 2010]
Association for Physical Education, (2010). Chair of the Association for Physical

- Education's letter to the Rt Hon Michael Gove MP {Online} Available at: <http://www.afpe.org.uk> [Last accessed on 2nd November 2010].
- Bernstein, B. (1971a). *Class, Codes and Control* London: Routledge and Kegan Paul.
- Bernstein, B. (1971b). 'On the Classification and Framing of Knowledge' in M.F.D. Young. (Ed). *Knowledge and Control*. London: Collier-Macmillan.
- Carney, P. And Winkler, J. (2008) 'The Problem with Primary physical education'. *Physical Education Matters*. 3 (1), 13-15.
- Costas, B.P. (2011). *The Voices of Year 6 children: their views on Physical Education, and the implications for Policy, Practice and Research*. Unpublished Doctoral thesis. London: Institute of Education. University of London.
- Department for Education, (2013). *National Curriculum*. London: DfE.
- Department for Education and Skills, (2003). *Every Child Matters*. London: DfES.
- Department of Health, (2008). *Healthy Weight, Healthy Lives: a cross-Government strategy for England*. London: Department of Health.
- Fielding, M. (2004). 'Transformative approaches to student voice: Theoretical Underpinnings, recalcitrant realities'. *British Educational Research Journal*. 30 (3) 211-295.
- Fielding, M. (2004). 'New Wave Student Voice and the Renewal of Civic Society'. *London Educational Review*. 2. (3), 197-217.
- Fielding, M. (2008). *Interrogating Student Voice: Pre-occupying, purposes and possibilities*. Critical perspectives in Education. London: Institute of Education, University of London.
- Kirk, D. (2010). 'Defining physical education: Nature, purpose and future/s'. *Physical Education Matters*, 5 (3). 30-31.
- Lawton, D. (2000). *Values and Education: A Curriculum for the 21st Century*. Paper presented at the Institute of Education: in *Values and the Curriculum*. University of London. 1st November 2000
- Mullan, R. (2003). *Northern Ireland Council for Integrated Education Response to 'A Shared Future' Consultation Paper*. Belfast: NICIE publications.
- Oliver, J. (2004). *Jamie's Dinners*. London: Bantam. [Online]. Available at: <http://www.bbc.co.uk/1/hi/health> [Last accessed on 9th November 2004]
- Palmer, S. (2006). *Toxic Childhood: How Contemporary Culture Is Damaging The Next Generation.....And What We Can Do About It*. London: Orion.
- Penney, D. (2004). 'Physical Education'. In J.White (Ed), *Rethinking the School Curriculum. Values, Aims and Purposes*. Aims and Purposes. London: Routledge Falmer.
- Penney, D. and Chandler, T. (2000). 'Physical Education: what future(s)?' *Sport, Education and Society*. 5, 71-87.
- Vygotsky, L.S (1962). *Thought and Language*. Cambridge, Mass: M.I.T. Press.
- White, J. (2004). *Rethinking the School Curriculum: Values, Aims and Purposes*. London: RoutledgeFalmer
- White, J. (2007). 'What Schools Are For and Why'. *Philosophy of Education Society of Great Britain*, 13 (14), 5-49.
- Wright, L.J.M. (2004). 'Preserving the value of happiness in primary school physical education. *Physical Education and Sport Pedagogy*, 9 (2), 149-163.
- Youth Sport Trust, (2010). *Homepage*. [Online]. Available at: <http://www.youthsporttrust.org> [Last accessed on 23rd November 2010]

Managing student performance anxiety in Sport and Physical Education environments

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Abstract

Exercise participation is usually recognised for its anxiolytic properties. However, performance anxiety in physical education and sport may also be faced by those students perceiving a negative difference between their degree of competence or self-worth in terms of sporting skill, and the perceived demands of a class activity, sporting competition or training situation. While the response to feeling anxious is not always negative, anxiety usually results in a 'fight or flight' response creating an elevated heart rate and a release of adrenaline preparing the body for action. Anxiety may serve as an in-built warning system for an individual student of their personal vulnerability in an upcoming activity, drill or game situation. An inability to manage sporting performance anxiety can negatively impact on a student's participation, enjoyment and positive skill development, even deterring future exercise and sporting activities. The key to managing sport and exercise-related anxiety is achieving an optimal level. The teacher or coach needs to challenge students sufficiently to prepare mind and body for exercise, without an individual overextending into anxiety levels that create negative performance. Bringing together the disciplines of sport and physical education, we explore the nature of anxiety, and practical sports psychology techniques the teacher or sports coach can introduce to help students manage sports anxiety, and create supportive learning environments. Helping students overcome sporting performance anxiety will assist them in performing at their best and teach important skills they can apply for the rest of their future sporting and exercise activities.

Keywords: anxiety; student; teaching; coaching; management

Anxiety and Its Impact on Learners

Recent health concerns have been raised over how to practically address overweight and obesity of Australian children (AIHW, 2011). Therefore, increased attention has been placed on the role that physical education (PE) and sport may have in increasing young people's engagement in physically active lifestyles (Crawford, 2009). Participation in sport and physical activity is an excellent way of developing a student's self-esteem, self-concept and team skills, together with developing their physical abilities such as fundamental motor skill development (Currie, 2013; Raalte & Brewer, 2008). However sporting and PE participation can also cause fear and anxiety in children and adolescents when they worry about becoming hurt, losing, or not playing well in front of others (Humphrey, 2003).

Anxiety is generally considered a factor impairing the decision-making capacity, memory, attention and problem-solving ability of athletes, therefore negatively affecting performance (Bakoukis, Rodafinos, Koidou & Tsorbatzoudis, 2012). It can affect our mental efficiency in being able to make quick and effective decisions, so athletes are less able to 'read the game', decide on the next move or who to pass to. As the demands of the task become more challenging, increases in anxiety levels combined with a sharp decline in athletic performance may be noted (Craft, Magyar, Becker, & Feltz, 2003; Lavellee, Kremer, Moran & Williams, 2004; Martens, Vealey & Burton, 1990). For example during a tie-break in a tight tennis finals match, or balancing on a beam in front of a crowd of peers or remembering a complicated dance routine for a class assessment.

Perceptions of anxiety and its effects on the mind and/or body warn and prepare an individual about potentially stressful or dangerous situations and to prepare for 'fight or flight'. Somatic anxiety is experienced through muscle tension, sweating and has a curvilinear relationship with performance. A moderate level of anxiety is related to optimum performance whereas high and low anxiety levels are associated with poorer performance outcomes (Barkoukis et al., 2012; Craft et al., 2003; Martens, Vealey & Burton, 1990). The inverted U-shaped theory helps explain how various levels of anticipation and alertness or arousal experienced in preparation for sporting events creates responses in the body such as somatic anxiety, an increase in heart rate and heightened mental awareness. Unfortunately when anxiety levels increase beyond a certain optimal point, performance is negatively impacted (Wann, 1997). Usually the optimal levels of arousal for task to be learned or encountered include lower levels for more difficult or intellectually (cognitive) tasks and higher for tasks requiring endurance and persistence (CSU, 2013).

However, increases in cognitive anxiety, experienced through thought processes and mental reactions, has a negative linear relationship with performance. The commonly accepted information processing model of skilled performance in games suggests that the player reads the game situation presented, interprets it, decides what to do and acts accordingly (Lauder & Piltz, 2013). Increases in cognitive anxiety levels beyond a certain ideal point are associated with decreased performance caused by poor memory, information-processing, pre-occupation of attention and problem-solving of tasks so it is advantageous to eliminate any unnecessary anxiety as much as possible (Martens, Vealey & Burton, 1990).

This issue has considerable relevance to the fields of PE and sport. As physical educators and coaches, we design lessons and training sessions to be as active and engaging as possible. Participation in enjoyable exercise has the potential to lower anxiety and improve mood. However, if students and athletes associate or anticipate participation with negative factors, this may result in negative outcomes such as a decrease in performance, lack of enjoyment or full engagement, or at worst, dropping out altogether (Mitrovic, Todorovic and Markovic, 2012; Smith & Smoll, 1990). Thus in this paper we aim to discuss ways teachers and coaches may approach and manage potential student performance anxiety in sport and physical education environments.

What Causes Sporting Performance Anxiety amongst Students?

A student participating in an event that is deemed of utmost individual importance for him or herself; the school, selectors, parents, coach or by one's teacher; can be at a greater risk of experiencing sporting performance anxiety (Hayslip, Trent, MacIntire, & Jones, 2010). The perceived readiness of a student for her/his participation in the sport can also be influenced by their own sense of self-concept and self-esteem, their training preparation, and the level of the event compared to their fitness, physical abilities and how psychologically they feel prepared. If the student's readiness for the sporting event is low then the student will more likely be at risk of experiencing higher anxiety levels (Moran, 2004). The external pressures and expectations placed on a student, such as from parents, carers, peers, coaches or PE teachers can be a negative influence. If the student feels that the people around him or her are exerting excessive pressure to perform, then this places them at a higher risk of experiencing anxiety and a decrement in results (Hedstrom & Gould, 2004; Nicholls & Jones, 2013).

A student may also feel unsafe taking part in a PE class environment and experience increased anxiety due to factors such as lack of inclusion, or bullying and aggression from other students. For example, Janciauskas (2012) found that physically weaker or less skilled students worried that other students would laugh at them in case of failure. Students need to feel 'safe' in PE so they're more willing to take part. Mitrovic, Todorovic and Markovic (2012) found that self-esteem is the most significant factor affecting anxiety levels in PE. Individuals will perceive pressures differently in PE, ranging from externally-based ones such as feeling the activity is too difficult, not to the student's liking with little or no individual choice; through to internal pressures such as poor body image or low perceived motor competence or confidence in one's ability to complete the set task (Hunter, 2006).

Managing anxiety in sport and physical education environments

Approaches to helping reduce anxiety in PE include (a) ensuring a positive class climate with zero-tolerance for bullying, sledging or put-downs of others promoting humanistic values, building tolerance, and an accepting, happy supportive manner towards other students; (b) opportunities for encouraging free, creative, individual expression in addition to an approximate 80% success rate in an attempt to build confidence to try-out new skills; (c) allow students choice or offer those activities rated highly for enjoyment by students; (d) permit students to self-evaluate and measure results so not exposed to continuing and relentless performance in front of peers and the teacher, which creates feelings of tension and apprehension (that is, anxiety) (Barkoukis et al., 2012). In these situations, students tend to show more interest, are more focused on the task at hand, and apply more effort (Barkoukis, Koidou & Tsorbatzoudis, 2010). Other modifications include reducing the number of players per team or playing space, rule changes to minimise technical demands and user-friendly goals and balls.

Progressive muscular relaxation can be learned to help reduce anxiety before sporting performance (Karageorghis & Terry, 2011). Progressive muscular relaxation focuses on tensing and relaxing all the various muscle groups throughout the body. For example, a student tenses their calf muscle then relaxes it, noticing the difference. At the end of the process the student should feel less tension in their muscles and more relaxed (Navaneethan & Soundara, 2010). There are many breathing techniques coaches and physical educators can teach their students. The aim is to slow a student's breathing rate down and for them to take deeper breaths as this decreases the heart rate and relaxes our body's physiological systems (Ford & Garza, 2009; Shaw, Goreley & Corban, 2005). One technique is to ask students to take a deep breath in and then out each for a count of 4. They can also place a hand on their stomach for them to focus on their hand moving during their intake and exhalation of breath.

Music can be used to boost a mood or create a calming effective. Mesagno, Marchant, and Morris (2009) found that music such as an iPod listened to while waiting around for events decreased performance anxiety as the music formed a distraction away from the pressure of the situation. Familiarity is also recommended as a method that coaches and PE teachers can use to lower anxiety levels of performers. For example, completing a habitual warm up routine prior to competition is extremely helpful and creates a sense of calmness (Anshel, 2012). Many athletes use the familiarity technique ranging from tennis players bouncing the ball a set number of times before a serve, to triathletes eating the same pre-competition meal, or cyclists wearing a "lucky" item of jewellery or clothing.

Conclusion

Encouraging a sense of self-belief and self-confidence can help reduce performance anxiety (Roberts, Woodman, Hardy, Davis & Wallace, 2013; Woodman & Hardy, 2003). PE lessons and training for sport should be fun, games-based and focused on skill development. Offering a range of choices and allowing for student decision-making also assists (Barkoukis, Koidou & Tsorbatzoudis, 2010; Hunter, 2006). It is important to set high expectations and standards, yet offer a positive, supportive, motivational climate (Barkoukis, Koidou & Tsorbatzoudis, 2010; Siedentop, 1991). PE and sport offer effective means to address health and fitness concerns of a young nation. However the use of modifications may assist with increasing student engagement and help link participation with being a positive experience, inducing less anxiety and negative perceptions in students.

References

- Australian Institute of Health and Welfare. (2011). *Young Australians: their health and wellbeing 2011. Cat. no. PHE 140*. Canberra: AIHW.
- Anshel, M.H. (2011). *Sport psychology from theory to practice* (5th ed.). San Francisco, CA: Pearson Benjamin Cummings.
- Barkoukis, V., Koidou, E. & Tsorbatzoudis, H. (2010). Effects of a motivational climate intervention on state anxiety, self-efficacy, and skill development in physical education. *European Journal of Sports Science*, 10, 167-177.
- Barkoukis, V., Rodafinos, A., Koidou, E. & Tsorbatzoudis, H. (2012). Development of a Scale Measuring Trait Anxiety in Physical Education. *Measurement in Physical Education and Exercise Science*, 16, 237-253.
- Charles Sturt University (CSU). (2013). *Arousal and Performance*. Retrieved from <http://www.nwlink.com/~donclark/performance/arousal.html>
- Craft, L.L., Magyar, T.M., Becker, B.J. & Feltz, D.L. (2003). The relationship between Competitive State Anxiety Inventory-2 and Sports Performance: A meta-analysis. *Journal of Sport & Exercise Psychology*, 25, 44-66.
- Crawford, D. (2009). *The Future of Sport in Australia*. Canberra: Australian Government, Independent Sport Panel.
- Currie, J.L. (2013). *Teaching Physical Education in Primary School: an integrated health perspective*. Melbourne: ACER Press.
- Ford, S. & Garza, L. (2009). Implementing a breathing technique to manage performance anxiety in softball. *The Sport Journal*, 12, Online publication. <http://www.thesportjournal.org/article/implementing-breathing-technique-manage-performance-anxiety-softball>
- Hayslip, B., Trent, P., MacIntire, M. & Jones, G. (2010). The Influences of Skill Level, Anxiety, and Psychological Skills Use on Amateur Golfers' Performances. *Journal of Applied Sport Psychology*, 22, 123-133.
- Hedstrom, R. & Gould, D. (2004). *Research in Youth Sport: Critical Issues Status*. , East Lansing, MI: Institute for the Study of Youth Sports, Michigan State University.
- Humphrey, J. (2003). *Child development through sports*. New York: Haworth Press.
- Hunter, L. (2006). Pleasure or pain? Students' perspectives on physical education.

- In R. Tinning, L. McCuaig & L. Hunter (Eds.), *Teaching Health and Physical Education in Australian Schools* (pp. 127-133). Frenchs Forest, Sydney: Pearson.
- Janciauskas, R. (2012). Characteristics of Young Learners' Psychological Well-Being and Self-Esteem in Physical Education lessons. *Education, Physical Training, Sport*, 85, 18-24.
- Karageorghis, C. & Terry, P. (2011). *Inside Sport Psychology*. Champaign, IL: Human Kinetics.
- Lauder, A. & Piltz, W. (2013). *Play Practice. Engaging and developing Skilled players from Beginner to Elite* (2nd ed.). Champaign, IL: Human Kinetics.
- Lavellee, D., Kremer, J., Moran, A. & Williams, M. (2004). *Sports Psychology: Contemporary Themes*. London: Palgrave.
- Martens, R., Vealey, R. & Burton, D. (1990). *Competitive anxiety in sport*. Champaign, IL: Human Kinetics.
- Mesagno, C., Marchant, D. & Morris, T. (2009). Alleviating Choking: The Sounds of Distraction. *Journal of Applied Sport Psychology*, 21, 131-147.
- Mitrovic, M., Todorovic, D. & Markovic, Z. (2012). Anxiety and Self-Esteem in Students of Sport and Physical Education. *Research in Kinesiology*, 40, 133-139.
- Moran, A. (2004). *Sport and Exercise Psychology. A critical introduction*. New York: Routledge.
- Navaneethan, B. & Soundara, R. (2010). Effect of progressive muscle relaxation training on competitive anxiety of male inter-collegiate volleyball players. *Journal of Physical Education and Sports Science*, 5, 44-58.
- Nicholls, A. & Jones, L. (2013). *Psychology in Sports Coaching*. New York: Routledge.
- Raalte, J. & Brewer, B. (2008). *Exploring Sport and Exercise Psychology*. Washington DC: American Psychological Association.
- Roberts, R., Woodman, T., Hardy, L., Davis, L. & Wallace, H. (2013). Psychological Skills Do Not Always Help Performance: The Moderating Role of Narcissism. *Journal of Applied Sport Psychology*, 25, 316-325.
- Shaw, D., Goreley, T. & Corban, R. (2005). *Sport and Exercise Psychology*. Milton Park, Abingdon, Oxon UK: Garland Science/Bios Scientific Publishers.
- Siedentop, D. (1991). *Developing Teaching Skills in Physical Education*. Mountain View, CA: Mayfield.
- Smith, R. & Smoll, F. (1990). Self-esteem and children's reactions to youth sport coaching behaviors: A field study of self-enhancements processes. *Developmental Psychology*, 26, 987-993.
- Wann, D.L. (1997). *Sport psychology*. Upper Saddle River, N.J.: Prentice Hall.
- Woodman, T. & Hardy, L. (2003). The relative impact of cognitive anxiety and self-confidence upon sport performance: a meta-analysis. *Journal of Sports Science*, 21, 443-457.

Finding perspective: influencing children's initial and ongoing participation as a contemporary sport-parent

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The concept of sport-parenting remains a significant point of research for academics internationally, yet few studies from an Australian perspective have contributed to this discussion. This research gap is noteworthy, especially given the rising interest in Australia concerning parental influence, behaviour, and involvement in children's sport. This paper reports on a series of focus group discussions and individual interviews with 102 parents, children, and coaches involved in junior Australian football from metropolitan, regional and remote South Australia. The participants provided important perspective around the challenges facing the contemporary sport-parent, and how best to optimise parental involvement in children's sport. This paper will specifically focus on one aspect of the research findings, relating to the critical, yet varied role of parents in promoting children's participation and continuation in sport. The implications for physical educators and sport providers will also be discussed.

Keywords: Children's sport; parental influence; home practice; coercion; sacrifice

Introduction

It is well established that sport plays a significant role in the lives of many Australian children. Recent national data indicates that over 66% of children aged five to 14 participate in at least one or more organised sport or physical activity outside of school (Australian Bureau of Statistics [ABS], 2012). Among both boys and girls, sports such as Soccer and Australian football continue to remain the highest sporting preferences across the national landscape (ABS, 2012). However, there is a concern that many parents negatively impact children's sport, demonstrated by numerous reports of physical, verbal, and often violent conduct in settings such as junior Australian football. These claims cannot be ignored, especially given that early sporting experiences strongly predict lifelong engagement or discontinuation in physical activity (Armentrout & Kamphoff, 2011; Telama & Yang, 2000; Wall & Cote, 2007). While research on 'sport-parenting' has begun to emerge from an Australian context (for example, see Elliott & Drummond, 2011; Elliott & Drummond, 2013), junior sport in Australia remains an understudied area, yet potentially offers important perspective to broader discussions surrounding the nature of parental influence in children's sport.

There is little contestation to the notion that participation in sport engenders a range of potential outcomes for children. From a biophysical perspective, sport is a popular vehicle for accruing significant and meaningful time in physical activity. Gabbett, Jenkins, and Abernethy (2009) found that team sports are particularly beneficial in developing individual and team-oriented physical fitness. Sport participation has also been readily associated with decreasing the risk of lifestyle disease (Clemmens & Hayman, 2004) and promoting weight loss and control (Hamilton & White, 2010). From a social perspective, sport participation can help children establish friendships and develop emotional behaviours such as empathy and good sporting attitudes (Arthur-Banning, Wells, Baker, & Hegreness, 2009). Furthermore, from a psychological perspective, studies have shown that children can enhance self-efficacy from their involvement in community sport (Light, Harvey, & Memmert,

2011). There is also growing evidence that positively links sport participation with academic performance (Jonker, Elferink-Gemser, Toering, Lyons, & Visscher, 2010), and emotional wellbeing, self-esteem and improved confidence (Bailey, 2006). However, these benefits are not guaranteed outcomes from participation alone and require appropriate levels of input from peers, coaches and parents in shaping the experience.

While most evidence on sport-parenting emerges from either the sport drop-out or sport socialisation literature, the converging thread surrounds the notion that parents are a crucial factor in shaping the nature of children's sport. From a sport socialisation perspective, LaVoi and Stellino (2008) and Stein, Raedeke, and Glenn (1999) contend that parents are the first and most significant agents in the sport socialisation process. Similarly, considerable evidence from the sport drop-out literature suggests that parents are a chief determining factor on children's continuation or discontinuation in sport and physical activity (Enoksen, 2011; Wall & Cote, 2007). These perspectives add to the conceptualisation that parents are providers, interpreters and role models of children's sport (Fredricks & Eccles, 2004). Yet through these roles, the literature also suggests that parents can exert both a positive or negative influence in children's sport. For example, Gould, Lauer, Rolo, Janne, and Pennisi (2006) found that many parents reinforce unsavoury sporting attitudes through mimicking behaviours such as verbal confrontations, emphasising competitive success, and engaging in violent conduct with other parents. Another study into parents' sideline behaviours at youth soccer identified that many parents demonstrated anger-related behaviours such as muttering comments, yelling comments, walking away from events, making offensive gestures and confronting other spectators (Goldstein & Iso-Ahola, 2008). Similarly, Elliott and Drummond (2013) found that numerous 'tensions' exist between parents and other spectators and children, demonstrated by poor conduct and behaviour during matches. However, numerous studies have highlighted the importance of parental involvement in optimising enjoyment and supporting children's desire to stay involved in community sport (Gould, Lauer, Rolo, Jannes, & Pennisi, 2008; Light, 2010a; Ullrich-French & Smith, 2006).

Given that parents play a crucial role in the overall experience, the importance of understanding how they influence children's sport remains a priority among academics. This paper emerges from a larger qualitative study on sport parenting, and will bring focus to one aspect of the findings related to the critical, yet varied role of parents in promoting children's initial and ongoing involvement in sport. In doing so, the paper addresses an important oversight in the literature by exploring the notion of 'sport-parenting' from an Australian socio-cultural perspective. The implications for physical educators and sport providers will also be discussed.

Methods

Participants

Maximal variation sampling (Patton, 2002) was used to recruit 102 participants (consisting of parents, children and coaches involved in junior Australian football) to participate in focus group discussions or individual interviews. A chief advantage of maximal variation sampling is that any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences of a phenomenon (Patton, 2002). The participants were recruited from Mount Gambier,

Kangaroo Island, and southern Adelaide, reflecting three demographically diverse cases to explore parental influence in sport, within a collective case-study design. The participants were both male and female and currently involved in junior Australian football for 12 and 13 year old children in South Australia. Institutional ethics approval was obtained prior to recruitment and data collection [project number 5460].

Procedure

Focus groups of up to eight participants were used to collect data from homogenous groups of children and parents, and individual interviews were used to collect data from coaches. A semi-structured interview guide was developed from a previous pilot study on sport-parenting (Elliott & Drummond, 2013) and current literature. The interview guide used with parents and coaches was simplified for focus groups with children however the broad focus on parental influence in junior Australian football was maintained. The focus groups and individual interviews were audio recorded and transcribed verbatim. Each transcript was subject to a thematic content analysis following the methods prescribed by Miles and Huberman (1994) and aggregated into general themes within each case. A cross-case analysis (Yin, 2003) was then undertaken in search for greater understanding and insight. To enhance the methodological rigour of the research process, inter-coder reliability, member checking techniques, and source triangulation (via maximal variation sampling) were employed, improving the trustworthiness and reliability of the findings. A social constructionist theoretical framework was also employed to guide the methodology, and analyse and interpret the findings.

Results

The ensuing section articulates the ways that parents impact children's introduction to, and early participation in junior Australian football. The results have been categorised into the themes of home practice; coercion; and sacrifice.

Home practice

A significant aspect of parental influence in junior Australian football was evident in children's initial introduction to sport. For many children in junior Australian football, this began at an early age through school football clinics and introductory programs such as 'Auskick' and 'AFL 9s'. However, most children did not transition into competitive junior Australian football via these introductory programs, but rather engaged in a casual 'kick-to-kick' at home with their parents. Often, the home practice would manifest into more structured practices set up and facilitated by parents. Many parents engaged in skill 'drills' and goal kicking practice with their children, while for others the home practice comprised of contests that challenged children's ability through long kicking competitions and accuracy based tasks. Interestingly however, home practice was not limited to the interactions traditionally shared between fathers and sons. Many mothers found home practice to be an effective way of positioning themselves within the junior Australian football experience while simultaneously promoting positive attitudes around physical activity and engagement in sport. In describing her involvement in home practice, one mother reflected:

It [my support] can be during the game or when he's at home. I mean I don't have much experience, but Adam will often be like 'Mum, can you do me some drills?' and this will be in the backyard and it will be like throwing the ball down and handball it back and if he's a bit further back, I will say 'ok, you can kick it to me now and then throw it down and run around me', and... It doesn't matter that it's me doing all the things like that; he likes to do them all.

The home practice provided an opportunity for both mothers and fathers to creatively design football-related games and challenges for children. Even if they did not possess a deep knowledge of the game, most parents were more than willing to 'have a kick' with children after school, after work and on the weekend. In this way, the nature of the activity was more meaningful and enjoyable for children and did not depend on expert or experienced parent.

Beau, he likes to stay after school and practice on the school ovals and stuff. I don't really have to encourage it; they just want to do it so we'll hang around. I'll kick the football with them. I can't tell him much about football because I don't know much but it's just kicking the football with him you know. We'll get out on the street as well at my mum's house, because it's a quiet street and kick the football there as well.

Coercive participation

The notion of 'coercing' children to play junior Australian football emerged as a unique, yet highly pertinent aspect of promoting early sport participation. Although the concept was regularly described by parents, children and coaches as 'steering', 'guiding', 'pressuring', and 'forcing', it was not necessarily perceived a negative aspect of the sport-parenting role. For example, most parents and coaches argued that children were becoming 'lazy' as a result of increasing accessibility of and appeal to video games, three-dimensional television viewing and other contemporary technologies (i.e. tablet computers, mobile application technology). By coercing children into a sport that required a commitment to weekly training, parents claimed that they were countering the potentially negative influence of contemporary sedentary leisure activities by promoting physical activity. Reflective of most parents' views, one participant articulated:

I think we probably pushed him a little bit to make sure he does play. We don't like them to sit down and play the Nintendo DS for 24/7 hours and watch TV, so we get outside and part of getting outside was kicking that footy, setting up some goals, doing some drills and just keeping my fitness up if nothing else, to make sure I don't sit on the couch and watch TV with him so maybe there was a little bit of a push there.

Most of the children agreed that parents coerce them to participate, but described being 'forced' as a 'good thing' for 'keeping fit', 'improving' and 'getting a sweat up', and therefore did not perceive it to be a negative aspect of parental involvement. In this sense, coerced participation is socially accepted in junior Australian football under the guise of promoting physical activity and healthy lifestyle attitudes.

Another tier of coercive, yet well-intended parental behaviour surrounded the pivotal role of fathers in the early sport experience. For nearly all fathers, junior Australian football was a favoured sporting pathway because they could attest to the intrinsic fulfilment it provided them during childhood. One father noted "I suppose because I played footy, it was an important part of my life, so I tried to give it to them". Consequently, many fathers admitted to 'steering' children away from other sports such

as soccer, hockey and netball, and toward junior Australian football. Another father noted:

We've all played football when we were kids when we were young and stuff, and they've seen us playing football and that's sort of been the natural progression hasn't it! Especially because boys want to be like their dad's, don't they?

Sacrifice

Without some form of sacrifice, financially or otherwise, participants claimed that many children would not have the opportunity to participate in junior Australian football. It encompassed not only the time commitments associated with travel, but the time commitments associated with volunteerism in community sport. Most parents perceived this to be a normalised aspect of the sport-parenting role, however, others perceived volunteerism as a sacrificial act to support children's participation:

The amount of work we do, I get here at 7am in the morning and I don't get home until 8pm at night on a Saturday and my wife, she'd be here on home games on the BBQ for nearly five hours a day and that sort of thing and Jay will see the amount of work that we do, what is sacrificed, and it's really for him you know.

For many parents who fulfil coaching roles, time commitments extended beyond the weekend. Being a junior Australian football coach required considerable planning and preparation for training and game day, forcing many to sacrifice aspects of their working and personal life in order to fulfil the coaching role, reinforcing the notion of sacrifice in promoting participation in junior Australian football. Similarly, a number of parents claimed to undertake fewer working hours in order to support children's participation.

I dropped working on a Sunday. There's a lot mate that we sacrifice, even getting ourselves to the footy. I've got four kids. Two girls that aren't interested in football whatsoever, but they get dragged along to the football every weekend and it goes on for three months and we do it because that's what our boys want.

Another parent confirmed:

I guess you harp back and say 'I wish my dad could have seen me'. As much as possible, I am probably trying to structure my business around making sure I can be there, and I am disappointed if I can't be there. I know my father probably felt the same way but he probably didn't have a choice, so yeah, that's what I try and do. It's just a general sporting Saturday thing. I put off work if possible, if somebody rings me up about work, I will try and put it off until the next day or the Monday or something because they [the children] come first.

Discussion

This paper provides important perspective toward understanding the contemporary nature of sport-parenting in junior sport in Australia. With regards to initial participation in junior Australian football, parents play a critical role in shaping children's sport experience via home practice, coercive behaviours, and financial and logistical sacrifices. Although it is beyond the scope of this paper to discuss other aspects of the temporal sport experience (i.e. during- and post-game parental involvement), it is clear that parents exert a substantive positive influence in introducing and maintain children's involvement in sport, which is critical to developing positive

attitudes toward lifelong engagement in sport and physical activity. Specifically, the findings indicate that most children navigated their way into a junior Australian football team as a result of engaging in home practices with their parents, demonstrating the potentially positive role of parents in the early years. This may provide further advocacy for developing sport programs involving parents and children to promote sport engagement. However, coercive parental behaviours were also identified as crucial in promoting continuation. Indeed, children confessed that coercion was not necessarily a negative aspect of sport parenting, but rather important in promoting and encouraging physically active behaviours. While this may suggest that children appreciate nuances of forceful parental influence in regards to continuation, it is also conceivable that coerced participation may be problematic under circumstances where children are negatively pressured into sport and physical activity. Despite participants in the study positively perceiving parental coercion, the age of children, and the situational context may elicit different attitudes and experiences. Moreover, the notion of sacrifice was found to be an enabling factor that encouraged opportunities for sport participation. Although time commitments are an inevitable aspect of sport involvement, this study has illuminated the significance of sacrifice in promoting participation, reinforcing the significance of conceiving, building, and implementing sport programs which require minimal, if any parental sacrifices. Future research may wish to expand upon this perspective and explore alternative sport settings, thereby maturing broader discussions around the contemporary nature of sport-parenting.

This paper has not only contributed to the sport parenting literature from an Australian perspective, it has illuminated the multitude of ways that parents promote initial and ongoing sport participation among children within the junior Australian football context. Through the concepts of home practice, coercion, and sacrifice, children are encouraged into organised sport, providing a sociocultural lens for educators, sport providers and coaches in the promoting sport engagement during childhood.

References

- Armentrout, S. M., & Kamphoff, C. S. (2011). Organisational barriers and factors that contribute to youth hockey attrition. *Journal of Sport Behaviour*, 34(2), 121-136.
- Arthur-Banning, S., Wells, M. S., Baker, B. L., & Hegreness, R. (2009). Parents behaving badly? The relationship between the sportsmanship behaviours of adults and athletes in youth basketball games. *Journal of Sport Behaviour*, 32(1), 3-18.
- Australian Bureau of Statistics. (2012). *Children's Participation in Sport and Leisure Time Activities. Australia*. cat no. 4901.0.55.001, Canberra: ABS.
- Bailey, R. (2006). Physical education and sport in schools: A review of benefits and outcomes. *Journal of School Health*, 76(8), 397-401.
- Clemmens, D., & Hayman, L. L. (2004). Increasing activity to reduce obesity: A research review. *Journal of Obstetric, Gynecologic and Neonatal Nursing*, 33(6), 801-808.
- Elliott, S., & Drummond, M. (2011). *Parental Involvement in Junior Sport*. Paper presented at the 27th ACHPER International Conference, Melbourne.

- Elliott, S., & Drummond, M. J. (2013). A socio-cultural exploration of self-perceived parental involvement in junior Australian football. *Asia-Pacific Journal of Health, Sport and Physical Education*, 1(3), 33-47.
- Enoksen, E. (2011). Drop-out rate and drop-out reasons among promising Norwegian track and field athletes. A 25 year study. *Scandinavian Sport Studies Forum*, 2, 19-43.
- Fredricks, J. A., & Eccles, J. S. (2004). Parental influences on youth involvement in sports. In M. R. Weiss (Ed.), *Developmental sport and exercise psychology: a lifespan perspective*. Mornington, West Virginia: Fitness Information Technology, Inc.
- Gabbett, T., Jenkins, D., & Abernethy, B. (2009). Game-based training for improving skill and physical fitness in team sport athletes. *International Journal of Sports Science and Coaching*, 4(2), 273-283.
- Goldstein, J. D., & Iso-Ahola, S. E. (2008). Determinants of parents' sideline-rage emotions and behaviours at youth soccer games. *Journal of Applied Social Psychology*, 38(6), 1442-1462.
- Gould, D., Lauer, L., Rolo, C., Jannes, C., & Pennisi, N. (2006). Understanding the role parents play in tennis success: a national survey of junior tennis coaches. *British Journal of Sports Medicine*, 40(7), 632-636.
- Gould, D., Lauer, L., Rolo, C., Jannes, C., & Pennisi, N. (2008). The role of parents in tennis success: focus group interviews with junior coaches. *The Sport Psychologist*, 22(1), 18-37.
- Hamilton, K., & White, K. M. (2010). Identifying parents' perceptions about physical activity. A qualitative exploration of salient behavioural, normative and control beliefs among mothers and fathers of young children. *Journal of Health Psychology*, 20(10), 1-13.
- Jonker, L., Elferink-Gemser, M. T., Toering, T. T., Lyons, J., & Visscher, C. (2010). Academic performance and self-regulatory skills in elite youth soccer players. *Journal of Sports Sciences*, 28(14), 1605-1614.
- LaVoi, N. M., & Stellino, M. B. (2008). The relation between perceived parent-created sport climate and competitive male youth hockey players' good and poor sport behaviours. *The Journal of Psychology*, 142(5), 471-495.
- Light, R. (2010a). Children's social and personal development through sport: a case study of an Australian swimming club. *Journal of Sport & Social Issues*, 34(4), 379-395.
- Light, R., Harvey, S., & Memmert, D. (2011). Why children join and stay in sports clubs: case studies in Australian, French and German swimming clubs. *Sport, Education and Society*, 1-17.
- Miles, M. B., & Huberman, M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, California: SAGE Publications.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, California: SAGE Publications.
- Stein, G. L., Raedeke, T. D., & Glenn, S. D. (1999). Children's perceptions of parent sport involvement: it's not how much, but to what degree that's important. *Journal of Sport Behaviour*, 22(4), 591-601.
- Telama, R., & Yang, X. (2000). Decline of physical activity from youth to young adulthood in Finland. *Medicine and science in sports and exercise*, 1617-1622.

- Ullrich-French, S., & Smith, A. L. (2006). Perceptions of relationships with parents and peers in youth sport: Independent and combined prediction of motivational outcomes. *Psychology of Sport & Exercise*, 7, 193-214.
- Wall, M. P., & Cote, J. (2007). Developmental activities that lead to dropout and investment in sport. *Physical Education & Sport Pedagogy*, 12(1), 77-87.
- Yin, R. K. (2003). *Case study research. Design and methods* (3rd ed.). Thousand Oaks, California: SAGE Publications.

Enhancing the preparation of tomorrow's teachers through symbiotic cooperative education relationships

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Cooperative education is a strategy to integrate theory and practice whereby students undergo conventional academic learning within a University and combine this learning with time spent in a school. The purpose of cooperative education is to prepare students for their future careers through developing both generic and specific competencies (Fleming, Martin, Hughes & Zinn, 2009). This presentation will examine the tripartite nature in which the student, university and a school HPE department work together collaboratively to develop capabilities to enhance a graduate's pathway into a teaching career. Interactions within the school environment enable students' to become enculturated into a community of practice, which allows them to learn about the culture, values, expectations and "what it is really like" to be a HPE teacher. This presentation will discuss how cooperative education not only benefits student learning but also adds value to the whole school community. The experiences of students and teachers involved in this symbiotic relationship will be used to illustrate the benefits to all stakeholders.

Keywords: cooperative education; HPE teaching; symbiotic relationships

Introduction

It is a common practice in New Zealand for students to complete an undergraduate degree, (that is not an education degree), prior to enrolling in a graduate teacher education programme. For students wanting to become health and physical education (HPE) teachers, some will complete a bachelor's degree in sport, exercise science or coaching. While many of these programmes prepare students with discipline specific knowledge, they do little to enable students to understand the practice of being a HPE teacher. This paper will argue that the inclusion of a cooperative education component within an undergraduate degree can provide opportunities for students to gain an understanding of the teaching profession and determine if continuing with a teacher education programme is the right direction for them.

Cooperative education

Cooperative education is a learning strategy that involves students integrating academic learning in the university with learning through authentic work experiences in a field related to a student's academic or career goals (Groenewald, Drysdale, Chiupka, & Johnston, 2011). The purpose of cooperative education is to prepare students for their future careers through developing both generic and specific competencies that enhance employability (Fleming, Martin, Hughes, & Zinn, 2009). Cooperative education is founded upon the development of a collaborative partnership through which mutually beneficial outcomes can be achieved for the student, host organisation and the university (Fleming, 2012).

There is a considerable body of literature that highlights the benefits of cooperative education to student learning across a range of disciplines (Dressler & Keeling, 2011). Research has highlighted academic benefits such as applying theory

into practice (Coll et al., 2009) and improving motivation to learn (Burchell, Hodges, & Rainsbury, 2000; Weisz, 2000). Students also gain personal benefits such as enhanced self-confidence and increased initiative (Weisz, 2000). When students are placed into real world contexts they have opportunities to take on responsibilities, develop relationships with colleagues and supervisors and to work as a member of a team (Howard & England-Kennedy, 2001).

Not only have the benefits of cooperative education to student learning been well documented, the benefits to industry and employers has been extensively researched in a range of disciplines including fields such as engineering, business, information technology and science (see Braunstein, Takei, & Wang, 2011). In the sport context, organizations value the involvement, enthusiasm and input of new ideas by the students. Students, although only partially trained bring qualities such as objectivity, technical skills (such as coaching or planning techniques), and problem solving skills that are not necessarily found in other volunteers whom they recruit for specific roles and sports events (Martin & Leberman, 2005). While it is likely that the benefits for a school would be similar, a search of the literature failed to identify any research that has explored cooperative education in the context of HPE within a school environment.

The pedagogical approach

Cooperative education involves sustained periods where students are engaged in authentic activities in a workplace environment (in this case, a school). Fundamental to the pedagogy of cooperative education is that the learning that occurs in the workplace is integrated with on-campus academic learning (Coll et al., 2009). Clear learning goals, linked to the curriculum are defined and learning is supported through appropriate industry and academic supervision. Typically, as in other forms of experiential learning, the student learner engages in an experience, and with a range of strategies (Fleming & Martin, 2007) reflects on that experience from various perspectives. The student then forms a personal theory or develops generalisations to explain his or her observations and then uses this to guide future actions (Kolb, 1984).

Drawing on a socio-cultural perspective of learning, when university students undertake their cooperative education experience in a school, through participating in authentic activities and social interactions with workplace colleagues they begin to adopt the characteristics of the community of practice (Eames & Coll, 2010; Lave & Wenger, 1991). In this way students are able to learn knowledge and discipline specific skills (including HPE pedagogy), but also the culture, values and expectations of the teaching profession. We contend that through the integration of learning in the university with the learning in the workplace, important insights into career opportunities can be gained.

The aim of this research was to examine how cooperative education, included within a sport and recreation degree contributed towards enhancing a graduate's pathway into a teaching career.

Context

The context for this study was the cooperative education (co-op) programme within the Bachelor of Sport and Recreation (BSR) at Auckland University of Technology (AUT). Co-op involved students undertaking 350 hours of placement within a school over two semesters, each of fifteen weeks. The placement was undertaken generally two days per

week during the final year of the degree. Co-op made up half of a full-time programme of study. Students attended university classes to make up the other half of the full-time load during each semester. Through the use of a concurrent placement structure there was an expectation of integrating learning across the two environments. The students were supported in their learning experience by an industry supervisor and an academic supervisor from the university. The industry supervisors were expected to negotiate appropriate work activities for the students and to provide guidance, support and feedback in the workplace. The students were expected to meet the academic supervisor on a regular basis (ideally every two weeks) generally face-to-face on campus. The key role of the academic supervisors was to encourage the students to reflect and analyse, to make meaning from their experiences; and provide feedback on their online journal and assessment tasks.

Methods

An interpretive case study approach was used to provide a rich description of the experiences and perceptions of the three stakeholder groups in order to enhance understanding and form a unique interpretation of events (Merriam, 1998). Case studies are a very common approach used for research in the area of work-integrated learning because of the highly contextualised nature of such programmes (Linn, Howard, & Miller, 2004). The primary data for this research was gathered through semi-structured interviews with students (n=6), academic supervisors (n=5) and industry supervisors (n=5). Interviews were transcribed verbatim and the transcripts were analysed using thematic analysis (Miles & Huberman, 1994). NViVO software was used for coding with a priori codes (for themes which had been identified from the literature) and codes generated inductively. Pseudonyms were allocated to the participants, beginning with (S) for students, (I) for industry supervisors and (A) for academic supervisors.

Findings

Drawing on the perceptions of students, industry and academic supervisors the findings presented focus on the following themes: benefits for students, the school community and the university and the challenges within these.

Benefits for students- learning about the culture, values and expectations of the profession

Learning through a co-op experience is said to occur through 'legitimate peripheral participation' (Lave & Wenger, 1991) by becoming involved in authentic activities in a supportive environment. Students confirmed that through participating in the everyday activities they were able to gain a greater understanding of the day-to-day operations of a school. Students learnt about the role of a teacher through observing in the physical education department and assisting teaches in both classroom and practical activities. As Stan commented:

Before I went into [co-op] I did not really know how a school ran and how the sports department worked. I now feel like I can go into a school and become part of how it works... I was not there just to be a helping hand. I had jobs to do. I took the fitness training on a Friday morning. I coached the rugby, touch and softball teams. I helped out on any P.E trips. So it was like I did have a role and it was not just odd jobs that they made me do... I got to do the staff kind of things like going to the staff BBQ. So

hanging out with the teachers, getting that whole side of it, seeing not just the 'in classroom' experience but the whole community of the school, getting to know the Principal as well, who had an open door so I could just walk in and out and go and see her if I felt like it.

Students, although they admitted they spent time 'just observing' were exposed to both routine activities as well as areas of responsibility and roles that were significant within the school. The development of formal as well as informal relationships contributed to learning and gaining a sense of belonging. Stan also appreciated having access to 'experienced others' (the Principal) who had knowledge and expertise.

Steve, through his experience, became aware of the reality perspective, "I learnt what it is like to be a teacher, a teacher's life is hard." For the students to understand the practice of a teacher they acknowledged that they needed to understand about the workplace culture, the language of the workplace and the professional behaviours that were appropriate. Steve felt that through being immersed in a school he was able to gain an understanding of "the way of a professional [teacher], their standard of dress; way of speaking; way of writing." In this context Steve was able to then learn the 'tools' (Vygotsky, 1978) that are part of the everyday practice of being a teacher.

Irene, a school supervisor confirmed that her students learnt about the 'behind the scenes' reality of the job and what it actually entails. She felt that students learnt about:

All the paper work that goes on behind the scenes particularly with 'education outside the classroom' activities... Also how to look after a student, how to provide for a student and how to clean up after a student. Even things like laundry and washing of uniforms, it's minor but it is something they leave here knowing.

Through her experiences as an academic supervisor, Alice also felt that through co-op her students had learnt about the realities of the profession and whether in fact teaching was the career for them. She commented:

Many students I know have been in the industry and decided that is not what they wanted. Yet all the way along they thought that is where they were heading. So I think it is an opportunity for the student to really decide one way or the other whether it is the right place for them... I think the students come out a lot more prepared for industry, a lot more prepared for real-life. They have had to front up at 8 o'clock in the morning and stay until 5. It is not like being at Uni (sic) where you can duck a class or two because you have got something else happening.

Students frequently acknowledged the development of interpersonal skills through their co-op experience. Sally when asked about what she had learnt had a typical response:

[I learnt] personally, effective team work and communication. Also organisational skills, just those skills that will help you I guess in every day and after. Crucial skills... Professionally, I also learnt how to act professionally in an organisation and also communication with speaking and also with things like email writing... I also think being able to apply that theory into practice was really important. Because you learn about it and then you are not quite sure how it is going to apply to what you're doing. So just being able to go out there and actually do it was a great benefit.

Sally's comments also highlight the value that she gained by being able to see the relevance of what she was learning at university and she was able to apply this in the context of her placement. Fundamental to the purpose of cooperative education is the integration of theory and practice. Our own experiences confirm that students were able to share the learning gained from their placement with their peers and learn from and with each other back in the classroom environment. As a result the integration of theory into the context of HPE was enhanced.

The benefits for the school community

Unlike the teacher trainee programme, the schools do not receive any government funding for having a cooperative education student on placement. Therefore the question often asked is 'what is in it for us?' Irene considered that there were mutual benefits in the relationship:

In this case it is three groups all gaining something that they cannot access themselves but by working together as the partnership can achieve outcomes that are positive.

More specifically, industry supervisors highlighted the value of having an "extra pair of hands" in practical sessions; for education activities outside the schools; for coaching and sports administration. Ingrid commented that having a relationship with the university and exposing her school students to future education opportunities was also a positive benefit:

I want to take on co-op students for benefiting the school as well as the students and maintaining that relationship with AUT... The outcomes are to obviously have the student working within the sports department in a positive way and giving positive feedback to our students...we've actually got quite a few students who are going straight from here in year 13 into BSR the following year as soon as they have graduated, so I think it is a selling point from that respect [and] maintains that relationship.

The benefits for the University

As an educational strategy cooperative education provides learning that is related to the student's course of study. It provides the opportunity for students to see the connections between theory and practice, which can then enhance the overall academic experience. As Amy noted:

The overall purpose is to show or to help students to see the relevance of their learning. I think it's also an opportunity for them to experience the school environment so that so they know what they're letting themselves in for. For many of them it's an opportunity to make a decision about whether it is the right choice for them... I think it's also about relationships, I think it's about getting our reputation out there... Certainly in our area, which is the major of Health and Physical Education, which leads onto a graduate teaching qualification, it's about us competing with other institutions and for us we want to have a really good reputation and we want to be the institution of choice for schools to send their kids to. So it's really important that our students fly the flag for what we offer them within our degree and that they do a good job on co-op.

As a recruitment strategy, cooperative education students in schools can act as ambassadors and raise the profile of the university and the BSR degree with the target audience of school leavers.

The challenges

Whilst the findings presented so far have painted a positive picture of the cooperative experience, not all placements occur without some challenges. Whilst one of the outcomes of the experience is to provide students with an understanding of a career as a health and physical education teacher, students may observe behaviours that are not consistent with the current HPE pedagogy. Students need to develop a critical awareness of the practices that they are exposed to, recognising both the positives and negatives of teaching and of work practices within a school community, in order to make sound decisions in regards to their practice in the future.

Conclusions and implications

During their cooperative education placements students were provided with opportunities to participate in authentic activities within the school and develop professional relationships with workplace colleagues. Through working alongside professionals the students were able to undergo a process of enculturation into a community of practice (Eames & Coll, 2010; Lave & Wenger, 1991) where they were able to learn about the characteristics of the school environment. Through this they were able to develop an understanding of whether teaching was the career pathway for them after graduation. In addition they were able to develop a range of 'generic skills' that would enhance their employability whether they chose to continue with a teaching career or not.

A symbiotic relationship was evident through the mutual benefits achieved. A key benefit for the university was the opportunity for the integration of knowledge gained through the academic curriculum and that gained through the workplace experience. This enhanced the curriculum and contributed to the perceived relevance of the degree by the students. Additional benefits for the university were gained through developing closer ties with schools; increased reputation; and recruitment opportunities with school leavers. The benefits for the school were linked to adding value to the organisation through knowledgeable students assisting HPE staff and taking active roles in training and coaching.

Through the contextual nature of the experience cooperative education provided students with the opportunity to test their aptitudes in a specific context for a given profession while they were still in a position to make a change to their career direction. The university as well as staff within the schools were able to make a shared contribution to career clarification. Students upon graduation were then positioned to go on with more certainty into a teacher preparation course of study. However, further research needs to be conducted in order gauge the success of these students compared with the usual teaching practice model in a graduate teacher preparation programme.

References

Braunstein, L. A., Takei, H., & Wang, F. (2011). Benefits of cooperative education and work-integrated education for employers. In R. K. Coll & K. E. Zegwaard

- (Eds.), *International handbook for cooperative and work-integrated education*. Lowell, MA: World Association for Cooperative Education, Inc.
- Burchell, N., Hodges, D., & Rainsbury, L. (2000). What competencies do business graduates require? Perspectives of New Zealand stakeholders. *Journal of Cooperative Education*, 35(2-3), 11-19.
- Coll, R. K., Eames, C., Paku, L., Lay, M., Hodges, D., Bhat, R., ... Martin, A. (2009). An exploration of the pedagogies employed to integrate knowledge in work-integrated learning. *Journal of Cooperative Education & Internships*, 43(1), 22.
- Dressler, S., & Keeling, A. (2011). Benefits of cooperative and work-integrated education for student. In R. K. Coll & K. E. Zegwaard (Eds.), *International handbook for cooperative and work-integrated education* (2nd ed.). Lowell, MA: World Association for Cooperative Education, Inc.
- Eames, C., & Coll, R. K. (2010). Cooperative education: Integrating classroom and workplace learning. In S. Billett (Ed.), *Learning through practice, professional and practice based learning*: Springer. doi:10.1007/978-90-481-3939-2-10
- Fleming, J. (2012). *Partnerships and relationships in cooperative education: Are stakeholder perspectives aligned?* presented at the meeting of the ACEN National Conference. Collaborative Education: Investing in the future, Geelong, Australia. Retrieved from http://acen.edu.au/2012_conference/proceedings/
- Fleming, J., & Martin, A. (2007). Facilitating reflective learning journeys in sport cooperative education. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 6(2), 115-121.
- Fleming, J., Martin, A., Hughes, H., & Zinn, C. (2009). Maximizing work integrated learning experiences through identifying graduate competencies for employability: A case study of sport studies in higher education. *Asia-Pacific Journal of Cooperative Education*, 10(3), 189-201.
- Groenewald, T., Drysdale, M., Chiupka, C., & Johnston, N. (2011). Towards a definition and models of practice for cooperative and work-integrated education. In R. K. Coll & K. E. Zegwaard (Eds.), *International Handbook for Cooperative and Work-Integrated Education: International perspectives of theory, research and practice*. (2nd ed., pp. 17-24). Lowell, M.A: World Association for Cooperative Education Inc.
- Howard, A., & England-Kennedy, E. S. (2001). Transgressing boundaries through learning communities. *Journal of Cooperative Education*, 36(1), 76-82.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, N.J: Prentice Hall.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Linn, P. L., Howard, A., & Miller, E. (2004). *Handbook for research in cooperative education and internships*. New Jersey: Lawrence Erlbaum Associates, Inc.
- Martin, A. J., & Leberman, S. I. (2005). Keeping up with the play: Practicum, partnership and practice. *Asia Pacific Journal of Cooperative Education* 6(2), 17-25.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Inc.
- Miles, M. B., & Huberman, A. M. (1994). *An expanded sourcebook. Qualitative data analysis*. (second ed.). Thousand oaks, California: Sage.

- Vygotsky, L. S. (1978). *Mind in society. The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Weisz, M. (2000). Developing a measure of student attributes. *Journal of Cooperative Education*, 35(2/3), 33-40.

A history of Health Education in NSW government schools from the early origins to the national curriculum

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With the imminent introduction of the Australian National Curriculum, there has been a revised interest in the history of curriculum areas. The development of national and NSW state policies and contexts along with academic interpretations act as reference points to the Australian Health and Physical Education (HPE) curriculum (Penny, 2010). The examination of political, social and educational discourses in light of contemporary interests raises controversy as to whether the projected aim of enabling children and young people to promote their own and others' health, wellbeing and physical activity participation across the lifespan (Australian Curriculum Assessment Reporting Authority, [ACARA], 2012) can be achieved. The history of sport and physical education in Australia has been thoroughly researched and narrated; however, the same depth of reflection has not been given to the history of health education (HE) in Australia. Additionally, there is a longstanding 'confusion about the difference between physical education, health education and school sport, and how these parts of the curriculum should relate to each other' (Commonwealth of Australia, 1992, p.3). Moreover, PE is placed 'under the umbrella of health' (Commonwealth of Australia, 1992, p.3); therefore research into PE has tended to dominate when in fact HE is separate from PE.

Keywords: Australian National HPE Curriculum; history of Health Education; curriculum policy and change.

Historically, achieving consensus on curriculum matters in relation to Health and Physical Education (HPE) has not been uniform or straight forward (Penny, 2010). Reflections on the varied approaches to health education (HE) in New South Wales (NSW) historically enables question on whether the HPE National curriculum will be relevant and effective in addressing the health needs of Australia. The official curriculum in Australia has been a state-based curriculum ever since the formation of public education systems in various Australian colonies from the 1870s (Reid, 2005). Australia has seen many attempts to engineer a National Curriculum; however, Dr Brandon Nelson's (Commonwealth Education Minister) call for a national curriculum in 2003 prompted the most recent curriculum changes in Australia. Due to Australia having eight different educational jurisdictions, eight different school entry ages and eight different curricula, it was perceived that there was a responsibility 'to prepare the next generation to be well-equipped as global citizens, to be proud and well developed Australians as much as they are New South Welshman or Queenslanders or Western Australians' (Shanahan, 2003, p.1). Consequently, it is timely to undertake a critical history of health education not only to better the understanding of the content included in the new HPE Australian National Curriculum but also to explore the discourses influencing curricula in this field.

History of health education

Compulsory education in NSW began in 1881 as it was perceived that capital would profit when the health and docility of the population was regulated (Turner, 1984 cited

in Kirk, 2004). The seventeenth century health education (HE) manual *Naturall and artificial Directions for Health* by William Vaughan (Charlton, 2005) presented the importance of air, fire and water; food and drink, sleep and early rising; evacuations; infirmities and death; and restoration of health as information for people to act on. These messages on the significance of clean air and water, a balanced diet, exercise, fibre and consumption of low animal fat were new to many but derived from the knowledge and theories available at the time. Notably, this style of HE that involves trigger action through behavioural strategies is well recognised as a feature of many historical principles of HE (Becker, 1984; Ajzen & Fishbein, 1980; Tones, 1979; Bandura, 1977 cited in Charlton, 2005).

In 1904, the primary school syllabus' new philosophy on education reflected mental and physical training to meet the demands of adult life (Barcan, 2009). Consequently, between 1900 and 1910 NSW schools conducted medical inspections to map and measure the entire range of physical defects among pupils (Kirk & Twigg, 1994 cited in Kirk, 2004) to ensure the welfare of the state. The revision of the primary school curriculum in 1948 identified health as one of the eight objectives of primary school education. A new prominence was given to the health of the individual in the *1952 Primary Education School Curriculum* (Barcan, 2009) leading to the growth of HE in NSW schools and its implementation in the secondary school system.

Biomedical knowledge that views lifestyles as influencing the physiological functioning of the body has been a prominent theme of the HPE curriculum since the 1950s (Lupton, 1996). From this perspective, it could be considered that HPE teachers are thus agents in the (re)production of knowledge on healthy lifestyles based on science rather than the subjectivity of sociocultural approaches to health (Tinning & Glasby, 2002). The 'new public health' era raised concerns for the health status of populations in the mid 1970s. Consequently, individuals were responsible for creating a 'healthier' population and an 'ecological sustainable' environment by adapting their lifestyle and reducing the potential harm caused to others (Peterson & Lupton, 1996, p.ix). Experiences of illness and disease at this time were thus reflective of non-compliance and 'bad-choices' (Peterson & Lupton, 1996, p.146). In turn, HPE in schools were sites of 'intervention' to ensure citizens possessed the skills and dispositions required to self-regulate and make rational health-affirming decisions (Lupton, 1999; Tinning & Glaspy, 2002).

The late 1980s saw the establishment of the Personal Development, Health Education and Physical Education (PDHPE) key learning area (KLA) following the merge of physical education and HE. This marked the emergence of a formal alliance of 'traditional' subjects as physical educators joined with home economic teachers, health educators, human relationship educators, traffic safety educators and outdoor educators in the teaching of the HPE area. The organisational structures for the HPE content were labelled 'Strands'. However, it was imperative that the key ideas were based on conceptual frameworks rather than labelling the strands in terms of the content addressed (MacDonald & Clover, 1997). For instance, the 'Individual and Community Health' strand specifically explored the concept of risk and analysed the factors that influence risk taking behaviours rather than addressing the topic areas of drugs and alcohol as isolated from personal and external factors.

Similarly, the proposed National curriculum has identified the HPE strand as *Personal, social and community health*. This strand, although stated as explicitly linked to and integrated with the movement and physical activity strand, recognises the key

factors that affect health: human biology, personal behaviour, physical environment and psychosocial environments (ACARA, 2012). Traditionally, HE in Australia adopted a risk-based model that focused on the way in which young people experienced risky behaviours. This approach has been widely criticised for emphasising risk factors and groups 'at risk' (such as young people, Indigenous Australians and ethnic minorities) and unnecessarily alienating young people by frequently blaming these sub-population groups for failing to meet expectations of self-management (ACARA, 2012). Consequently, the *Australian Curriculum: Health Education and Physical Education* argues for a strengths-based approach, focused on the educative outcomes of the learning area of HE and development of 'health literacy' skills amongst school-aged Australians. By affirming that all children (and young people) and their communities have particular strengths and resources, the National HPE curriculum assumes that learners can be nurtured to improve their own and others' health, wellbeing, movement competence and participation in physical activity.

Political, social and educational discourses

Political

Curriculum construction and change has been historically shaped by various national, state and local policies (Penny, 2007). In 1989, the newly formed Australian Education Council (AEC) devised the Hobart Declaration on Schooling – National Goals (MCEECDYA, 1989) which reconceptualised the curriculum into eight separately organised units named KLAs. Since the articulated National goal in HPE was 'to provide for the physical development and personal health and fitness of students, and for the creative use of leisure time' (MCEECDYA, 2009), interest groups such as the Australian Council for Health, Physical Education and Recreation (ACHPER), Australian Education Council's Curriculum and Assessment Committee and the Confederation of Sport lobbied so the national name for the KLA was changed from *Health* to *Health and Physical Education* (Irwin, 1993). Subsequently, the release of the *Carrick Report* in 1989 called for 'the vigorous promotion of excellence and of equity' in NSW schools (NSW Ministry of Education and Youth Affairs, 1989, p.6). Although PE (games, dance, gymnastics, track and field and aquatics) was taught, HE in NSW was an optional area of study until the Carrick Report resulted in formation of the Years 7-10 PDHPE syllabus in 1991 and was subsequently implemented in 1992. Notably, the Statement and Profile for HPE (Glover, 1994) acknowledged the need to address health as an Australian wide issue in its' provisions of a common basis for teaching, within states and territories and possibly nationally. This Statement echoed the earlier *Strengthening Australia's schools: A consideration of the focus and content of schooling* paper that was distributed in May 1988 which declared that 'Australia can no longer afford fragmentation of effort and approaches must be developed and implemented in ways which result in real improvements in schooling across the nation' (Dawkins, 1988). This strategy was a shift towards one national curriculum that could be adapted to meet the needs of each state.

During the early 1990s, Australian schools were guided by the *Adelaide Declaration on National Goals* (MCEECDYA, 1999) that argued for a comprehensive and balanced curriculum to meet the needs of students living in a contemporary society (Mavor, 1997). The Health and Physical Activity curriculum strived to meet the significant social and health-related challenges affecting the community such as mental

health problems amongst young people. Specifically, students should ‘have the knowledge, skills, understanding and values to establish and maintain healthy satisfying lives’ (MCEECDYA, 2008, p.9). Health and PE at this time was an intervention directed towards ensuring individuals were healthy citizens (Tinning & Glasby, 2002). By encouraging ‘autonomous... self regulated, desirous of knowledge’ learners (Lupton, 1995, p.11), school-based PDHPE was deemed a powerful site for the constitution of citizens whose ‘choices and desires are aligned with the objectives of the state and other social authorities and institutions’ (Petersen & Lupton, 1996, p.63-64). *The Federalist Paper 2: The Future of Australian Schooling* (Council for the Australian Federation, 2007) upheld the 1989 Hobart and 1999 Adelaide Declarations by declaring that health and PE are increasingly critical for student and community well-being yet added that ‘education should support the spiritual, moral, cultural and physical development of young people as well as their intellectual development’ (p.17). Consequently, ACHPER (2009) advocated the importance of ensuring enhanced and nationally comparable learning opportunities for all young Australians in the area of HPE.

Social

Enhancing knowledge on the factors affecting one’s health and wellbeing has the potential to empower individuals and communities to maintain good health, recognise the signs of ill-health, control the spread of disease, make informed decisions and alleviate concerns and fears about health conditions (Stillfried, 2008). Notably, the Federal Government’s agenda for ‘strengthening the school curriculum and learning outcomes’ made explicit reference to ‘tackling obesity’ (Department of Education, Science and Training, n.d. cited in Penny, 2007, p.8) which has prompted HE to focus on the maintenance of good health, rather than simply focusing on disease (Stillfried, 2008). Glover (1994) proposed that school programs should examine the social and cultural influences on individuals to be able to support the planning and implementation of strategies that reflect health promoting messages. The acknowledgement of the need to promote social justice within school health programs closely reflects the Ottawa Charter’s principles of equity, diversity and the creation of supportive environments. Evidently, a coherent curricula in education for health which brought together biological, ecological and social dimensions needed to be consistent with the Statement and Profile for HPE and thus coincide with the principles of the global health promotion principles of the Ottawa Charter (Tinning, 1996).

A ‘new’ New South Wales Years 7-10 PDHPE syllabus was later implemented in 2005 due to the obesity crisis, ongoing concerns about illicit drugs, road deaths, mental health, and the general high profile of ‘health’ in contemporary Australian society. From a political perspective, an ‘unhealthy population represents a huge cost’ (Tinning, 1996, p.6); therefore, HPE programs in schools have been constructed as a primary strategy to construct a healthy citizenry. The underlying argument being that a healthy population promotes productivity, reduces government health expenditure and positively contributes to social stability (McCuaig & Hay, 2013). Since the ‘obesity epidemic’ created fears on the future health of the population, economic burden on the health care system and premature mortality of citizens, HPE was positioned as both an aetiology and solution to this crisis. HPE teachers are positioned as the experts and the school-based HPE programs become the intervention to the problem of overweight and obese young people (Gard & Wright, 2001). HPE is thus the institutional site for the

regulative work of disciplining bodies and encouraging positive health ideals through pedagogical practices under 'political and ideological control, surveillance and regulation' (Evans, Evans & Rich, 2003, p.233). However, the relationship between knowledge and decision making is implied as it is often assumed that effective Health Education can reduce adolescent risk behaviours by facilitating the development of student's knowledge and skills that will improve their ability to negotiate the social contexts in which these behaviours commonly occur (Gard & Wright, 2001).

The poor status of HPE in the school curricula has been longstanding and recognised. The low regard for HPE was highlighted in the *Senate Standing Committee's Investigation and Report of Physical and Sport Education* (Commonwealth of Australia, 1992). The recommendations of this report were that governments' should ensure physical and sport education is given a higher profile in schools. Despite this, others argue Health and PE remains 'marginalised, overlooked and or excluded from education debate' (Penny, Emmel & Hetherington, 2008, p.2) and HPE is not amongst the 'fundamentally important disciplines: English, mathematics, sciences and languages other than English' (The States and Territories, 2007, p.14). More recently, the Crawford Report on *The Future of Sport in Australia* agreed that 'there is a high risk that physical education will not be given appropriate priority while it is part of a broader KLA' (Health and PE) (Commonwealth of Australia, 2009, p.122). Hence, the low regard for HE has commonly and may continue to be compromised when PE is combined with HE. Additionally, HPE was one of the 'remaining learning areas and subjects listed in the 2008 Melbourne Declaration on Educational Goals for Young Australians' (ACARA, 2010) and was only included in Phase 3(of 3) of the development of the Australian curriculum. These circumstances exemplify that HPE continues to experience a relatively low status and ranking due to the prioritising of other learning areas in the first two phases of the National curriculum.

Educational

The field of Physical Education Teacher Education (PETE) has been reflected in the pedagogical approaches to the HPE curriculum (Kirk, 1990). For instance, the biophysical science subjects (i.e. exercise physiology, biomechanics, functional anatomy and motor learning) were at the foreground of the subjects taught in PETE institutions in Australia between the 1960s and 1980s (Kirk, Macdonald & Tinning, 1997; Macdonald, Kirk & Braiuka, 1999) so these areas were taught in the HPE curriculum taught in schools at this time. The *1992 Australian Senate Inquiry into Physical and Sport Education* also found that school programmes had become 'watered down' versions of PETE as biophysical knowledge was being drawn from scientific disciplines and reconstructed as learning experiences for secondary students in HPE programmes (Brooker & MacDonald, 1995).

Reid's (2005) critical reflection of previous attempts to achieve a national curriculum in Australia provides an understanding of historical rationales and lessons that may shape the current movements in Australia's national curriculum. National curriculum collaboration in Australia has a relatively recent history as prior to the 1960s, state curricula strived to build each state independently. Although centralised administration of state education encouraged unity in the curricula delivery, state-based curriculum already showed inherent similarities due to the dominance of prevailing ideologies (i.e. narrow based subjects and distinctions between academic and technical subjects).

Centralisation and standardisation of health education

There are concerns about the lack of substantial change in the practices of the HPE curriculum despite the impetus to change (Sparkes, 1990). The emphasis on 'health' in PE curricula was perceived to be a change of the 1980s and 1990s as a means of achieving 'national good' and securing the future health and productivity of the Australian population (Gard & Wright, 2001; Penny & Evans, 1999). The naming of the KLA conveys a particular rationale and legitimates status in the curriculum but the subject is referred to differently in each state and territory. Intense lobbying was unsuccessful and the proposal for this area of study to be named 'Health' was challenged therefore renamed Health and Physical Education (Glover, 1994; Swabey, 2006 cited in Penny, 2010). Since the HPE has many incompatible 'bundles' of curriculum content compared to other learning areas, the history of HE needs to be examined as its own identity and as a separate to the history of Sport and Physical Education (Penny, 2010). An isolated examination of the history of health education will promote a better understanding of the content included in the 'new' HPE Australian National Curriculum and also to explore historical discourses influencing curricula in this field.

Traditionally, there has been an absence of continuity between the teaching and learning perspectives of the K-10 PDHPE syllabus, with that of the secondary curriculum. Yet the development of the Australian curriculum will present the opportunity to seek curriculum 'cohesion' based on the premise that the HPE community will commit to reviewing and developing a 'curriculum K-12, not merely K-10, amidst national curriculum development work of HPE' (Penny, 2010, p.10). ACARA's progression to date on the Year 11 and 12 HPE curriculum projects that this 'high stake' curriculum will most likely remain reflective of individual state or territory interests' which will perpetuate the 'historical disparities in the status accorded to different (state) knowledge and abilities' (Penny, 2010, p.10)

Current tensions and key stakeholders

The curriculum tends to be always and inevitably tied to the matter of whose needs and interests it will serve (Evans & Davies, 1986). Curricularists have the knowledge and experience to implement meaningful curriculum change; however, the goals and processes of change are narrowly prescribed by existing structures, resources and traditions. Consequently, schools tend to fall short of meeting the needs of young people and their communities (Macdonald, 2003). Similarly, Russell (2002) acknowledged that students may question whether teachers and the curriculum know what to teach, what students need to learn, how students should be taught, and whether the design of the curriculum will equip students to live in the current world. Consequently, the 'curriculum should be seen as evolving and dynamic, adjusting to social, political, technological and cultural changes to meet the learning needs of students' (Clennett & Brooker, 2006, p.11).

One of the biggest inhibitors for teacher effectiveness is the overcrowding of the curriculum; however, ACARA avertefully stated that "content for any learning area should be 'teachable' within an indicative time allocation that ACARA sets for its curriculum writers, to avoid overcrowding and to allow for the inclusion of other content" (MCEECDYA, 2009, p.24). However, the breadth should not come at the

expense of depth due to a narrow focus on the outcome (product) rather than the process (Muskovits, 2010). The NSW response to the Draft K-10 Australian Curriculum supported a substantial reduction in the amount of content expected for each unit (NSW Board of Studies, 2010).

Governments possess the power to prompt curriculum change; however, the success of curriculum reform is reliant on the acceptance and genuine commitment of the teachers (Sparks, 1990; Tinning, McDonald, Wright & Hickey, 2001). A teacher's 'positionality' (i.e. their personal discursive history or their accumulated professional/personal experiences, professional identity and subject allegiances) plays a significant role in the way curriculum change will be responded to by teachers (Kirk & Macdonald, 2001, p.561). The implementation of health and PE as a KLA exemplified the impact of a teacher's positionality at a time of curriculum change, as it was the teachers' voices on 'how' to implement the change could lead to an effective curriculum (Garrett & Plitz, 1999). On the contrary, teachers who defined themselves as PE teachers in NSW found that the introduction of the KLA posed challenges to their professional identity, personal interests and inventory of content knowledge. Consequently, the expectation to teach personal development and health education was a serious obstacle to 'their notion of what their job as a HPE teacher should be' (Tinning, 2004, p. 243). Additionally, teachers will protect personal endeavours in circumstances where there is insufficient commitment to curriculum change and a lack of structures in place to facilitate innovation (Sparks, 1990).

HPE has a long history in NSW education that has not been documented thoroughly due to the social, political and educational discourses influencing the traditionally poor status of the subject area. As reinforced by the National Curriculum, HPE has always been the subject area that provides education for children to learn how to lead healthy lifestyles now and in the future (ACHPER, 2009). Governing policies at times have influenced the prominence of key stakeholders and many attempts to centralise the area of health and physical education. Overall, HE is imperative due to the encompassment of the multi-dimensional aspects of health and its connection to economic imperatives that may drive the Commonwealth governments' education policy (Reid, 2009).

References

- Australian Curriculum, Assessment Reporting Authority. (ACARA). (2010). *Draft shape of the Australian Curriculum: Health and physical education*. Retrieved April 14, 2013 from http://www.acara.edu.au/verve/_resources/DRAFT_Shape_of_the_Australian_Curriculum-HPE-FINAL.pdf
- ACARA. (2012). *Australian curriculum Health and Physical Education: Draft for consultation*. Retrieved April 15, 2013 from <http://consultation.australiancurriculum.edu.au/Static/docs/HPE/F-10Curriculum.pdf>
- Australian Council for Health, Physical Education and Recreation. (ACHPER). (2009). *The ACHPER National Statement on the curriculum future of Health and Physical Education in Australia*. Adelaide, Australia: ACHPER.
- Australian Institute of Health and Welfare. (2006). *Australia's health 2006*. Retrived from

- Barcan, A. (2009). Three-pathways to change in NSW Education, 1937-1952. *Educational Research and Perspectives*, 36(2), 45-80.
- Brooker, R., & MacDonald, D. (1995). Mapping physical education in the reform agenda for Australian education: Tensions and contradictions. *European Physical Education Review*, 1(2), 101-110.
- Charlton, A. (2005). An example of health education in the early 17th century: *Naturall and artificial Directions for Health* by William Vaughan. *Health Education Research*, 20(6), 656-664.
- Clennett, A., & Brooker, R. (2006). *Teaching health and physical education in contemporary Australian school education: Rethinking teachers curriculum and pedagogical work*. Retrieved July 27, 2013 from <http://www.aare.edu.au/06pap/brp06797.pdf>
- Commonwealth of Australia. (1992). *Physical and sport education: A report by the Senate Standing Committee on Environment, Recreation and the Arts*. Commonwealth of Australia.
- Commonwealth of Australia. (1994). *Government response to the A Report by the Senate Standing Committee on Environment, Recreation and the Arts on Physical and Sport Education*. Canberra: Commonwealth of Australia.
- Council for the Australian Federation. (2007). *Federalist paper 2. The Future of Schooling in Australia. Revised Edition. A Report by the Council for the Australian Federation. September 2007*. Melbourne: Department of Premier and Cabinet.
- Commonwealth of Australia. (2009). *The Future of Sport in Australia*. Commonwealth of Australia.
- Dawkins, J. (1988). *Strengthening Australia's schools: A Consideration of the focus and content of Schooling*. Canberra, Australia: Department of Employment, Education and Training.
- Emmel, J., & Penny, D. (2010). State of play. *Teacher*, January/February, 32-37.
- Evans, J., & Davies, B. (1986). Sociology, schooling and physical education. In J. Evans (Ed.), *Physical education, sport and schooling: Studies in the sociology of physical education*. London: The Falmer Press.
- Evans, J., Evans, B., & Rich, E. (2003). ['The only Problem is, children will like their chips': education and the discursive production of ill-health](#). *Pedagogy*, 11 (2), 215-241.
- Gard, M., & Wright, J. (2001). Managing uncertainty: Obesity discourse and physical education in a risk society. *Studies in Philosophy and Education*, 20(6), 535-549.
- Garret, R., & Plitz, W. (1999). A case study of curriculum control: Curriculum reform in health and physical education. In B. Johnson and A. Reid (Eds.), *Contesting the curriculum*. Katoomba: Soial Science Press, 201-209.
- Glover, S. (1994). The national statement and profile in Health and Physical Education: Reflections from one of the writers. *Changing Education*, 1 (2), 6-7.
- Irwin, R.P. (1993). *The National collaborative curriculum project in the health learning area: A failure to reach for the top*. Proceedings from the 19th ACHPER National/International Biennial Conference. Darwin.
- Kirk, D. (1990). Knowledge and science and the rise of human movement studies. *Australian Council for Physical Education and Recreation National Journal*, 12(7), 8-11.

- Kirk, D., Macdonald, D., & Tinning, R. (1997). The social construction of pedagogic discourse in physical education teacher education in Australia. *The Curriculum Journal*, 8(2), 271-298.
- Kirk, D. (2004). Towards a critical history of the body, identity and health: Corporal power and school practice. In J.Evans, B.Davies & J.Wright (Eds.), *Body, knowledge and control: Studies in the sociology of physical education and health*. New York: Routledge.
- Lupton, D. (1995). *The imperative of health: Public health and the regulated body*. Thousand Oaks, California: Sage Publications.
- MacDonald, D. (2003). Curriculum change and the post-modern world: Is the school reform project an Anachronism? *Journal of Curriculum Studies*, 35(2), 139-149.
- Macdonald, D., & Clover, S. (1997). Subject matter boundaries and curriculum change in the Health and Physical Education key learning area. *Journal of HEIA*, 4(3), 47-52.
- Macdonald, D., Kirk, D., & Braiuka, S. (1999). The social construction of the physical activity field at the school/university interface. *European Physical Education Review*, 5(1), 31-50.
- Mavor, I. (1997). Understanding the health and physical education key learning area. *Journal of the HEIA*, 4(3), 38-42.
- McCuaig, L., & Hay, P.J. (2013). Principled pursuits of 'the good citizen' in health and physical education. *Physical Education and Sport Pedagogy*, 18(3), 282-297.
- Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA). (1989). *The Hobart Declaration on Schooling 1989*. Retrieved December 7, 2012 from http://www.mceecdya.edu.au/mceecdya/hobart_declaration,11577.html
- Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA). (1999). *The Adelaide Declaration on National Goals for Schooling in the Twenty-First Century*. Retrieved December 7, 2012 from http://www.mceecdya.edu.au/mceecdya/adelaide_declaration_1999_text,28298.html
- MCEECDYA. (2008). *Melbourne declaration on educational goals for young Australians*. MCEECDYA.
- MCEECDYA. (2009). Hobart declaration on schooling. Retrieved December 7, 2012 from http://www.mceecdya.edu.au/mceecdya/hobart_declaration,11577.html
- McGaw, B. (1997). *Shaping their future: Options for the reform of the Higher School Certificate*. Sydney: Department of Education and Training Cooperation.
- Muskovits, J. (2010). The Australian Curriculum – a Grand Design... or is it?. *Education Today*, 10(3), 30-33.
- NSW Board of Studies. (1999). *Stage 6 Personal development, health and physical education syllabus*. Sydney: NSW Board of Studies.
- NSW Government. (1997). *Securing their future: The NSW government's reforms for the Higher School Certificate*. Retrieved February 8, 1999, from <https://www.det.nsw.edu.au/media/downloads/reviews/hscwhite.pdf>
- Patty, A. (2010, April 17). *Proposed curriculum could stifle student creativity*. Sydney Morning Herald. Retrieved December 17, 2012 from <http://www.smh.com.au/national/education/proposed-curriculum-could-stifle-student-creativity-20100416-skg8.html>

- Penny, D. (2007). Health and Physical Education and the development of a national curriculum in Australia. Policies, position and prospects. *Healthy Lifestyles Journal*, 54 (3), 17-23.
- Penny, D. (2010). Health and physical education in Australia: A defining time? *Asia-Pacific Journal of Health, Sport and Physical Education*, 1(1), 5-12.
- Penney, D., Emmel, J., & Hetherington, S. (2008). *The curriculum future of Health and Physical Education in Australia: How influential can a national professional association be?* [Electronic Version]. Retrieved July 31, 2013 from <http://www.aare.edu.au/08pap/emm08598.pdf>
- Penny, D., & Evans. (1999). *Politics, policy and practice in physical education*. London: E&FN Spon.
- Peterson, A. & Lupton, D. (1996). *The new Public health: Health and self in the age of risk*. St Leonards, NSW: Allen & Unwin.
- Reid, A. (2009). *Is this a revolution? A critical analysis of the Rudd government's national education agenda*. ACSA.
- Reid, A. (2005). The politics of national curriculum collaboration: How can Australia move beyond the railway gauge metaphor? In C. Harris and C. Marsh, *Curriculum developments in Australia: Promising initiatives, impasses and dead-ends*. Deakin West, ACT: Australian Curriculum Studies Association.
- Shanahan, D. (2003, 26 June). Nelson plan to reform schools. *The Australian*, p.1
- The States and Territories. (2007). *Federalist paper 2. The future of schooling in Australia: A report by the States and Territories*. April, 2007. Melbourne: Department of Premier and Cabinet.
- Tinning, R. (1996). Physical education and the health promoting school: Opportunities, issues and challenges. *ACHPER Healthy Lifestyles Journal*, 43(2), 8-12.
- Tinning, R., & Glasby, T. (2002). Pedagogical work and the 'cult of the body': Considering the role of HPE in the context of the 'new public health'. *Sport, Education and Society*, 7(2), 109-119.
- Sparkes, A. (1990). *Curriculum change and physical education: Towards a micropolitical understanding*. Geelong, Vic: Deakin University.
- Stillfried, G. G. (2008). The importance of health education. *Quest*, 1, 12-13.
- Tinning, R., Macdonald, D., Wright, J., & Hickey, C. (2001). *Becoming a physical education teacher: Contemporary and enduring issues*. Sydney: Prentice Hall.

News from WA.....(more than just iron ore and great footy teams) – policy principles to course design

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In February 2007 a new senior secondary Physical Education Studies (PES) was introduced in Western Australia (WA). The course was one of some 50 new courses that were developed in conjunction with the introduction of new Western Australian Certificate of Education (WACE). This presentation draws on initial findings from a PhD study that is investigating curriculum change and reform, specifically in the context of the initial years of implementation of PES in WA. The study draws on Bernstein's (1990) model of the social construction of pedagogic discourse as a framework to locate and position teachers in relation to other partners in the design process and implementation phase. In particular, the study seeks a better understanding of the relationship between policy making and course design intentions and the often contradictory, contrasting and unintended practices subsequently arising in schools amidst implementation. The paper will present emerging evidence to identify the policy principles and discourses that were established as central to the PES course and how these were progressed and expressed in key course texts. Secondly, it will consider compatibility, tensions and pragmatics featuring in the development and the ways in which these played out in the course design. Finally, discussion will consider how this case study can provide arguably timely input to contemporary policy making and curriculum design processes associated with the Australian Curriculum.

Keywords: Senior secondary schooling; Physical Education; curriculum; assessment

Introduction

In February 2007 a new senior secondary Physical Education Studies (PES) course was introduced in Western Australia (WA). It was one of some 50 new courses that were developed in conjunction with the introduction of the Western Australian Certificate of Education (WACE). The changes arose from a review of post-compulsory schooling (later to be renamed Senior Schooling) in WA. The review identified a need for greater alignment between senior secondary education and Kindergarten to Year 10 curriculum; a broadening of the range of tertiary entrance options and subjects available to students; and a rationalisation of course structures, assessment systems and subject selection criteria in senior secondary education (Curriculum Council of WA, 2002; see also Penney & Walker, 2007). The reforms meant that for the first time in WA, achievements in PES would be recognised for tertiary entrance.

This paper draws on initial findings from a PhD study that is investigating curriculum change and reform, specifically in the context of the initial years of implementation of PES in WA. The study uses Bernstein's (1990) model of the social construction of pedagogic discourse as a framework to locate and position teachers in relation to other agents in the design process and implementation phase. The paper initially details the methodology and data gathering, before presenting emerging evidence that identifies the policy principles and discourses that were established as central to the PES course. It considers compatibility, tensions and pragmatics featuring in the development and the ways in which these played out in the course design. Finally, discussion explores how this case study can provide arguably timely input to contemporary processes associated with the Australian Curriculum.

Conceptual Framework - Bernstein's (1990) model of the social construction of pedagogical discourse

The wider study uses Bernstein's (1990) model of the social construction of pedagogical discourse, as a framework to develop an understanding of the discourses, processes, texts and "translations" that formed course design and implementation, and in turn, planning for teaching, learning and assessment. In short Bernstein's model of the social construction of pedagogic discourse proposes that three sites of interaction namely, primary, recontextualising and secondary, organise pedagogic discourse. Time and space precludes detailed exploration of Bernstein's model but the author lent heavily on Bernstein's (1990) text and a number of interpretations and applications of his work in physical education research (MacPhail, 2004); MacPhail & Halbert, 2005); Penney, 1998, 2013; Penney & Chandler, 2000; Penney & Evans, 1999). As explained below, Bernstein's framework of three inter-related sites informed development of research questions, to be explored sequentially. Drawing specifically on the modified version of Bernstein's model of construction of pedagogic discourse utilised by MacPhail, (2004) in the context of the Scottish Higher Grade Physical Education, we similarly designed a customised version of Bernstein's Model (Figure 1). This paper particularly directs attention to the complexities of text production associated with the primary field and points to emerging implications for subsequent interpretation and action in the recontextualising and secondary fields.

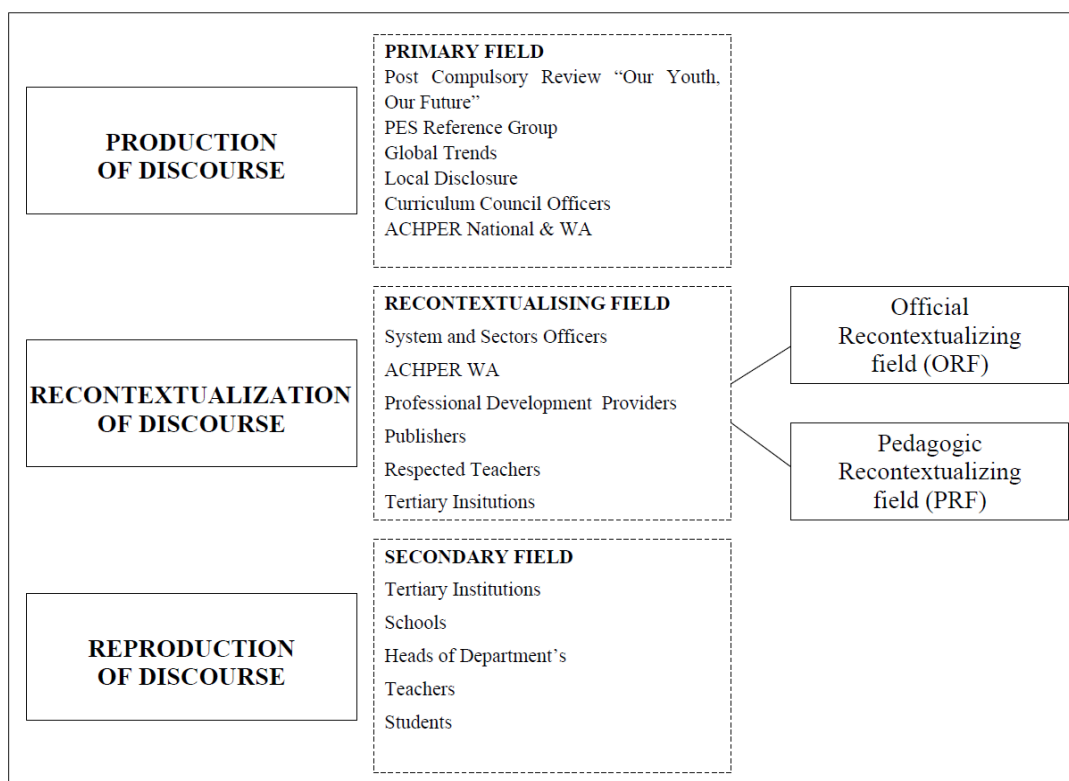


Figure 1: Adapted version of Bernstein's Model of the social construction of pedagogic discourse in the context of PES in WA (Jones, 2013)

Research Questions

The study takes a phased approach in addressing the following three research questions:
Primary Field of Production.

Q1. What were the discourses that formed the policy principles from which the PES was designed, and why was there a particular “central” focus on the “integration of theory and practice”?

Field of Recontextualisation

Q2. What texts and “local translations” (Fullan, 1999) of the PES central focus, to integrate theory and practice, have been made at “intermediary sites” (Hargreaves, 1986) during initial implementation?

Secondary Field of Production.

Q3. What integrated “theory and prac” pedagogical practice has emerged from the implementation process?

Methodology

Document analysis and semi structured interviews were identified as appropriate methods for the intent of the first two research questions. The study draws on the experiences of others in the field (Penney and Evans, 1999; Macdonald and Hunter, 2005) who successfully used document review in large implementation studies. Initial development work for the PES was typically through committee work, lobbying, drafting, consultation, redrafting and development of support material. This was developed against a backdrop of a broader educational landscape influenced by national and international discourses. Only publically available documents were considered.

Semi-structured interviews were designed to extend enquiry. Hitchcock and Hughes (1994) argue convincingly that semi- structured interviews “provide room for negotiation, discussion and expansion” and in particular provide a greater “balance between interviewer and interviewee” (Hitchcock and Hughes, 1994, p.157). It was the capacity to listen to people’s translations of the PES, and then investigate further leads in their construction of reality that guided this study towards the use of semi-structured interviews.

A series of case studies will form the basis for research into question three. Space precludes detailed consideration of this methodology. However, the reader should note the selection of case study schools will emerge from preceding phases of data collection and analysis.

Selection of texts

Our Youth Our Future. Post-Compulsory Education Review (Curriculum Council of Western Australia, 2002) represented the starting point for the selection of texts for the document analysis. We held the view that this document represented the ‘primary field of production’ (Bernstein 1990) or “meeting place” for discourses, and constructed, positioned and articulated the proposed reforms for Post Compulsory Education in WA.

Initial analysis of this text and reference to its bibliography, generated a list of further documents for analysis. These included: *The Adelaide Declaration on National Goals for Schooling in the Twenty-First Century* (MCEETYA, 1999); *The Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA, 2008); *Curriculum framework for Kindergarten to Year 12 Education in Western Australia*

(Perth, Curriculum Council 1998); and *Our Youth, Our Future. Post-Compulsory Education Review*. (Perth, Curriculum Council, 2002).

A series of PES specific documents were also identified and analysed using the PES syllabus (2005) as a starting point. These included, the PES Syllabus (2006; 2008), Teacher Jury Report (2007), The Chief Examiners Report (2008; 2009) and PES Support materials Unit 1A and 1B (2008).

Selection of interviewees

At the time of writing semi structured interviews were being arranged and undertaken with key “actors” (Curtner-Smith, 1999) from Department of Education of WA (DoE Consultant, DoE Teacher representatives), Catholic Education Office (CEO Consultant, CEO Teacher representative), Association of Independent Schools of WA (AISWA Teacher Representative), Lead Writer, Chief Examiner and Tertiary Institutions including, Notre Dame University and Edith Cowan University, who were members of key groups such the PES Reference group and the Course Advisory Committee.

Interview questions were designed in view of themes and categories emerging from the documents analysis. Interview questions were piloted with Tertiary HPE colleagues to ensure they were pertinent, structured and timely. Pilot study participants were asked to comment on suitability and some changes were made accordingly. The opportunity was also taken to practice exploring issues emerging, by way of impromptu and ad hoc questioning.

Data Analysis

A template for the document analysis, similar to that proposed by Miles and Huberman (1994), was designed. This included three categories:

1. Location: Source and date
2. Classification, authenticity, credibility
3. Interpretation and meaning (words, phrases, concepts, comments, quotes, directives)

Analysis was undertaken manually, using a colour coding system to identify common and emerging themes and categories. Following analysis, themes and categories were combined to create “super themes”. At the end of this process cross-referencing between broader educational and specific PE themes was undertaken. To further test the emerging themes, a grid was drawn up and documents were cross-referenced against the themes to quantify the regularity of their appearance. As a consequence themes were clustered again and emerged accordingly.

Semi-structured interviews were recorded using an audio digital recorder with a MPS player and field notes were also taken. The interviews were transcribed. During this process topics and themes from the interview transcripts were coded and key quotes and references that would later be used for illustrative purposes were highlighted. Finally the responses were further correlated and cross referenced against the grid of themes emerging from the document analysis and clustered accordingly.

Findings

The following section presents emerging policy principles, discourses and “super themes” that were central to the design of the PES course in the “primary field of production”. For the purposes of this paper a synopsis of broader educational and specific PE themes are identified (see Table 1 and 2). We then consider compatibility, tensions and pragmatics featuring in the “recontextualising” of these discourses and the ways in which these played out in the course design and subsequent revisions.

Table 1. Themes emerging - Broader Educational Landscape

Themes emerging	Document Source
Life - long learning and the desire to ensure that “all students leave senior school years with foundation skills for life and the capacity for, and inclination towards ongoing learning”	<i>Our Youth, Our Future</i> . Perth, Curriculum Council 2002, p.18
Western Australian State Imperatives	<i>Post-Compulsory Education Review Position Paper</i> . Perth, Curriculum Council
The extension and alignment of the WA Curriculum Framework (1999) and Learning Area Outcomes from K - 10 into Senior Schooling	<i>Our Youth, Our Future</i> . Perth, Curriculum Council, 2002); <i>Post-Compulsory Education Review Position Paper</i> . Perth, Curriculum Council
The alignment of Vocational, Educational and Training and school based post compulsory courses	<i>Our Youth, Our Future</i> . Perth, Curriculum Council 2002; <i>Melbourne Declaration on Educational Goals for Young Australians</i> , (MCEETYA, 2008)
The extension of post school destinations through the development of a broader range of subject based courses	<i>Our Youth, Our Future</i> . Perth, Curriculum Council, 2002; <i>Post-Compulsory Education Review Position Paper</i> . Perth, Curriculum Council
Access and Equity for all	<i>Melbourne Declaration on Educational Goals for Young Australians</i> , (MCEETYA, 2008)
Personalised learning to support and fulfil the diverse capabilities of each young Australian	<i>Melbourne Declaration on Educational Goals for Young Australians</i> , (MCEETYA, 2008)

Table 2. Themes emerging – PE Studies

Themes emerging	Document Source
The extension and alignment of the WA Curriculum Framework (1999) and Health and Physical Education Learning Area Outcomes to “PE Studies”	Physical Education Studies Syllabus, 2005; <i>Our Youth, Our Future. Perth, Curriculum Council, 2002</i>
A new senior school PES course with a strong practical focus	Physical Education Studies Syllabus, 2005
Personalised learning with content and contexts that were relevant to students and that best support their individual achievement of the outcomes	Physical Education Studies Syllabus, 2006
The integration of theory and practice to be central to the course	Physical Education Studies Syllabus 2008
What is relevant content in a PES course?	Department of Education and Training Consultant & Teacher representatives, AISWA Teacher representative
Inclusivity and the catering for a range of cognitive and physical abilities and interests.	<i>Our Youth, Our Future. Perth, Curriculum Council, 2002</i>); <i>Post-Compulsory Education Review Position Paper. Perth, Curriculum Council</i>

In the following section we focus on two of these emerging themes and provide a short evidence based narrative of how these were progressed. Readers should note that interview sources are referenced using annotations referred to above.

Pursuing the extension and alignment of the WA Curriculum Framework (1999) in PE studies

The extension and alignment of the senior school environment to the existing K – 10 *Curriculum Framework* and learning area outcomes not only in HPE but across the board was a major imperative of “*Our Youth, Our Future*” and was a key discourse during the primary field of production (Bernstein, 1990).

“The Council is committed to maximising learning outcomes for students through a seamless focus on outcomes from kindergarten to year 12, as expressed in the *Curriculum Framework*” (*Our Youth Our Future. Post-Compulsory Education Review* in 2002, Perth, Curriculum Council, 2002)

Pragmatically the PES Outcomes were designed to indicate the close relationship to HPE within the WA *Curriculum Framework*, yet an argument (DET Con, CEO Teacher Rep) was made these needed to be distinct from the HPE learning

outcomes in the *Curriculum Framework* to represent PE rather than HPE. This was broadly accepted, as Health Studies and Outdoor Education Studies would make the same argument.

In 2005 outcomes were to form the basis for course design and assessment, as was the case in K -10. Analysis of PES Syllabus between 2005 and 2008 reveals a number changes and recontextualisations were made to the course outcomes. The progress of the Attitudes and Values outcome and socio cultural strands that supported it is significant, ultimately resulting in their omission by 2008. Two new outcomes were introduced reflecting specific content at the expense of the Attitudes and Values, while the Knowledge and Understandings outcome was reshaped and extended.

It was perceived that the Attitudes and Values outcome “lacked clarity” (DET Consultant), and was “unfocused”, “non scientific and lacked rigour”, moreover “kids didn’t get it” (AISWA Teacher Rep), “the literacy of sociology was difficult for students to access” (CEO Teacher representative). In addition the Attitudes and Values outcome in K – 10 was not assessed formally, and this was raised as an issue in PES (DET Consultant), “Values and Attitudes disappeared as it was perceived as difficult to teach and assess” (DET Teacher representative).

Surprisingly, in light of the desire to align senior school courses to K-10 and the important role course outcomes had in the design of the course, there is little evidence to suggest that they feature as significant components in the design of curriculum and pedagogic plans at school level. The pragmatics of teaching content seemingly takes over;

I think the content was fine but the whole issue was hijacked by biomechanics and then assessment issues. Mainly because the outcomes and levels were still unclear in K – 10. So you could see from the start, while the course itself was sound, the focus would be on a number of issues that could hijack initial conversations (AISWA Teacher representative).

Indeed the outcomes do not appear to have played a role in the examination brief and design, “the outcomes were never part of our examination planning” (Chief Examiner).

The alignment to Learning Area Outcomes was ultimately terminated in 2009 with the political decision through the Minister to end assessment via outcomes. “Once that came out that was it, they went and did not feature again. There was no reason, that was just one complication gone and out of the way” (AISWA Teacher representative).

A strong practical focus to “celebrate the physical in physical education” (Penney and Evans 2005) was a central focus of the PES course

From the initial point in the construction of the PES course there was advocacy for a strong practical focus. “It was important for all sorts of reasons that practical performance was part of this course” (DET Consultant); “It was a question of what would captivate students” (CEO Consultant); “I advocated for the course to link theory to practical sport” (CEO Teacher Representative). Also inherent in this emphasis was a desire to support Specialist Sport programmes (DET representative) and the pragmatic perception of “No sport, no kids” (DET representative).

The 2005 and 2006 PES syllabus refers to the integration of theory into practice as a key focus of teaching with an emphasis on physical activity acting as a “context for learning” and “learning *through* movement” (Physical Education Studies Syllabus 2005, p 5). Significantly, the nature of “practical” and physical activity changes after

2008 with the design of the external Practical Examination. Interestingly neither of the first two PES syllabus documents (2005 and 2006) included a list of practical sports.. However;

“once the practical examination was on people’s radar, the notion of practical changed to mean purely performance. The arrival of support materials (CD’s of drills that would form the basis for the exam) changed the way practical was viewed. Now it was about performance and using your practical lessons for improving raw performance, linking theory got lost. It was about getting kids over the line in the practical exam” (CEO Teacher representative);

The identification of various sports that would be offered for practical performance assessment was not overtly linked to the syllabus. “I am not sure where the initial 14 sports list appeared from, I think it was a survey of the most popular taught in the old course” (CEO representative).

Ultimately “while teachers were still encouraged to use practical teaching and learning contexts that would best illustrate theoretical concepts, the practical examination assessed skills and tactics in performance only. Students were not asked to apply theoretical understandings to that performance. Not even in the written exam” (AISWA Teacher representative).

Discussion

As indicated, the above are initial findings from an ongoing PhD study. The data presented provides some insight into a complex and contested relationship between policy making and course design intentions and the practices subsequently arising amidst implementation. The new senior school PES course in WA emerged on the back of significant reform that reflected relatively accepted broad ranging educational discourses. Initial evidence points towards a “relatively” compatible and consistent set of policy principles and discourses forming the basis for the course during the ‘primary’ design period and through to the first published PES Syllabus in 2005. During the initial “recontextualisation” of the PES course amidst implementation, a number of tensions arose. These centred primarily on the pragmatic needs of teachers and those supporting them, (specifically with regards examinations, and difficulty with some content areas) and political and system changes, including the termination of Learning Area Outcomes as assessment tools. In the context of the PES in WA the tensions played out through what appears to be relatively ad hoc decision making and curriculum planning, with pragmatics sometimes taking precedence over the philosophical basis of the rationale that formed the design of the course.

What are the lessons here for the current Australian Curriculum development and implementation?

While this study focuses on the senior secondary curriculum in PES in WA, it can be seen as pertinent to the development and implementation of the Australian Curriculum in HPE. The findings so far highlight the influence of competing texts and priorities and the effect these can have on the pedagogical and curriculum intent of the course. In the context of the Australian Curriculum we contend that there is a clear need to keep eyes firmly on the road ahead and not to be caught like a rabbit in the headlights, as

potentially competing texts emerge. The profession arguably needs to keep the rationale of the Australian Curriculum in HPE at the forefront of implementation and articulate this clearly during “recontextualisation”.

As evidenced in WA, the headlight(s) that may seduce the rabbit include such issues as, assessment, school based planning and in the case of the Australian Curriculum in HPE, external agencies and providers who offer their own specific text. We argue that implementation of this national reform for HPE needs to be strategic and sustained with the intent clearly articulated. In the clamour for change we need “Champions” and resources to clarify meaning and understandings, and ensure that these are not lost as the message trickles down and is variously translated at different sites, in “recontextualisation” and “secondary” fields.

References

- Bernstein, B. (1990). *The structuring of pedagogic discourse. Volume IV. Class, codes and control*. London: Routledge.
- Curriculum Council of Western Australia (1998). *Curriculum framework for Kindergarten to Year 12 Education in Western Australia*. Perth: Curriculum Council of Western Australia.
- Curriculum Council of Western Australia (2000). *The Post-Compulsory Education Review Position Paper*. Perth: Curriculum Council of Western Australia.
- Curriculum Council of Western Australia (2002). *Our Youth, Our Future. Post-Compulsory Education Review*. Perth: Curriculum Council of Western Australia.
- Curriculum Council of Western Australia (2003). *Physical Education Studies Course of Study, Preliminary Draft*. Perth: Curriculum Council of Western Australia.
- Curriculum Council of Western Australia (2005). *Physical Education Studies*. Perth: Curriculum Council of Western Australia.
- Curriculum Council of Western Australia (2006). *Physical Education Studies*. Perth: Curriculum Council of Western Australia.
- Curriculum Council of Western Australia (2006). *Physical Education Studies Support Materials Unit 1A and 1B*. Perth: Curriculum Council of Western Australia.
- Curriculum Council of Western Australia (2008). *Physical Education Studies*. Perth, Curriculum Council of Western Australia.
- Curtner-Smith, M. D. (1999). 'The More Things Change the More They Stay the Same: Factors Influencing Teachers' Interpretations and Delivery of National Curriculum Physical Education', *Sport, Education and Society*, 4(1), 75-97.
- Department of Premier and Cabinet, Government (2007). *Teacher Jury Report 3*. Perth: Government of Western Australia.
- Fullan, M. (1999) *Change Forces: the Sequel*. Bristol: Falmer Press.
- Hargreaves, A. (1994). *Changing Teachers, Changing Times: Teachers' Work and Culture in the Postmodern Age*. London: Cassell.
- Hitchcock, G. & Hughes, D. (1995). *Research and the Teacher*. London: Routledge.
- Macdonald, D, & Hunter, L (2005). Lessons Learned ... About Curriculum: Five Years on and Half a World Away, *Journal of Teaching in Physical Education*, 24(2), 111-126.
- MacPhail, A. (2004). 'The Social Construction of Higher Grade Physical Education: The Impact on Teacher Curriculum Decision-making', *Sport, Education, and Society*, 9(1), 53-73.

- MacPhail, A. & Halbert, J. (2005). The Implementation of a revised physical education syllabus in Ireland: Circumstances, rewards and costs. *European Physical Education Review*, 11(3), 287-308.
- MCEETYA (1999). *Adelaide Declaration on National Goals for Schooling in the Twenty-First Century*. Adelaide: Author.
- MCEETYA (2008). *Melbourne Declaration on Educational Goals for Young Australians*. Carlton, Vic: Curriculum Corporation.
- Miles, M.B. & Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*, 2nd ed., Sage Publications, Newbury Park, CA.
- Penney, D. (1998). School subjects and structures: Reinforcing traditional voices in contemporary 'reforms' of education. *Discourse: studies in the cultural politics of education*, 19(1), 5-18.
- Penney, D. & Evans, J. (1999). *Politics, Policy and Practice in Physical Education*. London: E & FN Spon.
- Penney, D., & Chandler, T. (2000). Physical Education: What Future(s)? *Sport, Education and Society*, 5(1), 71-87.
- Penney, D. & Mr. Walker (2007). Senior secondary schooling in Western Australia: Transforming curriculum, lives and society? *Curriculum Perspectives*, 27(3), 22-35.
- Penney, D. (2013). Points of tension and possibility: boundaries in and of physical education. *Sport, Education and Society*, 18(1), 6-20.

Shaping adolescent girls' body image perceptions: the effect of social media on Australian adolescent girls

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Recent issues canvassed in mainstream media indicate that social media (SM) and social networking sites (SNSs) are being used by adolescents and are raising matters relevant to health education. This has led to interest in examining adolescents' use of SM and SNSs to gain a better understanding of the impact it is having on this group.

Adolescence is a stage of development with an intense focus upon appearance. Media, including contemporary advertising, play a significant role in influencing adolescent girls' body image perceptions and identity development. Contemporary SM appears to play an important part in adolescent girls' lives in terms of what is and what is not, socially endorsed. Given the rapid adoption of SM and SNSs and public self-display, there is paucity of literature around the influence of SM and SNSs on adolescent users and the impact these may have on body image perceptions, identity and well-being. This study employed a qualitative approach to explore the elements of SM and SNSs that shape adolescent girls' body image perceptions. Semi-structured interviews with 28 girls from both Primary and Secondary Independent schools were conducted to understand the lives of girls in early adolescence with respect to SM use. Participants provided insight into the role of SM and social networking in their lives. Emergent themes related to feedback, identity, advertising and marketing and the transmission of ideals through SM users. This paper will focus on one primary theme of the study findings related to the way that adolescent girls access, understand and act on body image messages that are communicated through SM and SNSs. It is anticipated that with the ongoing development of the Internet and SNSs that health education programs will need to encompass aspects of SM, SNSs and their implications for the health and well-being of students.

Keywords: Social media; social networking sites; adolescent females; body image; immediacy

Introduction

Body image is a multidimensional construct encompassing behavioural, perceptual, cognitive and affective components (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Body image has been conceptualised as the mental image we have of our bodies, encompassing 'both how we see ourselves (perceptual) and how we feel about what we see (affective)' (Kim & Lennon, 2007, p. 3). Relative to society, body image is said to develop in accordance to culture, in response to and regulated by cultural aesthetic ideals (Rudd & Lennon, 2001, cited in Kim & Lennon, 2007). For example, thin, idealised and in most cases unachievable images seen in the media have the capacity to negatively affect adolescent girls who are psychologically susceptible to concerns about their body (Gauntlett, 2002), compelling them to indulge in unhealthy eating practices that are associated with eating disorders, or influence them to turn to invasive procedures such as plastic surgery (Cattarin & Thompson, 1994; Kim & Lennon, 2007; Mills, Polivy, Herman, & Tiggemann, 2002). These ideals are reinforced through comparisons made to others such as family, peers and media images (Thompson & Stice, 2001).

Adolescence has been identified as the period with the most intense focus on appearance (Hargreaves & Tiggemann, 2002; Slater & Tiggemann, 2002) and is associated with 'increased self-awareness, self-consciousness, concern with social acceptance and preoccupation with image' (Slater & Tiggemann, 2006, p. 555).

Researchers (Polce-Lynch, Myers, Kliwer, & Kilmartin, 2001) have found that females look to the media to help them define, explain and explore the world around them. It has been suggested that between the ages of 13 and 15 years, external cues (including the media) and social feedback have their greatest impact on body image (Hargreaves & Tiggemann, 2003a).

The mass media has previously been identified as the most powerful conveyor of sociocultural ideals in adolescents and preadolescents (Dohnt & Tiggemann, 2006b; Levine & Smolak, 1996; Tiggemann, 2003), and has often been criticized for portraying idealistic appearance standards, which contribute to unhealthy body image perceptions for young women and girls (Hargreaves & Tiggemann, 2003a). The comparison to idealized mass media images is imperative in developing and reinforcing a preoccupation with physical attractiveness for adolescent girls (Cash, 2005; Mills, et al., 2002). The negative aspects of mass media on adolescent girls, such as the thin internalization, body dissatisfaction, low self-esteem, eating disorders and the sexualisation of gender, have received considerable attention (Borzekowski, Robinson, & Killen, 2000; Dohnt & Tiggemann, 2006a, 2006b; Gauntlett, 2002; Hargreaves & Tiggemann, 2002, 2003b; Kim & Lennon, 2007; Siibak & Hernwall, 2011; Slater & Tiggemann, 2006; Tiggemann, 2003). Some researchers (Hodkinson, 2011; Watkins, 2009) state that SM will act as an alternative form of media that will perpetuate negative aspects relating to body image. However, new forms of SM have effects that are yet to be completely explored. Indeed there is a paucity of literature surrounding SM and SNS and how they impact on people who are likely to be most vulnerable and 'at risk' of such concerns within contemporary society's aesthetically driven youth (Hargreaves & Tiggemann, 2003a).

The definition of SM draws on two related concepts: Web 2.0 and User Generated Content. Web 2.0, a term coined in 2004, describes a new technique in which software developers utilize the web as a platform for continual modifications of content and applications in a participatory fashion (Kaplan & Haenlein, 2010). User Generated Content is the way in which people make use of SM (Kaplan & Haenlein, 2010). Combining these two key concepts, SM can be defined as 'a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content' (Kaplan & Haenlein, 2010, p. 61). SNSs are sites embedded within the concept of SM, are broadly defined as websites which promote participants to construct a profile within the virtual space, displaying relationships and connections to other SNS users which are visible to those who have the ability to access their profile (boyd & Ellison, 2007). Examples of SNSs include *Facebook*, *Instagram* and *Tumblr*. Social media and SNSs differ from traditional forms of media by their immediacy, interactive, active participation and circle of connectedness. It has been argued that SNSs attract today's youth through mass popularity and perceived social benefits (Steinfeld, Ellison, & Lampe, 2008; Wilson, Gosling, & Graham, 2012). Studies conducted around the use of SM and SNSs indicate that one of the predominant users is the age group of adolescents (see Australian Government, 2008a; Australian Government, 2008b).

Media panics amplify public anxieties about negative images of SM including social isolation, cyber bullying, time wasting, and risks of disclosure. Optimistic accounts stress that SNSs create an environment for the expression of freedom (Siibak, 2010), 'sociability, community engagement, creativity and new literacies' (Livingstone, 2008, p. 394). Social media offers a platform for adolescent girls to observe interactive

Internet advertising campaigns, 'follow' their favourite celebrities, express themselves through photographs and text and gain social feedback from an audience. The current study investigated SM and SNS influence as it differs from mass media in communicating body image ideals to adolescent girls. The study also explored the potential of SM and SNSs to exacerbate existing problems associated with body image in the media.

Method

Participants

Through the use of purposeful sampling, 28 adolescent girls, aged 12 to 14 were recruited to voluntarily participate in the study via three Independent Schools in Adelaide, Australia. The significance of the age range of adolescence relates to previous studies pertaining to the link between preoccupation with body image (Harter, 1999) and high SM use (Australian Government, 2008a). Three year 7 classes were approached to be involved from the Independent Primary School, and three year 8 classes were approached in both Independent Secondary Schools. The schools were selected based on their status as being Independent schools and all within similar higher socioeconomic status (SES) demographics as within this area is a higher likelihood of accessibility to the Internet. The research was granted project approval by the Flinders University Social and Behavioural Research Ethics Committee prior to data collection.

Procedure

Focus group interviews were identified as a suitable data collection technique, given their ability to encourage participants to articulate views and perceptions more explicitly (Punch, 2005) and provide in-depth and rich, interactive data (Ary, Jacobs, & Sorensen, 2010; Bryman, 2012). Limitations of focus group interviews are noted, for example, highly articulate individuals may dominate discussions (Patton, 2002), or people may feel uncomfortable about revealing information on sensitive issues within a group environment (Barbour, 2007; Freeman, 2006). In order to address these concerns, the researcher utilised techniques of verbally shifting attention from an individual to the other members of the group (Krueger & Casey, 2009) and used a question moderation process which enabled all participant involvement. The limited numbers of the focus group interview and the suitable environment also allowed the participants within the research to express their perspectives on the variety of issues. Taking these critiques into consideration, a distinctive aspect of the focus group methodology is the ability to generate group discussion and encourage individuals to exchange ideas, attitudes, thoughts and feelings about a set of research issues (Barbour, 2007; Bryman, 2012; Creswell, 2008; Freeman, 2006); 'without disrupting underlying normative group assumptions' (Bryman, 2012, p. 400).

Once sufficient participant numbers were obtained from each school, participants were then randomly sampled to ensure no implicit teacher pressure had been placed on the girls to partake in the study. Five focus groups were used to collect data from the 28 participants; each consisting of three to five participants, lasting between 25 and 70 minutes. These in-depth interviews were conducted to pursue salient issues, such as the foundations of body ideals, while also serving as a basis of methodological triangulation. All interviews took place within the school environment.

It was facilitated in a place which was common and known to all participants, ensuring comfort and safety. An interview guide was used in this research in order to provide direction and clarity in the focus group interviews. Questions were broadly based on the topics of SM use, body image, advertising, feedback and identity on SNSs. The Children's Figure Rating Scale silhouette body shapes were used to assess body image (see Heron, Smyth, Akano, & Wonderlich, 2013), ideal body shapes and to understand the views of the girls. All of the interviews were audio recorded and transcribed verbatim.

The research was underpinned by the theoretical perspective of social constructionism. Social constructionism relies upon communication combined with the notion of interaction to define a shared system of meaning (Burr, 2003) that is continually constructed and reproduced through social life (Greenwood, 1994). Society continuously constructs knowledge and beliefs through life experience and social interactions. Current social representations of 'beauty' and what is 'popular' are also dependent upon socially constructed assumptions, expectations and values. By employing a social constructionist approach the researcher was able to analyse the responses of the focus group interview questions in order to understand how participants use SNSs to shape their beliefs about beauty and body image. Thematic analysis, underpinned by social constructionism, was undertaken to examine emerging concepts and to identify common, recurrent themes (Braun & Clarke, 2006; Pope, Zieband, & Mays, 2006) both within year levels and across the two year levels. The names and identities of participants and their associated clubs were given codes to protect their anonymity.

Results

The following section details one of the four principal findings from the research related to adolescent girls' body image and identity development on SM, body image perceptions. Subthemes that emerged have enabled further exploration linking to SM and SNSs.

Body image perceptions

Throughout the interviews it was evident that the participants were acutely aware of their bodies and were somewhat self-conscious. Discussion revolving around the Children's Figure Rating Scale silhouette body shapes, revealed a consensus of an 'ideal' body shape (shape 5). Most participants were able to identify with a body shape on the figure rating scale. Conversely, most participants over-estimated their body shape (i.e. stated they were larger) which was noticed by fellow participants. The following dialogue is an example of the views that some girls harbour with respect to personal body image:

Researcher: So you guys said that, you agreed almost that 5 was the ideal? Am I right?

Participants: Yes

Researcher: But you all want to be number 4?

G8: Because it's not anorexic, but it's not like...

G9: Yeah

Researcher: But majority of you want to be number 4?

Participants: Yes

Researcher: Ok, so just under [participant stated] 'ideal' weight?

Participants: (Pause) Yes

Researcher: Ok, cool.
G8: Well I guess most people would like to be just under
G7: I, I'm a 5, I'm a 5
G9: No you're not, you're a 4
G10: No, you're a 4 (speaking to participant 4)
G8: No
G7: No, no, no, I want to be a 5
G9: You want to be a 5?

Within this conversation with year seven students, G7 stated that she would ideally like to be classified as a 5. She also noted that her body shape was different to that of the other girls within the focus group. This girl was generally taller and somewhat larger than her peers and therefore perceived herself to be 'different'. In a conversation with year eight participants it was identified that girls significantly misjudged their body shape.

Researcher: So you guys that think you are a 6? You think you are maybe 1 or 2 girls' shapes over your ideal body weight?
G22 & G25: Yeah

Noteworthy is that the younger participants in year seven perceived the ideal weight to be heavier than their own and were happy that they were likely to be seen as under the ideal weight. Other participants in year seven appeared to be content with their body shape, even in the event of it being perceived as above the ideal shape. In contrast, a majority of the older participants, primarily in year eight, overstated the size of their body shape and spoke about how they could improve it in terms of making it thinner and smaller.

Despite the participants being in the stage of adolescence, which is considered a significant period of growth and development, thoughts surrounding body image concerns and 'dieting' were suggested. Even at the age of 12 it was evident that the concept of thinness was desired, coinciding with the perceived societal norm and desire for thinness. Justifications for a particular body shape were provided, that were consistent with previous conversations about the shape of their own bodies:

G27: Um, I have long skinny legs and that's all like...

G28: I have broad shoulders so, maybe like a 5 or a 6

Social networking site users and advertising and marketing on SNSs were found to influence participant's perceptions of body image.

The transmission of ideals through SNS users

The transmission of socially constructed ideals was reinforced through SM and social network users, their profiles and pictures. Girls related their socially constructed 'ideals' around current trends on the SNS 'popular page' on *Tumblr*. Participants also stated that people copied ideas associated with how to look and act through this SM site:

Researcher: Where do they get these ideas of posing from?
G28: *Tumblr*. (laughs)
G26: Yeah *Tumblr*.

It was also stated that pictures were sometimes "stolen" from the site and subsequently claimed as being their own when posted on alternative SNSs. Participants

stated that pictures were often taken from *Tumblr*. then posted on *Facebook* as a profile picture. These pictures would attain numerous amounts of ‘likes’ until another poster would comment about its authenticity, revealing that they had seen the picture on another SNS, for example, the original site where the picture was posted, noting that the picture was owned by someone else.

The ‘ideals’ attained by participants were often related back to SM and SNSs, such as, *Tumblr*. and *Instagram*. These specific sites more so than others, appeared to be able to dictate what is ‘popular’ and what is seemingly ‘cool’. It was these sites in particular that enabled young and arguably less experienced users to gain an understanding of the type of pictures that are expected and respected by social network users. Problematically, inexperienced users are therefore merely reproducing and maintaining the culturally endorsed norms associated with these photographic images. They are creating a SNS persona not based on individuality and individual expression apparently for fear of reprisal in the event of straying too far from these socially constructed norms.

Feedback

As peers hold one of the closest connections to adolescents (Watkins, 2009), peer feedback is vital within many aspects of SM. As people “present” themselves to the public in ways that they wish to be perceived, the subsequent pressing of a button labelled ‘like’ represents a form of acceptance. Users of SNSs use the ‘like’ button to express personal approval of presented photos, videos, blogs and comments. The participants indicated that numbers of ‘likes’ are associated with the notion of popularity. Participants stated:

G23: Yeah, ‘likes’, everyone thinks ‘likes’ is really good

G25: Like, if you get lots of ‘likes’ it means you’re popular. It’s weird

Researcher: So how many ‘likes’ means you’re popular?

G25: I think over a hundred

G23: Yeah

This ‘like’ button can therefore be seen as an indicator of popularity and thereby assists in the transmission of ideals about beauty and body shapes.

Discussion

This study provides some insight into SM and SNSs and their impact on adolescent girls’ body image perceptions. While the findings are not symbolic of *all* adolescent girls, the girls’ data was contextually relevant to their age cohort and provide a unique perspective to understand the way in which adolescent girls in middle schooling years use SM and SNSs within the context of their lives. Significantly, these results reinforce the importance that this is an emerging impact on female’s health and one that is a relevant and significant issue for middle school year girls. Accordingly, strategies to support girls’ ability to understand and process body image issues pertaining to SM and SNSs are desirable.

In pursuing understanding around the influence of SNSs on adolescent girls’ body image, this study provides knowledge to educators around the field of health, well-being and healthy development. Additionally, by exploring this issue with those who are essentially key stakeholders in the online experience, the implications for practice may

encourage dialogue between parents and children and educators surrounding social network participation. This study provides educators with an awareness of current issues of interest to middle school students. This awareness empowers educators with knowledge when confronting these issues within the school environment.

It was clear from participants in this study that images presented through current media from celebrities, friends and random people were viewed for inspiration about beauty and body shape. The concept of involving the media to define and explain the social construction of beauty ideals has been explored in other research (Polce-Lynch, et al., 2001). Concurring with current research (Mikkola et al., 2008, cited in Siibak & Hernwall, 2011), participants made it apparent that the media's representation of females in contemporary society served as significant role models for 'tween' girls. Participants discussed looking at 'popular' pictures on Tumblr. for inspiration for their own profile pictures, indicating an attempt to conform to the social norms of the 'ideal' look. It was suggested that the impact of these representations was seen through sexualised posing, seductive appearing outfits and the manipulation of personal images before posting them on social networking sites.

The ease of the transmission of messages through the Internet, allows the instantaneous delivery of information, ideals and opinions. Here, this instant conveyor of messages has the capacity to create body dissatisfaction if the messages that are transmitted involve unachievable ideals. At the core of this research are adolescent girls' body image and the use of SNSs, which is closely linked to feedback on personal, or others' photos that have been posted online. Attending to the educative needs of girl's body image issues is imperative in developing attitudes and behaviours that recognise stereotypes and the social construction of what is desirable or 'cool'. Even at a young age a 'normative discontent' exists within girls (Dohnt & Tiggemann, 2006a; Phares, Steinberg, & Thompson, 2004). That is, girls are dissatisfied with their appearance even before the age of adolescence. Exploring body image at a young age within the health curriculum will offer valuable insight into the construction of ideals.

This study highlights the importance of further qualitative research which explores the impact of SM and SNSs on the health and well-being of girls. Promoting education around body image acceptance and the societal construction of beauty early in the lives of girls has the capacity to challenge the influence of SNSs within contemporary society providing validation for physical and bodily aesthetics. Listening to the voices of adolescent girls in middle schooling years about SNS practices has the capacity to provide important understanding in how educators go about informing students of appropriate SNS use and also developing relevant and effective educational feedback. Future research is required to develop best practice models to assist teachers in the classroom given the rapidly changing nature of SM and the manner in which it is used.

While it is difficult to alter or control the use of SNSs, schools offer the ideal site in which to educate both girls and boys on the issues associated with comments posted on SNSs that may disparage an individual and damage their self-esteem. Starting this process in primary years schooling would provide a significant period for boys and girls to adopt positive attitudes and recognition for adolescence and beyond. Extending on this process and taking it away from the school environment to at home and with peers is the challenge that needs to be addressed.

Through the process of interviewing the girls and providing them with the opportunity to discuss these issues in an open and supportive environment, they can

begin to recognise that their own actions on SNSs were not as significant as they had originally perceived. Educators can use this knowledge to create discussion about what occurs on SNSs and how individuals might respond in the event of disparaging remarks. Girls need to recognise that SNSs are not a panacea. Rather they are a communication tool that should be used in a responsible manner, with an understanding that they can be a important source of engagement, fun and contemporary social interaction. However, they can also be sites in which individuals are negatively impacted. Individuals need to be educated on how to utilise the Internet and SNSs as tools for developing a positive digital footprint rather than an undesirable one that has the potential to impact body image and body identity.

Reference List

- Ary, D., Jacobs, L., & Sorensen, C. (2010). *Introduction to Research in Education* (8th ed.). USA: Wadsworth Cengage Learning.
- Australian Government, A. C. a. M. A. (2008a). Internet use and social networking by young people. No. 1. Retrieved 23 June, 2012, from www.acma.gov.au
- Australian Government, A. C. a. M. A. (2008b). Media use by girls and boys. No. 2. Retrieved 23 June, 2012, from www.acma.gov.au
- Barbour, R. (2007). *Doing Focus Groups*. London: Sage Publications Ltd.
- Borzekowski, D. L., Robinson, T. N., & Killen, J. D. (2000). Does the camera add 10 pounds? Media Use, Perceived Importance of Appearance, and Weight Concerns Among Teenage Girls. *Journal of Adolescent Health*, 26(1), 36-41.
- boyd, D., & Ellison, N. (2007). Social Network Sites: Definition, History, and Scholarship.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Bryman, A. (2012). *Social research methods* (4th ed.). Oxford, New York: Oxford University Press.
- Burr, V. (2003). *Social constructionism* (2nd ed.). London: Routledge.
- Cash, T. F. (2005). The Influence of Sociocultural Factors on Body Image: Searching for Constructs. *Clinical Psychology: Science and Practice*, 12(4), 438-442.
- Cattarin, J., & Thompson, J. K. (1994). A three year longitudinal study of body image and eating disturbance in adolescent females. *The Journal of Prevention and Treatment*, 2(2), 114-125.
- Creswell, J. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. (3rd ed.). Upper Saddle River, New Jersey: Pearson Education.
- Dohnt, H., & Tiggemann, M. (2006a). Body image concerns in young girls: The role of peers and media prior to adolescence. *Journal of youth and adolescence*, 35(2), 135-145.
- Dohnt, H., & Tiggemann, M. (2006b). The contribution of peer and media influences to the development of body satisfaction and self-esteem in young girls: A prospective study. *Developmental Psychology*, 42(5), 929-936.
- Freeman, T. (2006). 'Best practice' in focus group research: making sence of different views. *Journal of Advanced Nursing*, 56(5), 491-497.
- Gauntlett, D. (2002). *Media, Gender and Identity. An Introduction*. Oxfordshire: Routledge.

- Greenwood, J. (1994). Action research and action researchers: Some introductory considerations. *Contemporary Nurse*, 3(2), 84-92.
- Hargreaves, D., & Tiggemann, M. (2002). The effect of television commercials on mood and body dissatisfaction: The role of appearance-schema activation. *Journal of Social and Clinical Psychology*, 21(3), 287-308.
- Hargreaves, D., & Tiggemann, M. (2003a). The effect of "thin ideal" television commercials on body dissatisfaction and schema activation during early adolescence. *Journal of Youth and Adolescence* 32(5), 367-373.
- Hargreaves, D., & Tiggemann, M. (2003b). Female "Thin Ideal" Media Images and Boys' Attitudes Toward Girls. *Sex Roles*, 49(9/10), 539-544.
- Harter, S. (1999). *The construction of the self: A developmental perspective*. New York: Guilford Press.
- Heron, K. E., Smyth, J. M., Akano, E., & Wonderlich, S. A. (2013). Assessing Body Image in Young Children: A Preliminary Study of Racial and Developmental Differences. *SAGE Open*, 3(1).
- Hodkinson, P. (2011). *Media, Culture and Society: An Introduction*. London: Sage Publications Ltd.
- Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, 53(1), 59-68.
- Kim, J.-H., & Lennon, S. (2007). Mass media and self-esteem, body image and eating disorder tendencies. *Clothing & Textiles Research Journal*, 25(1), 3-23.
- Krueger, R., & Casey, M. (2009). *Focus Groups: A Practical Guide for Applied Research* (4th ed.). Los Angeles: SAGE Publications, Inc.
- Levine, M. P., & Smolak, L. (1996). Media as a context for the development of disordered eating. In L. Smolak. & L. Levine (Eds.), *The Developmental Psychopathology of Eating Disorders: Implications for Research, Prevention, and Treatment*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.
- Mills, J. S., Polivy, J., Herman, C. P., & Tiggemann, M. (2002). Effects of Exposure to Thin Media Images: Evidence of Self-Enhancement among Restrained Eaters. *Personality and Social Psychology Bulletin*, 28(12), 1687-1699.
- Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods*. Thousand Oaks, CA: SAGE Publications Ltd.
- Phares, V., Steinberg, A., & Thompson, J. (2004). Gender Differences in Peer and Parental Influences: Body Image Disturbance, Self-Worth, and Psychological Functioning in Preadolescent Children. *Journal of Youth and Adolescence*, 33(5), 421-429.
- Polce-Lynch, M., Myers, B., Kliewer, W., & Kilmartin, C. (2001). Adolescent Self-Esteem and Gender: Exploring Relations to Sexual Harassment, Body Image, Media Influence, and Emotional Expression. *Journal of Youth and Adolescence*, 30(2), 225-244.
- Pope, C., Ziebland, S., & Mays, N. (2006). Analysing qualitative data. In C. Pope & N. Mays (Eds.), *Qualitative Research in Health Care* (3rd ed., pp. 63-81). Malden, Mass: Blackwell Publishing.
- Siibak, A. (2010). Constructing masculinity on a social networking site: The case-study of visual self-presentations of young men on the profile images of SNS Rate. *Young*, 18(4), 403-425.

- Siibak, A., & Hernwall, P. (2011). 'Looking like my favourite Barbie' - Online Gender Construction of Tween Girls in Estonia and in Sweden. *Studies of Transition States and Societies*, 3(2), 57-68.
- Slater, A., & Tiggemann, M. (2002). A Test of Objectification Theory in Adolescent Girls. *Sex Roles*, 46(9/10), 343-349.
- Slater, A., & Tiggemann, M. (2006). The Contribution of Physical Activity and Media Use during Childhood and Adolescence to Adult Women's Body Image. *Journal of Health Psychology*, 11(4), 553-565.
- Steinfeld, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 29(6), 434-445.
- Thompson, J. K., Heinberg, L., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting Beauty: Theory, Assessment, and Treatment of Body Image Disturbance*. Washington, DC: American Psychological Association.
- Thompson, J. K., & Stice, E. (2001). Thin-Ideal Internalization: Mounting Evidence for a New Risk Factor for Body-Image Disturbance and Eating Pathology. *Current Directions in Psychological Science*, 10(5), 181-183.
- Tiggemann, M. (2003). Media exposure, body dissatisfaction and disordered eating: television and magazines are not the same! *European Eating Disorders Review*, 11(5), 418-430.
- Watkins, S. C. (2009). *The Young and the Digital. What the migration to Social-Network Sites, Games and Anytime, Anywhere Media Means for Our Future*. Boston, USA: Beacon press Books.
- Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A Review of Facebook Research in the Social Sciences. *Perspectives on Psychological Science*, 7(3), 203-220.

Swimming and water safety education: continuing the journey of belief

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The purpose of this paper is to share the continuing swimming and water safety education journey, within a university unit which culminates in pre-service teachers implementing quality swimming and water safety lessons for children from local primary schools within Latrobe Valley, Victoria. There is no cost for children to participate in these lessons and for some it is the only swimming and water safety lessons they receive. This journey began in semester one, 2011 and involved 39 Monash University (Gippsland) students preparing and conducting swimming lessons over three weeks to approximately 80 children. In semester one, 2013 the journey continued increasing to approximately 70 Monash University (Gippsland) students and 140 children.

Pathways were investigated and initiated in 2011 which began a journey of collaboration between Australian Registered Training Organisations (RTO), the local health industry (local leisure and sports centre) and external swimming instructors employed at the venue, local primary schools and the university sector; Monash University (Gippsland). Pathways created the opportunity for the university students to obtain qualifications for safe implementation of swimming lessons; Australian Swimming Coaches and Teachers Association (ASCTA) - Swim Australia Teacher (SAT), Royal Life Saving Society Australia (RLSSA) Bronze Medallion (BM) and RLSSA Resuscitation (RE) courses. Dr. Tim Lynch, Senior Lecturer at Monash University reflects on this swimming education journey towards achieving the Melbourne Declaration on Educational Goals for Young Australians (December, 2008) and shares feedback evidencing benefits for the various community stakeholders.

Keywords: swimming and water safety education; community collaboration; strengths-based approach; pre-service teachers; health and physical education

Introduction

It is a defining time for Health and Physical Education (HPE) in Australian schools with the first national curriculum Framework to be released in December 2013 and embedded within, Swimming and water safety curriculum. It can also be argued that it is a defining time for pre-service teacher education, particularly the preparation of teachers for future quality implementation of HPE curriculum within school communities. Research suggests that the more knowledgeable teachers are about swimming and water safety concepts, the more confident they will be in teaching this aspect of the curriculum (Peden, Franklin & Larsen, 2009). However, there are a number of barriers for Swimming and water safety education in schools, in particular the cost involved, for which a collaborative approach is recommended (Larsen, 2013).

The purpose of this paper is to share a swimming education community collaboration university unit/ program underpinned by a strengths-based approach as adopted by the national HPE curriculum Framework (MacDonald, 2012). The strengths-based approach “supports a critical view of health education with a focus on the learner embedded within a community’s structural facilitators, assets and constraints, and is enacted through resource-oriented and competence-raising approaches to learning” (Macdonald, 2013, p. 100). The program accentuated the vital role pre-service teacher education can play in the development of children’s swimming and water safety

knowledge, skills and understanding within communities, especially ones that are socio-economically disadvantaged.

The benefits for stakeholders are illustrated and it is anticipated that by sharing the ‘continued journey of belief’ that subsequently other communities and educators will consider their context’s suitability for similar community programs. Hence, this paper conceptualises how the new HPE curriculum may be delivered to overcome barriers in practice. This successful journey is reported by examining the various contexts of influence and program benefits:

- Australian primary schools
- Teacher preparation
- Response of program stakeholders

Australian primary schools

There is increasing concern that water safety education is decreasing (Peden et al. 2009). “Over the past 10 years the aquatic industry has observed a decline in the swimming skills of children and teenagers and this has been reflected in the national drowning statistics particularly in the 15–24 years age group” (Larsen, 2013). Recent media articles suggest that such decline is a result of financial difficulties amongst various families and school communities. Many Australian school principals have considered axing swimming for this reason (Thompson, 2012).

Meadow Heights Primary School principal Kevin Pope said poverty was a major factor in a quarter of his pupils missing out on swimming lessons this year. ‘A swimming program that costs \$100 a kid, and you’ve got three kids at the school – to come up with \$300 is very challenging’. (Thompson, 2012).

Australian primary schools often use qualified swim instructors from externally provided programs. Research by Peden, Franklin, & Larsen (2009, p. 202) found that “Aquatic activity was outsourced at 88.1% of primary schools surveyed and were most commonly outsourced to commercial learn-to-swim teachers”. Hence, Royal Life Saving Society Australia (RLSSA) has requested Government assistance through making swimming and water safety lessons compulsory for all primary school children; financial support for parents struggling with the cost of lessons; and funds for programs tailoring towards rural, Indigenous and multicultural communities (Larsen, 2013).

The best time to prepare children for safe aquatic participation is during childhood (RLSSA, 2010). This is advocated by Kirk (2005) who states that early learning experiences are crucial to continuing involvement in physical activity. Kirk stresses that currently only particular sections of the population are in a position to access quality experiences in schools and sporting clubs. In particular, children from lower socio-economic groups often miss out on quality early experiences. Furthermore, there is a growing body of research that suggests health, specifically social, mental and physical wellbeing is the result of social conditions and social status (Douglas, 2013). This complex situation relates directly to the national HPE Framework; “The most important driver for a National Curriculum should be about equity and social justice and improved learning outcomes for our most disadvantaged and isolated students” (Ewing, 2010, p.127). This is evident through the goals established at the Melbourne Declaration on Educational Goals for Young Australians (Ministerial Committee on Education, Employment, Training and Youth Affairs (MCEETYA), 2008) which drives the national reform.

Teacher preparation

Monash University (Gippsland campus) pre-service teachers choosing the Physical Education (PE) major stream study the unit EDF2611 Experiencing Aquatic Environments. General pre-service teachers may also choose this unit as an elective within their education course, offered biennially. It was a requirement within this aquatics unit and also for Victorian Institute of Teaching (VIT) teacher registration that PE graduates from initial teacher education programs have a current teacher of swimming and water safety qualification (VIT, 2012). The unit at the Gippsland campus previously required that students complete swimming and water safety accreditation during their own time and present evidence of the qualification, which could cost students as much as \$450. Hence, the unit workshop program (two hours per week) was carefully redesigned by the unit coordinator to create a pathway between the university unit objectives and Registered Training Organisations (RTOs) swimming and water safety course units of competency.

Partnerships between Australian RTOs, the local health industry (local leisure and sports centre) and external swimming instructors employed at the venue, local primary schools and Monash University (Gippsland) were initiated in January 2011. Correspondence with providers commenced and the response from Australian Swimming Coaches and Teachers Association (ASCTA) and RLSSA was optimistic, laying the foundations for strong partnerships. It was evident that ASCTA and RLSSA clearly valued the opportunity to promote swimming and water safety education, especially within the demographics of Latrobe Valley, Gippsland, eastern Victoria, where a large percentage of the region comprises of a socio-economically disadvantaged population (DEECD, 2011, p. 7).

A requirement of the unit coordinator to become a qualified Presenter of Swimming and water safety (for any provider) involved completion of a Certificate IV in Training and Assessment (TAE40110) (personal communication, 2 February 2011). This was necessary to grant the university students the swimming and water safety teacher qualifications. Also, by becoming an endorsed service member with Lifesaving Victoria (Victorian branch of RLSSA), the author was qualified to endorse the Bronze Medallion (BM), Resuscitation (RE), and Bronze Rescue (BR). Hence, successful pathways created the opportunity for the pre-service teachers to obtain the various swimming and water safety qualifications. Current RE was a requirement for the SAT qualification which enabled a pathway within a pathway. The SAT qualification was \$100 for the university students, the Bronze medallion cost \$15.70 and the Resuscitation cost \$10.50. These expenditures were to cover the cost of administration and resources, and were significantly reduced.

Creating pathways between RTOs, namely, ASCTA and RLSSA, was necessary to enable the implementation of safe and free swimming and water safety lessons for the primary school children. Such collaborative pathways are recommended for Swimming and water safety; “A collaborative approach is required to tackle this problem and we all need to take responsibility in ensuring that children do not miss out on learning these essential life saving skills” (Larsen, 2013). When planning the unit, swimming lessons for the local schools were deliberately held in the last three weeks of semester allowing approximately nine scheduled face-to-face weeks for swimming and water safety workshop preparation. This enables time for building all university pre-service teachers’ confidence and competence in the pool. It also allows time to assess whether each pre-service teacher was ready to implement the lessons with maximum safety. The pre-

service teachers were required to plan swimming and water safety sequential lessons for children of a particular age and ability as their first piece of unit assessment. Constructive feedback was provided and class-time preparation involved sharing lesson segments and activities through peer teaching and learning episodes. This allows time for suggestions, possible alternatives or improvements to be offered by peers. Hence, the pre-service teachers followed the cycle of four stages for an inquiry approach during the unit: understand; plan; act; and reflect (Queensland School Curriculum Council, 1999).

Research suggests that Teacher Educators are challenged to rethink their connections between university courses and school field experiences. It is argued that a learning environment underpinned by a “non hierarchical interplay between academic, practitioner and community expertise” (Zeichner, 2010, p. 89) offers extended pre-service teacher learning opportunities and subsequently enhanced preparation. Such an environment that enables ‘a synergy of learning’ involves many and interconnected relationships. Hence, the unit was deliberately designed to combine strengths within the community to offer pre-service teachers and school children optimal swimming and water safety learning where the ‘theory’ meets the ‘practice’.

Response of program stakeholders

This collaborative journey began in semester one, 2011 and culminated in 39 Monash University (Gippsland) students conducting three swimming lessons over three weeks to approximately 80 children. The children were Grades Two and Three (Churchill North Primary School) and Grades Three and Four (Lumen Christi Catholic Primary School). As the unit is offered biennially the next opportunity for the unit was in semester one 2013. Enrolment increased by 79 percent to approximately 70 Monash University (Gippsland) students, enabling swimming and water safety lessons to cater for 140 children. The children included Preps, Grade One and Grade Two from Churchill Primary school and Lumen Christi Catholic Primary school, and Prep to Grade Six from Yinnar South Primary school. The increase in pre-service teachers enrolled in the unit suggests that it was perceived as meaningful in 2011.

During the period of swimming lessons the children were placed by their class teacher in swimming ability groups (beginners, developers, established for age) of approximately four. The pre-service teachers on average worked in pairs and were responsible for the same group of children for 30 minute lessons each week over the three weeks. Each pair of pre-service teachers would take two 30 minute lessons during the workshop. Hence, a ratio of at least 1:2 swim teachers to children was maintained. In 2013 early years’ children were targeted for the lessons as this was consistent with research as the best time to introduce children to enjoyable experiences in the water (Kirk, 2005; RLSSA, 2010).

Feedback from all stakeholders over the years has overwhelmingly evidenced the success of the university unit and swimming lessons. The Student Evaluation of Teaching Unit (SETU), university pre-service teacher overall satisfaction with the quality of the unit, has continued to improve since the strengths-based approach was introduced (Table 2). The introduction of the pathways and lessons for local primary school children saw a 100 percent improvement in overall satisfaction with the quality of the unit from 2009 to 2011. The pathways (ASCTA and RLSSA) have also resulted in pre-service teacher improved resources, meaningful feedback and practical value.

Table 2 Student Evaluation of Teaching Unit (more than 15 enrolments and 10 or more completed surveys).

Year EDF2611 offered	Overall Satisfaction with quality (5 – strongly agree, 1 – strongly disagree)	The learning resources in this unit supported my studies (5 – strongly agree, 1 – strongly disagree)	The feedback I received in this unit was useful (5 – strongly agree, 1 – strongly disagree)	This unit made a positive contribution to my experiences during practicum (5 – strongly agree, 1 – strongly disagree)	Overall impression of the ASCTA SAT course (5 – excellent, 1 – unsatisfactory)
2009	2	3.1	2.63	2.33	No course
2011 (First year of community collaboration)	4	4	4	4.3	4.7
2013 (Second year of community collaboration)	4.4	4.61	4.22	4.75	4.8

Comments within SETU advocated meaningful learning experiences throughout the unit. Best aspects of the unit when a strength-based approach was introduced in 2011 included “Obtaining my SAT certificate and CPR certificate. Overall, fun and educational, with a teacher with clear, precise explanations and relating the coursework to field based examples” (Monash University Faculty of Education (MU F of E), 2011b, p. 1). However, many comments related to the culminating swimming lessons for the school children; “The practical elements of the class, improving swimming skills, learning CPR and being able to practise teaching children while at university with the support of the lecturer” (MU F of E, 2011b, p. 1); “Being able to implement our lesson plans with children from primary schools” (MU F of E, 2011b, p. 1); and “The practical side was very rewarding and confidence building in both personal and social spheres” (MU F of E, 2011b, p. 1). Another comment synthesised various aspects:

Learning how to teach swimming and the opportunity to teach kids how to swim in prac. All aspects that we learnt about related to teaching primary kids (which hasn’t happened in the last two years of PE). Tim’s explanations and teaching was fantastic with the use of his prior experiences etc. And also his hard work to help us reach success in all tasks” (MU F of E, 2011b, p. 1).

Similar supportive comments were made by pre-service teachers in 2013, “Getting to teach students swimming lessons was a highlight as we were all contributing to the children’s learning and helping them to achieve skills that they would otherwise not have the chance to practice” (MU F of E, 2013b, p. 1). “Learning through experience, including teaching children first hand” (MU F of E, 2013b, p. 1), “Organising and implementing swimming lessons” (MU F of E, 2013b, p. 1). “The partnership with the Churchill Leisure Centre was fantastic, having the swimming lessons in the pool was a great learning experience and the chance to complete swimming qualifications was great” (MU F of E, 2013b, p. 1). “The best aspect was that we could put the theory into practice rather than just assume what would happen” (MU F of E, 2013b, p. 1). “Really enjoyed taking the students (children) for lessons and being able to offer a lot of my previous experience with swimming to my class” (MU F of E, 2013b, p. 1). “Putting what we learnt into practice – being given opportunities to

teach kids how to swim” (MU F of E, 2013b, p. 1). “Swimming lessons with the students, having the option to do Swim Australia qualification and bronze medallion” (MU F of E, 2013b, p. 1).

In the 2011 ASCTA SAT course evaluations summary pre-service teachers remarked that the most helpful aspects of the course pathway often pertained to the swimming lessons. These included “observing other teaching” (ASCTA, 2011, p. 1); and “The ‘teacher-student’ format ensured the material was thoroughly covered with hands on experiences” (ASCTA, 2011, p. 1). “Being taught correct swimming movements, then being able to practise them before micro teaching” (ASCTA, 2011, p. 1). “Much more effective than if I had done it on my own. Well done on allowing this to be part of our university training” (ASCTA, 2011, p. 1). This was consistent with the feedback in 2013 where pre-service teachers commented; “The supervision and assistance provided throughout” (ASCTA, 2013, p. 1), “The assistance of Tim and the amount of equipment available at the venue” (ASCTA, 2013, p. 1). “The resources and feedback provided” (ASCTA, 2013, p. 1). “Doing the course over a period of time” (ASCTA, 2013, p. 1), “Demonstrations and explanations of things in and out of the pool” (ASCTA, 2013, p. 1).

Responses from stakeholders during the culminating lessons suggest that they all valued the enhanced learning community collaboration generated. The children from the local primary schools were excited to be taught swimming lessons by the university pre-service teachers. This observation was evidenced by teacher’s and children’s comments; “The swimming program was highly beneficial for the students in my class. It gave many the chance to experience the water in a controlled and safe environment, one that some rarely get to engage with” (personal communication, June 13, 2013). Children were quoted as stating “It was fun because we learnt to swim. I liked the games” (personal communication, June 13, 2013); “It was like fun because all the things we learnt about swimming. I got to swim with my friends. The swim teachers were kind and sweet” (personal communication, June 13, 2013); and “I felt happy because I got to do swimming on a Friday too. The people were nice to me” (personal communication, June 13, 2013).

Parents came to support their children and comments from teachers, teaching assistants, parents and the children expressed their gratitude for the lessons provided. One teacher wrote; “My kids had a ball with the swimming. Like I said to you then, any time you need children feel free to approach us. We are very willing to assist.” (personal communication, July 23, 2011). Another teacher stated that many parents “commented that it was good that the children were able to access the lessons and that they were free” (personal communication, June 13, 2013). The Yinnar South Primary school principal contacted the local newspaper to share the program with the wider community and was quoted in the article; “For our (students) to get one-on-one water experience is great; the parents have given really positive feedback and it’s been thoroughly enjoyed by everybody” (Symons, 2013).

The Churchill Primary School Prep-Grade 2 team leader summarised the benefits of the program and gratitude within this context:

It was a fantastic opportunity for our students as many have never had formal (swimming) lessons before. The low socio-economic situation of many families in this area means that many students are not able to have the opportunity of learning about water safety with instructors. While Churchill Primary School does offer a swimming lesson program we often find that those

most in need of lessons find the price too high. By offering free lessons through the University program we had 100% attendance from Prep/One/ Two, which is amazing!

The children were very excited about going to the swimming lessons and were looking forward to going each time. They enjoyed getting to know their instructors and it was good to see the university students grow in their confidence of dealing with junior primary school children. Relationships between the instructors and students were just beginning to develop, so it was a shame there weren't more lessons.

We have also received many positive comments from parents about this wonderful opportunity. Many were amazed that the lessons would be offered free of charge. One family has three children in the Prep/One/Two area and normally sending all three to swimming lessons is too expensive. However, this time because they were free, all three children were able to go. Their Mum was so happy she didn't have to exclude any of her children from the lessons. (personal communication, June 13, 2013).

Conclusion

A collaborative approach is recommended in overcoming barriers to Swimming and water safety education (Larsen, 2013) and this unit/program offers a practical example of how this may be achieved. The educational journey shared, evidences the power of human relations and the combining of strengths to overcome impediments. One major obstacle for the implementation of Swimming and water safety in primary schools is the cost involved. This Swimming and water safety program evidences the strengths-based approach adopted by the national HPE curriculum Framework, and socially just goals established at the Melbourne Declaration on Educational Goals for Young Australians (MCEETYA, 2008), enabling costs to be minimised for all stakeholders. Pre-service teachers' preparation and implementation of quality swimming and water safety lessons for children from local primary schools subsequently enhanced the meaningfulness of university workshops, and resulted in all stakeholders requesting more swimming lessons. The swimming program accentuated the vital role pre-service teacher education can play in the development of children's swimming and water safety knowledge, skills and understanding within communities in the short and long term. Furthermore, educators are encouraged to consider their context's suitability for a similar strengths-based program.

References

- Australian Swimming Coaches and Teachers Association (ASCTA). (2011). Swim Australia Teacher (SAT) course evaluations summary. Beerwah, Australia: Author.
- Australian Swimming Coaches and Teachers Association (ASCTA). (2013). Swim Australia Teacher (SAT) course evaluations summary. Beerwah, Australia: Author.
- Department of Education and Early Childhood Development. (2011). *A tertiary education plan for Gippsland, Victoria*. East Melbourne: Skills Victoria.
- Douglas, R. (2013, October 9). It's good to be king: how social status affects health. *The Conversation*. Retrieved from http://theconversation.com/its-good-to-be-king-how-social-status-affects-health-18296?utm_medium=email&utm_campaign=Latest+from+The+Conversation+for+9+October+2013&utm_content=Latest+from+The+Conversation+for+9+October+2013+CID_62f9231bfb3bdb4acc5cb1b60c7a2ce5&utm_source=campaig

- [n_monitor&utm_term=Its%20good%20to%20be%20king%20how%20social%20status%20affects%20health](#)
- Ewing, R. (2010). *Curriculum and assessment: a narrative approach*. South Melbourne: Oxford University Press.
- Kirk, D. (2005). Physical education, youth sport and lifelong participation: the importance of early learning experiences. *European Physical Education Review* 11(3), 239-255.
- Larsen, P. (2013, March 6). Royal Life Saving pushes for compulsory swimming & water safety. Retrieved from <http://www.achper.org.au/blog/blog-royal-life-saving-pushes-for-compulsory-swimming-water-safety>
- Macdonald, D. (2012, August 28). *The New Australian Health and Physical Education Curriculum: A case of/ for graduation in curriculum reform?* Retrieved from <http://www.youtube.com/watch?v=of7HJubC7f4>
- Macdonald, D. (2013). The new Australian Health and Physical Education Curriculum: a case of/ for gradualism in curriculum reform? *Asia-Pacific Journal of Health, Sport and Physical Education*, 4(2), 95-108.
- Ministerial Council on Education, Employment, Training and Youth Affairs. (2008) *Melbourne declaration on education goals for young Australians*. Retrieved from http://www.curriculum.edu.au/verve/resources/National_Declaration_on_the_Educational_Goals_for_Young_Australians.pdf
- Monash University Faculty of Education. (2009). EDF2611 experiencing aquatic environments unit evaluation report. Retrieved from http://emuapps.monash.edu.au/unitevaluations/wr/uewr_rp1_public.jsp?semester=1&year=2009&report_scope=U&faculty_cd=50000564&unit_cd=EDF2611&ref_unit_cd=no_ref_cd
- Monash University Faculty of Education. (2011a). EDF2611 experiencing aquatic environments unit evaluation report. Retrieved from http://emuapps.monash.edu.au/unitevaluations/wr/uewr_rp1_public.jsp?semester=1&year=2011&report_scope=U&faculty_cd=50000564&unit_cd=EDF2611&ref_unit_cd=no_ref_cd
- Monash University Faculty of Education. (2011b). EDF2611 experiencing aquatic environments Gippsland student evaluations of teaching unit (SETU) semester one. Melbourne, Australia: Author.
- Monash University Faculty of Education. (2013a). EDF2611 experiencing aquatic environments unit evaluation report. Retrieved from http://emuapps.monash.edu.au/unitevaluations/wr/uewr_rp1_public.jsp?semester=1&year=2013&report_scope=U&faculty_cd=50000564&unit_cd=EDF2611&ref_unit_cd=no_ref_cd
- Monash University Faculty of Education. (2013b). EDF2611 experiencing aquatic environments Gippsland student evaluations of teaching unit (SETU) semester one. Melbourne, Australia: Author.
- Peden, A., Franklin, R., & Larsen, P. (2009). Survey of primary schools across Australia: an examination of key water safety issues. *International Journal of Aquatic Research and Education*, 2009(3), 197-208.
- Queensland School Curriculum Council. (1999). *Health and physical education initial in-service materials*. Brisbane: Publishing Services, Educational Queensland.
- Royal Life Saving Society Australia. (2010). *The national drowning report 2010*. Canberra: RLSSA.

- Symons, R. (2013, June10). Partnering up in the pool. *Latrobe Valley Express*, p. 3.
- Thompson, A. (2012, December 19). Principal seeks state-funded swim lessons after poor parents pull children from classes. *Herald Sun*. Retrieved from <http://www.heraldsun.com.au/news/victoria/principal-seeks-state-funded-swim-lessons-after-poor-parents-pull-children-from-classes/story-e6frf7kx-1226539935638>
- Victorian Institute of Teaching. (2012). *Victorian institute of teaching specialist area guidelines*. Retrieved from http://www.vit.vic.edu.au/SiteCollectionDocuments/PDF/Specialist_Area_Guidelines_2012.pdf
- Zeichner, K. (2010). Rethinking the connections between campus courses and field experiences in college and university-based teacher education. *Journal of Teacher Education* 61(1-2), 89-99.

Teaching swimming for movement variability: an application of Teaching Games for Understanding-Game Sense.

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Traditional teacher-directed approaches to physical education have centred on skill-drills where potential sources to movement variability are minimised. Dynamic systems theory (DST) acknowledges that movement performance is shaped by fluctuating organismic, environmental and task constraints. Teaching Games for Understanding (TGfU) and Game Sense (GS) approaches to teaching sport and physical education acknowledge DST, encouraging physical educators to adopt inquiry orientated pedagogies whereby students are challenged to explore movement solutions and tactics to meet objectives within modified small-sided games. The critical element of this student-centred approach is that learners engage in cognitive consciousness to explore movement solutions and tactics, which satisfy constraints influencing performance under DST. Swimming has continued to be taught via teacher-directed approaches, whereby demonstrations and technical instruction dominate the pedagogical landscape. This paper argues such an approach is merely engaging learners in movement replication, which contradicts the relevance of movement variability/adaptability to swimming as supported under DST. Skill acquisition research supports DST, demonstrating that movement performance among elite athletes is highly variable to satisfy identical task goals in a variety of sporting and movement contexts. DST infers that swimming is no exception, which is supported by observations of elite swimmers demonstrating variable movement performances at the inter-individual level. This paper discusses the relevance of inter and intra-movement variability in swimming. TGfU-GS is posed as a suitable framework for considering how an inquiry approach to teaching swimming can be used to encourage students to 'develop a feel for water' in exploring of possible movement solutions to satisfy task constraints of competitive swim strokes and water safety skills. To this end, the ideology of deterministic 'text-book' technique is also challenged.

Keywords: swimming, dynamic systems theory, teaching games for understanding, game sense, pedagogy.

Introduction

Author one teaches swimming to children as part of his professional engagement whilst teaching Physical Education studies at the tertiary level. Prompting the idea this paper explores, students aged 6-11 years competent in competitive stroke styles were observed as failing to tread water for any longer than 5 seconds during a newly introduced water safety component. It was apparent that their hands and legs weren't catching the water with sufficient resistance to maintain buoyancy. The teacher had actively demonstrated an upright sculling motion that mirrored curriculum considerations what constitutes optimal technique, encouraging students to carefully observe technical key skill cues. Students were then directed to attempt the movement whilst the teacher physically manipulated technique to help facilitate adherence to the demonstrated movement pattern/curriculum model. It was initially perplexing that students competent in competitive stroke styles were not able to adopt a sufficient movement pattern that could generate upward lift/buoyancy in a sculling motion. This paper aims to challenge the paradigm of 'text-book' swimming technique and teacher-directed pedagogies that couple it. DST is discussed as a theoretical framework for

considering the relevance of intra and inter-individual variance in stroke technique. Student centred approaches embedded within TGfU-GS approaches to teaching physical education are considered in encouraging exploration of varied movement solutions through water. Pedagogical considerations outlined are relevant to both teaching contexts within school settings and coaching practices in after-school and community oriented contexts,

Traditional teacher-directed pedagogy and movement variability

Sport coaching has traditionally been enacted along behaviourist learning principles (Killian, 1988) such as direct instruction command teaching styles. Mosston and Ashworth (2002) explained that in a command style of coaching every movement by the learner is performed according to the model presented by the teacher and therefore, demonstration of the physical activity by a good performer is integral to modelling the expected movement response and to keep the learner under control. Direct instruction is characterised by teacher-controlled decisions and teacher-directed engagement patterns for learners where learner activities are organised into segmented blocks of time to give learners high amounts of directly supervised practice (Metzler, 2011).

The direct instruction approach informed by behaviourist learning theory has sat alongside traditional models for understanding of movement variability. The models help inform pedagogical and curriculum decision making among sport coaches and physical educators. The information-processing model, which viewed the human brain as a human communications channel capable of computation and storage not unlike a computer (Davids, Button, Bennett, 2008) has been particularly influential. From this perspective, the relationship between sensory information used in the production of movement, and the movement output itself is linear and deterministic (Davids et al. 2008). Interruptions to this relationship were considered as ‘noise’, characterised by variability in motor behaviour over repeated attempts (Davids, Glazier, Araujo, Bartlett, 2003; Davids et al. 2008). This perspective underpinned Fitts three stage model of motor learning which is commonly used to frame sport skill learning. Fitts three stage model infers that as learners’ progress through cognitive to associative and finally autonomous stages of motor learning, movement performance improves and becomes more functionally efficient as variability in skill execution is reduced (Fitts & Posner, 1967). An advanced performer at the autonomous stage is able to freeze unnecessary degrees of freedom (i.e. muscular, skeletal and neural components) in movement performance resulting in less physical variability in desired movement patterns (Bartlett, Wheat, Robins, 2007). As such, coaches and physical educators strive to achieve athlete consistency in reproducing ‘optimal’ text-book technique (Pill, 2010); that is, movement patterns selected from textbook examples (Allard & Starkes, 1991), over multiple attempts. This view on movement variability continued to receive support from its inception (Newell & Corcos, 1993) and directed coach and physical educator practice towards the acquisition of the “correct” technique. At

Dynamic systems theory and movement variability

DST has gained popularity in shaping new pedagogical considerations in the area of physical education and sport coaching in recent years. In particular, it challenges the notion of movement variability as ‘noise’. Within this theory, human bodies are considered complex in nature with many interacting components (i.e. degrees of

freedom) responsible for producing movement (Davids et al. 2008). Coordinated patterns emerge under the influence of individual, environmental and task constraints which can both enable and constrain movement (Figure 1). Because constraints influencing movement can vary in magnitude, quantity and are capable of interacting with one another (Davids et al. 2008), movement variability (in terms of adapting skills to satisfy the unique constraints placed upon the task) becomes an important characteristic of DST.

Bernstein (1967) proposed that motor development is associated with gradual increases in movement variability with practice. It was suggested that the beginner learner is initially faced with utilising the multitude of degrees of movement freedom available to produce a movement solution relevant to external environmental and task constraints acting upon the body (Bernstein, 1967; Davids et al. 2008). As coordination of these possibilities into a functional movement solution is beyond the ability of a beginner, degrees of freedom are constrained or frozen resulting in a rigid coupling of primary muscular groups relevant to the task (Davids et al. 2007, Caillou, Delignieres, Nourrit, Deschamps, Lauriot, 2002). As motor development progresses, frozen degrees of freedom are gradually incorporated into synergy within the movement solution (Davids et al. 2008). This theory is supported in subsequent research demonstrating that limb angles during slalom-like ski movement increase with practice (Vereijken, Emmerik, Whiting, Newell, 1992). A review by Newell & Vaillancourt (2001) further revealed that skilled performers demonstrate functional variability by freezing or releasing degrees of freedom according to the task at hand (Newell et al. 2001). Beginner learners also exhibit variability, but in contrast this is not as functional towards the movement solution (Newell et al. 2001).

Performances between elite athletes for a given task may also vary, as evidenced by kinematic analysis of basketball shooting (Button, Macleod, Sanders, Coleman, 2003) and triple jump (Wilson, Simpson, Van Emmerik, Hamill, 2008). Movement patterns can physically vary across performers to skilfully achieve the same outcomes. As such, there is now support that movement variability is a part of normal functioning and may be conducive towards environmental adaptations, injury risk reduction and facilitating changes in coordinative structures (e.g. from walking to running) (Bartlett et al. 2007). The movement task itself can dictate whether release or constraint/freezing of degrees of freedom is associated with optimal or efficient performance (Newell et al. 2001). The interaction of task, performer and environment therefore provides the boundaries for an individualised goal-directed behaviour to occur. This emergent characteristic of movement coordination suggests that the existence of a common optimal, “perfect”, or “textbook” motor pattern for performing a skill is a misconception as human motor performance is inherently variable (Chow, Davids, Button, Schuttleworth, Renshaw & Araujo, 2007; Glazier & David, 2013).

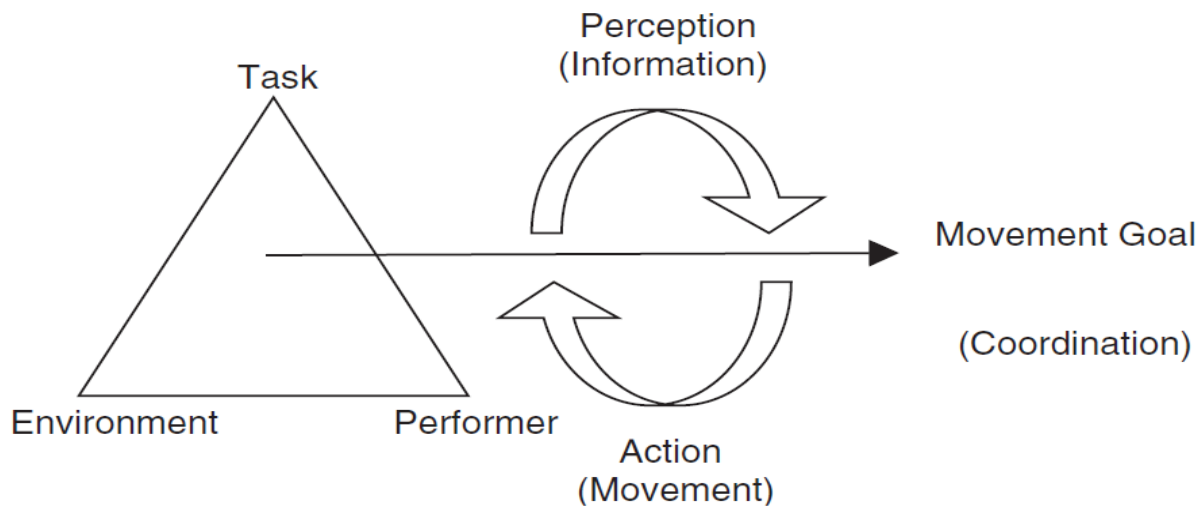


Figure 1. Coordinated patterns emerge under the influence of individual, environmental and task constraints which can both enable and constrain movement.

Movement variability in swimming

At first glance, the learn to swim programs utilising man-made pool environments experienced by author 1 could be understood as occurring in a static setting, absent of fluctuating dynamics that could influence movement (e.g. the swell in open-water ocean swimming). In absence of this type of environmental dynamic, one may assume that movement variability or adaptive qualities to swimming strokes are not relevant. Moreover, learn to swim programs are often predicated on teaching for an optimal prescribed technique to competitive stroke styles. Hence, variability would seem counter-productive to achieving the curriculum conceptualisation of technique. However, from a DST perspective, there are organismic, task and environmental constraints which result in varied, yet efficient movement solutions to move through water. At this point, it should be noted that efficient movement through water can be characterised as achieving optimal propulsive forces whilst minimising resistive drag forces. Organismic constraints on swimming may include anthropometric characteristics (arm span, shoulder size etc.), locomotor disabilities, strength, endurance, and laterality with respect to preference a dominant hand a breathing side may (Renshaw, Davids, Savelsbergh, 2010; Davids, Bennett, & Newell 2006). These can be understood as influencing inter-individual movement styles. Movement speed through water has also been identified as a significant constraint which alters the nature in which high pressure eddies and low pressure resistive forces act upon the body (see Davids et al. 2006), subsequently influencing technique. Because these resistive forces are continually fluctuating according to swimmer speed and anthropometric characteristics, swimming technique needs to be flexible and adaptive at the intra-individual level to allow for coordinated movement patterns to emerge according to these fluctuating and dynamic constraints acting upon it (Davids et al. 2006).

Although swimming may be seen as occurring in a static environment where a deterministic model of technique seems appropriate, DST suggests coordinated/optimal swim styles emerge under the influence of fluctuating constraints. This is evident

among elite swimmers, with Light & Wallian (2008) citing the unique competitive stroke styles of Michael Klim (Australia), Janet Evans (USA), and Laure Manaudou (France) as examples of highly proficient movement patterns that defy deterministic “text-book” correct technique. DST suggests that individuals can synergise muscular, skeletal and neural degrees of freedom to explore a variety of movement possibilities towards identifying a coordinated and movement to satisfy the unique constraints acting upon the body (Harbourne & Stergiou, 2009; Chow et al. 2007). This understanding contradicts traditional direct instruction approaches to teaching motor skills (Chow et al. 2007), whereby swimming programs are constructed towards teaching a prescribed set ‘biomechanically optimal’ techniques for which all learners should conform to. Often, students are assessed against a checklist of ‘optimal’ techniques prior to graduating to the next phase within a learn to swim program. Technique examples may include a bent-arm freestyle recovery, ‘pinkie’ finger lead on backstroke arm recovery, or using an S-pull for freestyle. Yet, from a DST perspective, variable yet functional movement solutions are relevant to swimming owing to the dynamic ways in which constraints/degrees of freedom enact upon individuals’ differently (Davids, Glazier, Araujo, Bartlett, 2003).

Developing a “feel for the water”: TGfU-GS as a framework for teaching swimming

Current teacher-directed approaches in many learn to swim programs serve primarily to demonstrate and prescribe textbook technique in anticipation that it be replicated for inter and intra individual consistency. Therein lay the problem underpinning the sculling anecdote introducing this paper; demonstration and replication fails to facilitate movement exploration. From a dynamic systems perspective, exploring a variety of movement solutions for sculling encourages students to discover what is referred in the literature as an ‘attractor’ state (see Davids et al. 2008) of functional movement, which satisfies unique muscular, skeletal and neural constraints acting at the individual level. A significant factor in this exploration is encouraging learners to develop a ‘feel for the water’: As Light et al. (2008) attests: *“Developing a feel for the water is an important aspect of learning to swim well and necessarily involves the swimmer’s interpretation of kinaesthetic experience and a form of non-conscious, embodied cognition as well as conscious cognition”* (pg. 393). A conscious recognition of resistance within key limb segments required for sculling may assist learners to recognise how intentional subtle changes in their movement satisfy the unique constraints acting upon their movement. Davids et al. (2006) suggests that skilled swimmers are capable of making small sub-scale adjustments to the orientation of the hand based on changes in the feel of water, due a tight coupling between sensory perception of resistance and movement-sub-systems. Light et al. (2008) makes the point that teachers are not able to directly tell students what to feel for in adopting optimal technique for movement through water, suggesting that direct approaches such as that applied in demonstrating for replication of sculling are not appropriate towards movement exploration as made relevant from a DST perspective. TGfU is highlighted as a constructivist informed approach to the teaching of swimming suited to swimming skill development as learning in swimming is complex as it involves a range of cognition (Light et al. 2008). This paper builds upon this line of thought suggesting that GS, as a sport coaching approach specifically developed as a counter to the traditional direct instruction teaching style, may facilitate coupling between feeling the water and adjusting performance at a macro and micro

level. From here, the paper will use the acronym TGfU-GS to recognise the development of GS from the TGfU approach for games teaching (Thorpe, 2001). GS is best understood by the equation Technique + Context = Skill (den Duyn, 1997). A GS coaching approach has recently been linked to DST for skill acquisition as a pedagogical example of a constraints-informed coaching process (Pill, 2013). Taking the GS paradigm (Figure 2), the context may refer to organismic, environmental and task constraints including movement performance.

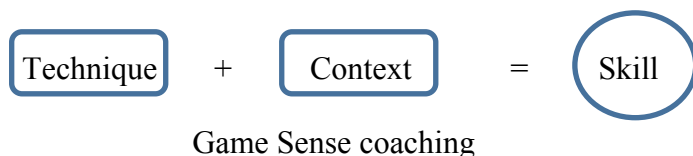


Figure 2. Game sense is evidenced by skilled motor responses contextualised to the performance environment.

At its foundation, TGfU-GS encourages learners to engage in modified game situations where the focus is on the game and not the technique (Light, 2004). To this end, learners are able to utilise a variety of movement solutions to solve problems within the game. Applying the TGfU-GS framework to the sculling anecdote of author one, the focus of learning shouldn't be predicated on the task of sculling itself, but the problem of maintaining buoyancy. This movement goal could be contextualised to buoyancy for water polo or for water safety purposes, where the task-constraints of these contexts may contribute towards influencing what optimal movement performance may constitute. Here, the focus shifts from an idealised and deterministic sculling technique model, towards facilitating students to explore a variety of movements towards satisfying organismic and environmental constraints influencing movement. This approach is not suggesting that learners should be encouraged to undertake random movements through water to improve their ability to maintain buoyancy when sculling. Rather as per the TGfU-GS approach, it is the teachers responsibility to maintain the focus of learning towards the solving the problem of the task/game (i.e. maintaining buoyancy). To this end, the teacher may facilitate exploration within a threshold of functional sculling movements. This might include using breaststroke arm like movements whilst leaning forward from an upright position to shift weight distribution from the centre of gravity, allowing for greater buoyancy. DST suggests exploration and selection may be a key developmental process at both behavioral and neural levels (Davids et al. 2008), inferring the importance of cognitive consciousness around movement. To facilitate a consciousness around buoyancy generated by the hand, learners could also wear hand-paddles to heighten feelings of resistance as an important source of sensory feedback resulting from generating increased propulsion. This consciousness may lead to transferability. In the anecdote described by author one, swimmers who are consciously encouraged to explore and feel movement may also be more inclined to transfer understandings around the feeling of propulsion using breaststroke arms, to solve the problem of maintaining buoyancy in a sculling motion.

Conclusion

Developmental change in motor performance can be seen in dynamic terms as a series of states of stability, instability, and phase shifts in the attractor landscape, reflecting the

probability that a pattern will emerge under particular constraints. Learning is a process of modulating current dynamics to fit a new task through exploration and selection of a wider space of possible configurations. Variability is essential to the development of performance characteristic typical of what can be described as a “feel for the water”. TGfU-GS is predicated on creating dynamic and modified game situations which facilitate learners to develop movement solutions relevant to individual constraints, which satisfy dynamic task constraints of games and sport. This paper has applied the TGfU-GS approach to conceptualise a similar understanding for movement through water which challenges current teacher-directed practices. That is, facilitating learners to develop functional movement solutions which satisfy common aquatic task constraints such as competitive swim strokes or water safety components such as sculling.

References

- Allard, & Starkes, (1991). Motor-skill experts in sports, dance and other domains In A. Ericsson & J. Smith (Eds), *Towards a general theory of expertise: Prospects and limits* (pp. 126-152). New York, NY: Cambridge University Press.
- Bartlett, R., Wheat, J., & Robins, M. (2007). Is movement variability important for sports biomechanists? *Sports Biomech*, 6(2), 224-243. doi: 10.1080/14763140701322994
- Bernstein, N. A. (1967). *The Coordination and Regulation of Movements*. . London, United Kingdom. : Pergamon Press.
- Brennan, C. A., Mandel, M. J., Gyllborg, M. C., Thomsgard, K. A., & Ruby, E. G. (2013). Genetic determinants of swimming motility in the squid light-organ symbiont *Vibrio fischeri*. *Microbiologyopen*. doi: 10.1002/mbo3.96
- Brisson, T. A., & Alain, C. (1996). Should Common Optimal Movement Patterns Be Identified as the Criterion to Be Achieved? *J Mot Behav*, 28(3), 211-223. doi: 10.1080/00222895.1996.9941746
- Button, Chris, Macleod, Morven, Sanders, Ross, & Coleman, Simon. (2003). Examining Movement Variability in the Basketball Free-Throw Action at Different Skill Levels. *Research Quarterly for Exercise and Sport*, 74(3), 257-269. doi: 10.1080/02701367.2003.10609090
- Caillou, N., Delignieres, D., Nourrit, D., Deschamps, T., & Lauriot, B. (2002). Overcoming spontaneous patterns of coordination during the acquisition of a complex balancing task. *Can J Exp Psychol*, 56(4), 283-293.
- Chow, Jia Yi, Davids, Keith, Button, Chris, Shuttleworth, Rick, Renshaw, Ian, & Araújo, Duarte. (2007). The Role of Nonlinear Pedagogy in Physical Education. *Review of Educational Research*, 77(3), 251-278. doi: 10.3102/003465430305615
- Chow, J. Y., Davids, K., Button, C., Shuttleworth, R., Renshaw, I., & Araujo, D. (2007). The Role of Nonlinear Pedagogy in Physical Education. *Review of Educational Research*, 77(3), 251-278.
- Davids, K., Bennett, S., & Newell, K. M. (Eds.). (2006). *Movement System Variability* Champaign, IL. : Human Kinetics.
- Davids, K., Button, C. , & Bennett, S. (Eds.). (2008). *Dynamics of Skill Aquisition: A Constraints-Led Approach*. . Stanningley. : Human Kinetcs.
- Davids, K., Glazier, P., Araujo, D., & Bartlett, R. (2003). Movement systems as dynamical systems: the functional role of variability and its implications for sports medicine. *Sports Med*, 33(4), 245-260.

- Den Duyn., N. (1997). *Game sense developing thinking players: a presenters guide and workbook*. Belconnen, ACT: Australian Sports Commission.
- Fitts, P.M. , & Posner, M.I. . (1967). *Human Performance* Belmont, CA.: Brooks/Cole.
- Glazier, P., & David, K., Is there such a thing as a 'perfect' golf swing? Coachesinfo.com. Retrieved from http://www.coachesinfo.com/index.php?option=com_content&id=153&Itemid=218.
- Harbourne, R. T., & Stergiou, N. (2009). Movement variability and the use of nonlinear tools: principles to guide physical therapist practice. *Phys Ther*, 89(3), 267-282. doi: 10.2522/ptj.20080130
- Killian, Kenneth J. (1988). Teaching Swimming Using a Backward Chain Sequence. *Journal of Physical Education, Recreation & Dance*, 59(5), 82-86. doi: 10.1080/07303084.1988.10609765
- Light, Richard. (2004). Coaches' experiences of Game Sense: opportunities and challenges. *Physical Education and Sport Pedagogy*, 9(2), 115-131. doi: 10.1080/1740898042000294949
- Light, R., & Wallian, N. (2008). A Constructivist-Informed Approach to Teaching Swimming. *Quest*, 60(3), 387-404. doi: 10.1080/00336297.2008.10483588
- Metzler, M. (2011). *Instructional models for physical education* (3rd edn. ed.). Scottsdale, Ar.: Holcombe Hathaway.
- Mosston, Muska. (2002). *Teaching physical education* (5th Edn. ed.).
- Newell, K. M., & Vaillancourt, D. E. (2001). Dimensional change in motor learning. *Hum Mov Sci*, 20(4-5), 695-715.
- Newell, K.M. , Deutsch, K.M. , Snosnoff, J.J. , & Mayer-Kress, G. . (2006). M.
- Newell, K.M., & Corcos, D.M. (1993). *Variability and motor control*. Champaign, IL. : Human Kinetics. .
- Pill, S. (2013). *Play with purpose: game sense to sport literacy*. Hindmarsh, SA: Australian Council for Health, Physical Education and Recreation
- Pill, S.(2010). Sport literacy: it's not just about learning to play sport via "textbook techniques". *The Journal of Student Wellbeing*, 4(2). Retrieved from Retrieved from <http://www.ojs.unisa.edu.au/index.php/JSW/article/view/723> website:
- Renshaw, Ian, Davids, K., & Savelsbergh, G.J.P. . (2010). *Motor Learning in Practice: A Constrains-led Approach*. New York. : Routledge.
- Renshaw, Ian and Davids, Keith W. and Shuttleworth, Richard and Chow, Jia Yi (2009) Insights from ecological psychology and dynamical systems theory can underpin a philosophy of coaching. *International Journal of Sport Psychology*,40(4). pp. 540-602.
- Schorer, Jörg, Baker, Joseph, Fath, Florian, & Jaitner, Thomas. (2007). Identification of Interindividual and Intraindividual Movement Patterns in Handball Players of Varying Expertise Levels. *Journal of Motor Behavior*, 39(5), 409-421.
- Thorpe, R. (2001). Rod Thorpe on teaching game sense. In L. Kidman (Ed.), *Developing decision makers: an empowerment approach to coaching* (pp. 22-36). Christchurch, NZ: Innovative Print Communications.
- Vereijken, Beatrix, Emmerik, Richard E. A. van, Whiting, H. T. A., & Newell, Karl M. (1992). Free(z)ing Degrees of Freedom in Skill Acquisition. *J Mot Behav*, 24(1), 133-142. doi: 10.1080/00222895.1992.9941608

Wilson, Cassie, Simpson, Scott E., Van Emmerik, Richard E. A., & Hamill, Joseph. (2008). Coordination variability and skill development in expert triple jumpers. *Sports Biomechanics*, 7(1), 2-9. doi: 10.1080/14763140701682983.

Developing theoretically informed practice: the forward press in Australian football as an example of the dynamics of a complex system.

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This paper discusses the potential contribution of dynamic system theory to performance analysis in Australian football. Dynamic systems theory (Davids, Button & Bennett, 2008) helps understanding of the complex interplay of collective decision making evolving and emerging from momentary configurations of play. The example of the forward press in Australian football will be used to illustrate concepts of expansion and contraction of effective play space (Grehaighe, Richard & Griffin, 2005) by groups of players to strategically structure momentary patterns of play to achieve specific game objectives. The discussion of conceptual issues leading to a theoretically informed practice will propose that the application of dynamic systems thinking enables Australian football researchers and coaches to link the pedagogical practice of Game Sense (den Duyn, 1997) to a theory for coaching practice. This theory foregrounds the information-movement couplings (Jacobs & Michaels, 2002) that are associated with how players produce the functional behaviors that answer the requirements of momentary configurations of play.

Introduction

Dynamic systems is a theoretical approach to study the development of systems of elements that change over time. The value of dynamic systems theory to Australian football game analysis and sport analysis generally is that it provides theoretical principles for conceptualising, operationalising and formalising the complex interactions of time, substance and process within a time-based system. This system thinking process reveals an organisational relationship among the parts of Australian football as a dynamic system where patterns form in time and space. The patterns that form represent the emergence of order from complexity. However, as the system parameters change there comes a point where the existing pattern is no longer coherent and the system evolves to a new pattern (Thelan & Smith, 2005). Hence, the play of Australian football can be considered the flow from moment to moment configurations (or patterns) of play.

Team sports have previously been identified as dynamic systems (Passos, Araujo, Davids, Gouveia, Milho & Serpa, 2009) wherein participation is considered a series of evolving and dissolving patterns of varying dynamic stability. Considered as a dynamic system, the key concepts of self-organisation, time, information-movement coupling, and constraints can be used to explain stability, variability and transitions in the configurations of play occurring in invasion sports like Australian football (Davids, Button & Bennett, 2008).

Momentary configurations of play emerge in Australian football as the game system self-organises into attacker-defender player relationships. These relationships form localised context specific sub-units (Passos, Araujo, Davids & Shuttleworth, 2010) which are contextually dependent to the situated dynamics that arise from the coordination of players to the game event (Davids, 2010) (Figure 1). Just as they emerge, the configuration of play evolves and eventually changes and transforms into a new configuration for coherence in time and space; a new pattern of play. For example,

system dynamics shift from one team in possession and in an attacking phase to a sudden defensive situation caused by an intercepted kick (Araujo, Davids & Hristovski, 2006). There will be a phase transition while players adapt and coordinate their responses to reposition attacker-defender relationships.

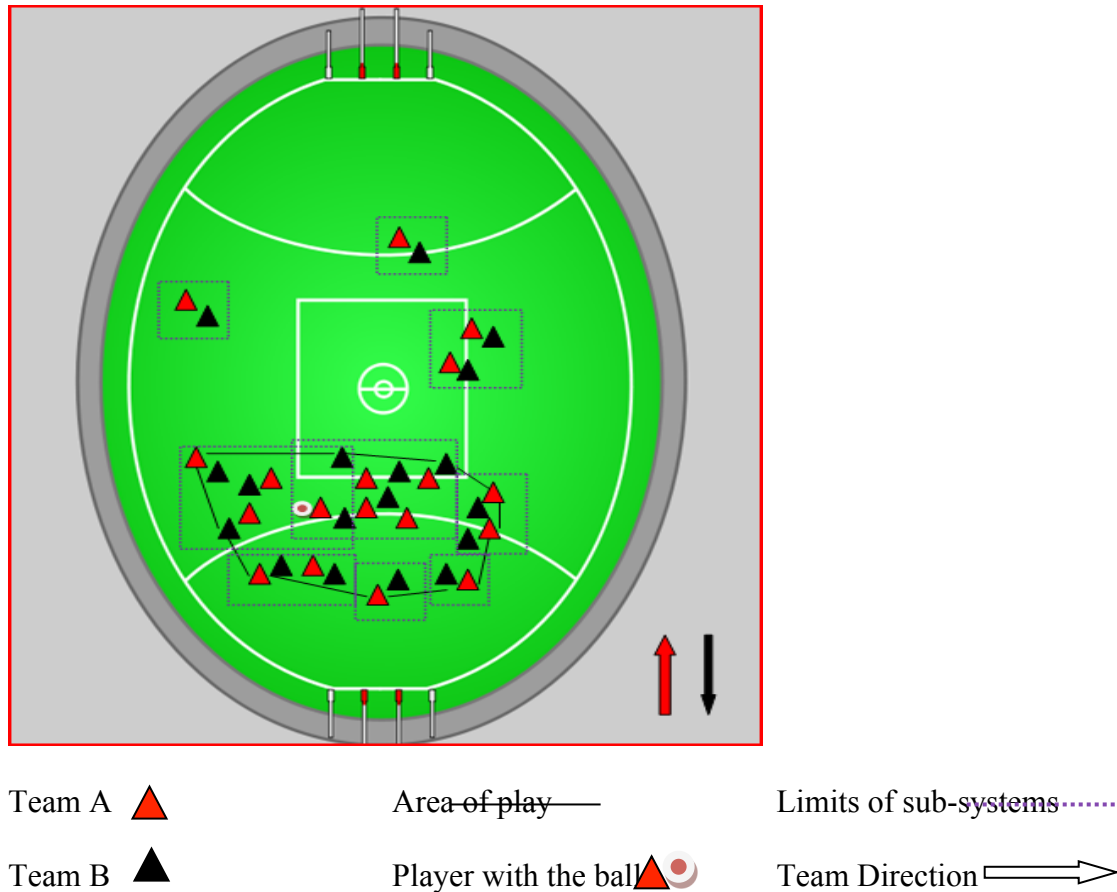


Figure 1. The Australian football field and the location of 18 players, area of play and sub-systems in a momentary configuration of play.

Dynamic systems theory also assists understanding of the momentum or flow of play in Australian football. In the field of physics, if an object is moving in a reference frame then it has momentum within this frame. The value of the momentum depends on two variables; mass and velocity of the object (Reed & Hughes, 2006). Using this definition to explain ‘momentum’ within a game of Australian football, the momentum of a team (the advantage one team has over another) might be considered the cumulative effect of configurations of play. In other words, momentum is the way one team is controlling interaction with the football in relation to two game variables– mass of possession and velocity (movement) of the football.

A further consideration for Australian football emerging from the theory of dynamic systems is the nature of skilled performance. From a dynamic systems perspective, the hallmark of skilled activity is the ability to flexibly adapt to current and future conditions. The implication for skill teaching in a sport like Australian football is that what constitutes skilled performance is not a repeatable and stable pattern, but the ability to accomplish a game related goal with rapid, efficient and effective solutions

that can be recruited immediately in the dynamics of play, or in anticipation of future circumstances (Thelan & Smith, 2005). Player actions in Australian football are thus embedded in specific performance contexts, which have so far been described as momentary configurations of play, which are inherently goal-directed, function specific and embedded in the individual players' movement system (Araujo & Davids, 2004). A players' "game sense" (Charlesworth, 1993, 1994) is then fundamental to the players' ability to reduce the information processing load by being sensitised to the elements that are particular to the formation of the pattern of play and to the elements that have significance to a specific task (Araujo & Davids, 2004). A players' game sense is central to the players' capacity to rapidly and effectively solve game play problems, or in other words, effectively meet the requirement for goal directed behaviour. This includes adaptive flexibility to produce movement performance tailored to the environment conditions and task demands as part of a players' ongoing perception and regulation of action in the game.

Charlesworth (1993, 1994) used the term game sense to describe players' game performance relative to these physiological and cognitive responses; in other words, decision-making and ability to effect the decision for a functionally effective outcome in the context of the play. Den Duyn (1997) used the phrase "thinking players" when describing player development resulting from a game-centred Game Sense pedagogical approach for games and sport teaching, contexting skilled performance as the production of a technique that meets the desired goal in that moment of the game (Figure 2).



Figure 2. Game Sense definition of skilled performance (den Duyn, 1997, p.6)

Dynamic systems – expansion and contraction of effective play space

The discussion thus far has contextualised Australian football as a highly complex system due to the number of degrees of freedom involved that characterise the relationship between system components that are evolving in time and space. Degrees of freedom are any independent element of a system. Players develop a game sense that involves pattern recognition to manage the perceptual load in the performance environment and assist game cognition and the execution of efficient, effective goal directed behaviour. Players' pattern recognition development can be assisted where coaches find measures that capture the complexity of the system. The attacker-defender sub-system relationship is one measure to capture the complexity of the game (Figure 1). The expansion and contraction of effective play space (EPS) is another (Grehaigne, Richard & Griffin, 2005).

The forward press is an example of the manipulation of EPS and the attacker-defender relationship. The forward press in Australian football involves the players from the attacking team pressing forward into their forward half of the field as the ball transitions into the teams forward 50m area. Most significant in the forward press is the back line players moving into the forward half of the field when the ball is in their teams forward 50m area. This is illustrated in Figure 2, which shows the traditional Australian football positions (Figure 2a) and the positions assumed during a forward press (Figure 2b). Player distribution and density in a particular part of the field is

considerably altered during a forward press. In other words, the effective (occupied) play space is manipulated via player positioning to achieve the attacking team tactical objective of maintaining possession in the forward-attacking area of the ground while repositioning the opposition so they are not in good offensive positions should there be a change in the phase of play.

Playing field and playing positions

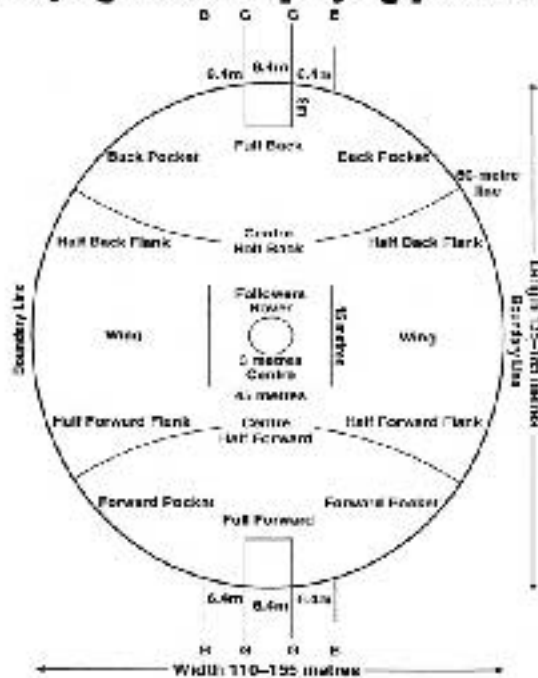


Figure 2a: The standard playing positions in a game of Australian football (image from <http://www.tulsabuffaloes.com/about/footy-101/>)



Figure 2b: How a forward press might be positioned for a ball contained inside the teams forward 50m area.

EPS is then the area obtained by drawing a line that links all the players located at the periphery of the play at a given moment (Grehaighe, Richard & Griffin, 2005). Grehaighe, Godbout and Zerai (2011) explained how EPS can be used to provide a diagrammatic examination of the configurations of play to highlight contractions (high density of players) and expansions (expanding density of players) of play with reference to Association football (soccer). The forward press in Australian football can similarly be understood by coaches to explain the manipulation of EPS by the attacking team. The increase in density is in that part of the field where a kick out of the 50m area would go if there was a change in the phase of play as the opposing team won possession. The forward press player positioning is established to achieve a contraction of EPS and increased player density in the area between the 50m arc and the centre circle. Contraction of EPS in this part of the field assists the defensive action by closing space and decreasing time and options for opposing players attempting to exit the ball from a position inside a teams' forward 50m area.

EPS can be further considered as Offensive EPS (OEPS) and Defensive EPS (DEPS) (Grehaighe et al., 2005). OEPS and DEPS concepts develop understanding of the balance of the interconnected yet oppositional attacking-defending sub-system relationship. This is illustrated in Figure 3, where the attacking-defending relationship is shown in balance, and the ball movement is consequently paused. This is the outcome the forward press is attempting to achieve in order that the ball remains inside the now defending teams forward-attacking area of the ground while they try to force the system into transition (a loose ball), a stoppage (such as a ruck contest or boundary throw-in) or phase change (win back possession).

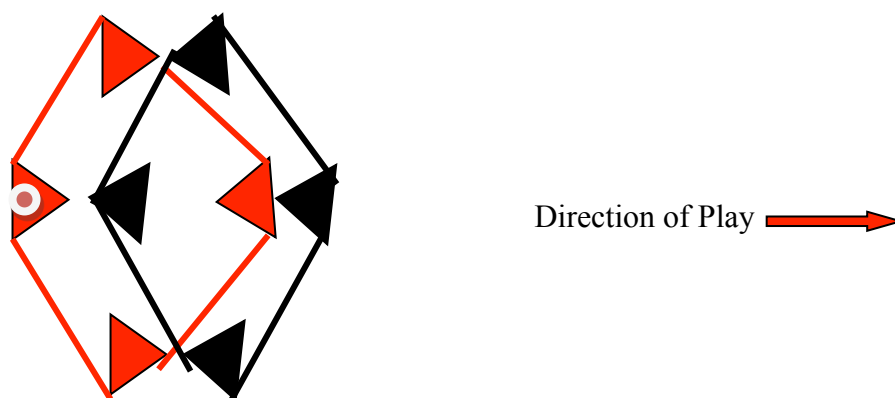


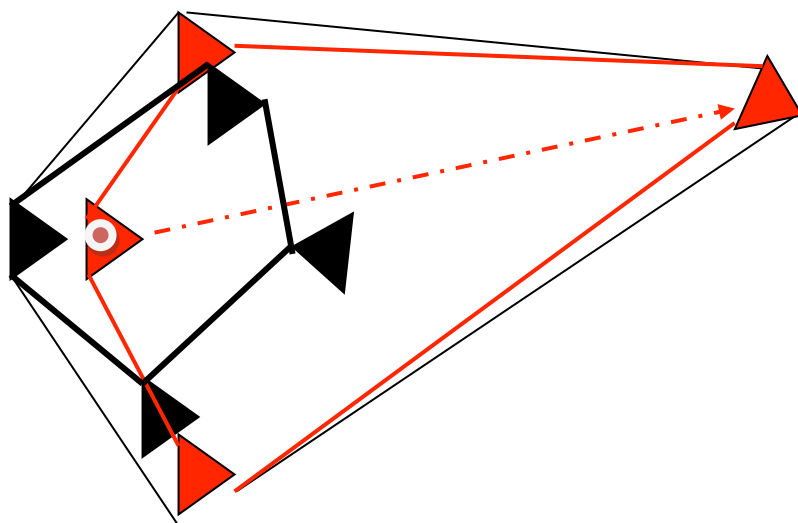
Figure 3. Effective play space – Offensive Effective Play Space (Red) and Defensive Effective Play Space (Black). Defense has blocked forward movement of the ball.

The continuity of the oppositional relationship explained in the OEPS-DEPS relationship moves at both the system level to produce the context of play within a closed space (the boundary of the field) that defines the expansion and contraction of play (Gréhaighe et al., 2011), and at the sub-system player-to-player level. The two levels create the possible moment-to-moment configuration of EPS, and hence, the pattern of play. Player game sense therefore needs to develop and be coached at the

whole of system/whole of game level and at a sub-system level. Sub-systems may include 1v1 situations and other small-sided attacker-defender sub-system relationships (such as 2v2, 4v3, for example) (see Figure 1) when patterns of attack-defense emerge as small groups of players interacting to achieve task goals within the constraints of the game at that moment. Each sub-system has the potential to influence the organisation of the system on a larger scale when the ball is in action sequences. This highlights the importance of coaching Australian football off-the-ball as well as on-the-ball game skill (Pill, 2011). The interactions that emerge between team mates and between attacker-defender relationships during specific momentary configurations however, can never be known with certainty as they are a unique product of the moment (Passos, Araujo, Davids & Shuttleworth, 2008). However, the relationships form patterns that can be 'read' by the players to assist with game decision-making and improved movement responses, including movement responses occurring in anticipation of the pattern of play forming.

The effectiveness of the forward press as a tactic is influenced by the dynamics of play evolving from momentary configuration of play-to-momentary configuration of play (and so on) as all players affect each other at both the system and sub-system level. From a coaching perspective, it is therefore important that when bench coaching during games the coach focus not only on the individual player with the ball but also study the configuration of play.

Direction of Play →



Ball movement option created by a player moving forward from the high density area →

Figure 4. In order to counter the forward press, the team now in possession and attempting to develop an action sequence to move the ball out of the other teams forward 50m area attempt to expand the OEPS by unbalancing the system. In this illustration the team in possession has expanded the EPS with forward movement—OEPS is now greater than DEPS and the ball has the potential to be passed forward. This occurs at the system level when the team in possession gets the ball to a player behind the press in a 'fast break' situation as well as at the sub-system level illustrated.

Australian football is unique among invasion games for the number of times the player with the ball pauses, as a player marking the ball has the option of a free (uncontested) kick from behind the mark where the ball was caught. Whenever a ball holder stops in an invasion game, EPS is reformed, usually with a contraction of EPS in front of the player with the ball (Grehaigne et al., 2011). It is to the team pressing advantage to have the team in possession and attempting to move through the press pausing and being forced to look sideways and backwards to continue the action sequence rather than being able to move the ball forward through the press. Players in the press therefore need to move in response to the movement of the ball as well as to the movement of opposing players through the press; again, reinforcing the importance of coaching off-the-ball skill as well as on-the-ball defensive skill of closing space and balancing OEPS and DEPS.

The essence of knowing what to do is not different from the memory, attention, strategies and motivation that constitute that knowing. This means perception, cognition and action are part of a singular process of pattern formation that enables a player to self-organise to produce a coherent response in time and space. A player's organisation of a coherent response (technique) in time and space (game context, or momentary configuration of play) is thus conceptually consistent with the definition of skill used in the game-centred Game Sense coaching approach (den Duyn, 1997). Hopper (2003) has described this singular process as being able to repeatedly read-respond-react-and recover during a game, forming the anatomy of a game performance (Figure 5) within a dynamic game system.

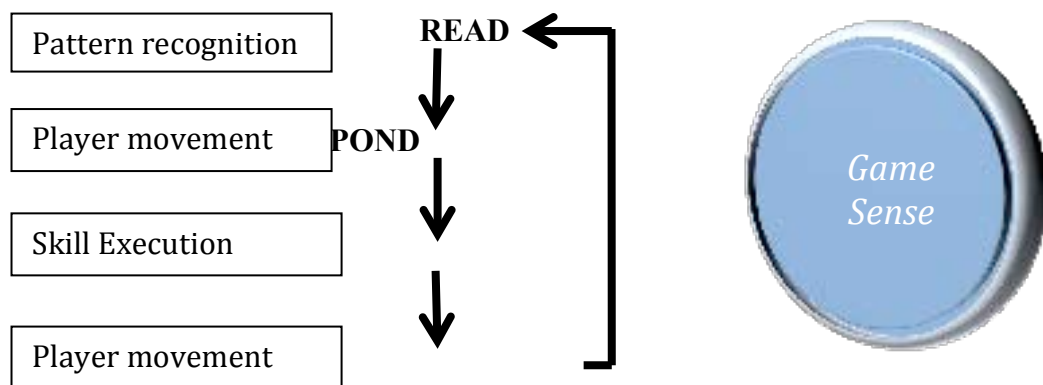


Figure 5. Anatomy of a game performance. Adapted from Hopper (2003)

Conclusion: Implications for Australian football coaches

An important role of practice is to educate the pattern recognition and attention of players' through training that facilitates information-movement coupling (Jacobs & Michaels, 2002). Simon and Chabris (1999) showed that even the most obvious elements in the performance environment will be neglected by players if they are not coached in a way that facilitates relevant stimulus attention. A key question for the Australian football coach is to ask, "Are my practice sessions representative of the dynamic system that is the performance environment?", so that the players are being coached in practice to develop relevant stimulus attention and pattern recognition.

The forward press has been used as an example of how Australian football coaching should educate players at all levels of game development to pick up relevant variables in practice tasks by creating practice contexts representative of the

performance environment; that is, representative of the dynamics of the system. Three directions for Australian football coach education are necessary to achieve this type of coaching:

1. Designing representative practice contexts using games as learning tools (Charlesworth, 1993, 1994; den Duyn, 1997; Thorpe, 1996, 1997);
2. Foregrounding relevant variables during practice by modifying game constraints to exaggerate, eliminate or constrain in-game behaviour (Charlesworth, 1993, 1994; Schembri, 2005); and,
3. Shaping practice situations (Rushall & Siedentop, 1972) towards high variability as retention (deep learning) of perceptual attunement (that is, focusing on what is important) and information-movement coupling is more likely.

This paper has linked game sense coaching pedagogy to the dynamic systems non-linear theory for skill acquisition theory. The development of a players individual movement system (Araujo & Davids, 2004) needs to also be considered within the game sense approach. While game sense coaching is game-centred through the use of modified games as representative practice contexts (den Duyn, 1997), these games also context the need for play practices (Lauder, 2001) and skill drills to form part of the individualised and small group training activities deliberately designed by a coach to improve specific aspects of a players movement system through repetition and successive refinement (Magill, 2011). For example, the game related play below (Figure 6) could be used to deliberately practice the defensive skill of positioning to effect frontal pressure by balancing or contracting EPS. The constraints of the game could be manipulated to provide offensive team overload (such as 6v4) so a team can practice moving the ball through a localised defensive press as the overload makes it easier to develop an expansion of the OEPS . However, if a players' individual movement system is unable to cater for the performance demands of the task that player, or groups of players, may require some form of task simplification, such as the use of a closed skill drill or open drill/play practice, to further refine a particular aspect of the players' movement system before returning to the game-related practice with improved game efficacy.

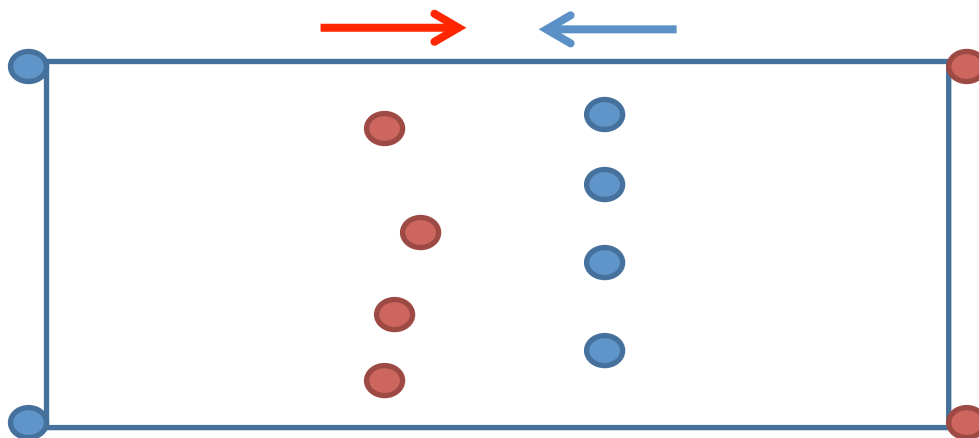
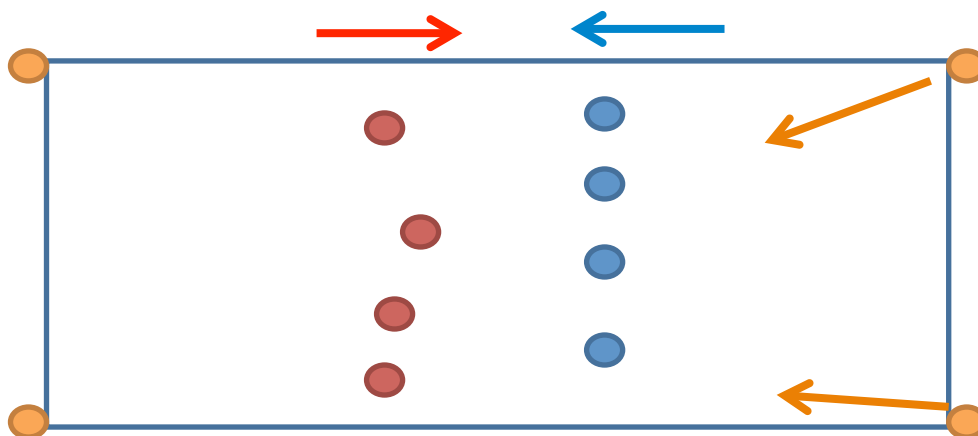


Figure 6. End ball football 1 (adapted from Pill, 2012). The blue team (kicking left) attempt to move the ball to a team-mate at the corner of the end of the playing field at

the end to which they are kicking. The player catching the ball at the corner of the field comes into play, while the player who passed the ball to the team-mate on the corner takes the place of the player on the corner. The player taking possession of the ball at the corner puts the ball on the ground and a player from the other team (red) can pick it up uncontested and move the ball back into play.



End ball football 2. In this variation of End Ball, the players at the back end of the field come into play to assist the blue team move the ball to a target player (orange) at the other end of the field. This creates a 6v4 numerical advantage in favour of the attacking (blue) team. When there is a phase change and red team are in possession and hence attempting to attack, the two players that were assisting blue retreat back to the end corners to be target players for the red team, while the two orange players at the back end of the red side of the field come into play to support the red team, reversing the numerical advantage.

References

- Araujo, D., & Davids, K. (2004) Embodied cognition and emergent decision-making in dynamic movement systems. *Junctures*, 2, 45-57.
- Araujo, D., Davids, K., & Hristovski, (2006). The ecological dynamics of decision making in sport. *Psychology of Sport and Exercise*, 7, 653-676.
- Charlesworth, R. (1993). *Hockey Level 3 NCAS course – discussion topic: Designer games*. Melbourne, VIC: Hockey Australia.
- Charlesworth, R. (1994). Designer games. *Sport Coach*, 17(4), 30-33
- Davids, K. (2010). The constraints-based approach to motor learning: implications for a non-linear pedagogy in sport and physical education. In I. Renshaw, K. Davids & G. Savelsbergh (Eds.), *Motor learning in practice: A constraints-led approach* (pp. 3-16). New York, NY: Routledge
- Davids, K., Button, C. and Bennett, S. J. (2008). *Dynamics of skill acquisition: a constraint led approach*. Champaign, IL: Human Kinetics.
- den Duyn, N. (1997). *Game sense workbook*. Canberra, ACT: Australian Sports Commission.
- Gorman, A. (2010). Using constraints to enhance decision-making in team sports. In I. Renshaw, K. Davids & G. Savelsbergh (Eds.), *Motor learning in practice: A constraints-led approach* (pp. 144-151). New York, NY: Routledge.

- Government of Western Australia. (2013). *Dimensions for football – Australian rules*. Retrieved from <http://www.dsr.wa.gov.au/australianrulesdimensions>
- Gréhaigne, J. F., Godbout, P., Zeraï, Z. (2011). How the “rapport de forces” evolves in a soccer match: the dynamics of collective decisions in a complex system. *Revista de Psicologia del Deporte*, 20(2), 747-765.
- Gréhaigne, J. F., Richard, J. F. and Griffin, L. (2005). *Teaching and learning team sports and games*. New York: Routledge Falmer.
- Hopper, T. (2003). Four Rs for tactical awareness: Applying game performance assessment in net/wall games. *Journal of Teaching Elementary Physical Education*, 4(2), 16-21.
- Jacobs, D., & Michaels, C. (2002). On the paradox of learning and realism. *Ecological Psychology*, 14(3), 127-140.
- Lauder, A. (2001). *Play practice: the games approach to teaching and coaching sports*. Champaign, Ill: Human Kinetics.
- Magill, R. (2011). *Motor learning and control: concepts and applications*, 9th ed. New York, NY: McGraw Hill.
- Passos, P., Araujo, D., Davids, K., & Shuttleworth, R. (2008). Manipulating constraints to train decision making in rugby union. *International Journal of Sports Sciences and Coaching*, 3, 125-140.
- Passos, P., Araujo, D., Davids, K., & Shuttleworth, R. (2010). Manipulating task constraints to improve tactical knowledge and collective decision-making in rugby union. In I. Renshaw, K. Davids & G. Savelsbergh (Eds.), *Motor learning in practice: a constraints-led approach* (pp. 120-130). New York, NY: Routledge.
- Pill, S. (2011). Using tactical games. *Sport Coach*, 31 (1). Retrieved from http://www.ausport.gov.au/sportscoachmag/coaching_processes/using_tactical_games
- Pill, S. (2012). *Play with purpose: developing game sense in AFL footballers*. Hindmarsh, SA: Australian Council for Health, Physical Education and Recreation.
- Reed, D., & Hughes, M. (2006). An exploration of team sport as a dynamic system. *International Journal of Performance Analysis in Sport*, 6(2), 114-125(12). Retrieved from <http://www.4shared.com/web/preview/doc/aKJBYid6>
- Rashall, B., & Siedentop, D. (1972). *The development and control of behaviour in sport and physical activity*. Philadelphia, PA: Lea & Febiger.
- Simons, D., & Chabris, C. (1999). Gorillas in our midst: sustained inattention blindness for dynamic events. *Perception*, 28, 1059–1074.
- Thelan, E., & Smith, L. (2005). *Chapter 6: Dynamic systems theories*. Retrieved from <http://www.iub.edu/~cogdev/labwork/handbook.pdf>
- Thorpe, R. (1996). *Rod Thorpe Australian Tour: South Australian game sense workshop*. Unpublished notes, South Australian Institute of Sport, April 3-4.
- Thorpe, R. (1997). We love games but when do we teach technique? *Sports Coach*, 19(3), 4-5.

Class size and Physical Education

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The effects of class size on educational outcomes in physical education and other school classes is still a somewhat unresolved educational issue. One popular interpretation of research suggests that small classes lead to better teaching quality while an alternative view is that it is too costly. Although research on class size in physical education has been very limited, the evidence has indicated that smaller classes lead to more skill practice time, more activity time, more on-task activity and fewer management issues. Traditionally, physical education teachers have been faced with large classes which has affected their morale and left them with feelings of marginalization. Most non physical education research has focused on the effects of class size on academic achievement mainly at the primary school level. For this research, 13 Year 10 students and three physical education teachers (all having experienced both large and small classes) from one private Victorian all boys' school were interviewed each for about 15 minutes. Students were purposely selected to ensure the sample had a range of ability levels while the teachers were selected to provide a variety of experience levels. A qualitative analysis of all responses showed that smaller classes were enjoyed by both teachers and students mainly because class management was no longer a problem. Smaller classes helped personalize the teacher-student relationship and, as a result, the teachers' efforts were less diluted and more effective. A better and safer environment was associated with small classes and the teachers' stress level was alleviated. More time could therefore be devoted to the skill development because the one-on-one personal contact had definitely improved. The teachers had more opportunity to get round to all the students in the class and in general the class learning atmosphere was significantly enhanced.

Keywords: class size; physical education; class management: skill development.

Introduction

The effect of class size on educational outcomes has been an ongoing issue for many years. Opinions differ between views that state that small classes lead to better teaching quality while the alternative argument suggests that there are other better cost-effective initiatives. This report was commissioned by a private boys' school in Victoria.

An early synthesis of this research area was completed in a meta analysis techniques with data from nearly 900,000 students by Glass and Smith (1979). They found that as class size increased, achievement decreased and furthermore, better results were obtained when class sizes were less than 20 pupils. One of the largest and most powerful studies was the Tennessee STAR research study (see Pate-Bain, Achilles, & Boyd-Zaharias, 1992) in which there was a random allocation of pupils and teachers to three different sized classes. Primary children were followed for four years and those in the small classes were found to be better in literacy and mathematics (Nye, Hedges, & Konstantopoulos, 2000).

Other major approaches to class size issues have been undertaken in the last 15 years in both the USA and the Britain. A British study (Department of Education, 2011), concluded that class size reduction policies are not the best option in terms of value for money in raising pupil attainment when compared to others such as increasing teacher effectiveness. However, the paper reported that parents still consider lower class sizes found in independent schools as a very important reason for them to choose these schools for their children

Governments and schools obviously seek out factors which increase student learning in order for budgets to be appropriately scheduled. As a result, many studies focus on classroom processes such as class size and student achievement and many of these have been done at the elementary level (Deutsch, 2003).

Literature Review

The class size debate is a complex picture and any review of the relevant literature will leave the reader somewhat perplexed. The focus in the literature has been mainly on class size and academic achievement with most studies conducted in primary schools. A large Tennessee STAR research project (Mosteller, 1995) provided positive academic results for smaller classes. A general policy in the USA in the late 1990s saw the beginning of a large class size reduction program costing over a billion dollars. With the need to find extra teachers, some of the positive results of class size reduction were nullified by the employment of under-qualified teachers or teachers with lesser ability (Bohrnstedt & Stecher, 2002). Krueger (2002) and Hanushek (2002) provided some varied interpretations of the class size literature. Hanushek concluded that the effects of class size on achievement were too small to warrant any broach class size reduction policies. Krueger criticized Hanushek's method of interpretation and concluded that there is systematic evidence of a good relationship between class size and achievement..

Four major reviews of literature have looked at the class size issue (Deutsch, 2003; Englehart, 2007; Finn, Pannozzo, & Achilles, 2003; and Pedder, 2006). One review in the UK (Pedder, 2006) concluded that class reduction policies are not the best economic option and a policy to improve teacher effectiveness would be a better approach. This review firstly looked at some of the major independent literature reviews which have been attempted in the last ten years. In general, the trend towards a positive inverse relationship between class size and achievement was apparent. Finn et al. (2003) found that there was subtle explanation suggesting that small classes provided students with a better sense of community but alternately, exposed students to an extent that they were forced to pay attention and participate more actively. The review by Deutsch (2003) focused on the opportunity for individualization in small classes and also an improvement in student engagement. Teachers could feel less pressured with small classes and have less need to lecture students or deal with discipline and administration. The fourth review (Englehart, 2007) indicated that that there were both positive and negative aspects of small classes and sometimes with the past focus on quantitative methods of research, researchers have possibly neglected investigating the students' own perspectives in qualitative research approach.

Research on class size in physical education (PE) lessons has been somewhat limited (see Bevans, Fitzpatrick, Sanchez, Riley, & Forest, 2010; McKenzie, Marshall, Sallis, & Conway, 2000; and Taras, 2005). Results from these studies provide similar conclusions from class size studies in other subject areas. With PE being a mainly practical subject area, many of the studies mentioned that management took up an inordinate amount of time when there were large classes. More skill practice time, more activity time and more on task activity were the outcomes of small classes. Traditionally, PE teachers have been faced with large classes which has also affected their morale and left them with feelings of marginalization.

There are many studies which purport to look at the effects of class size on academic achievement. Despite the numerous ways in which this relationship has been investigated and the lack of causation, it appears that academic achievement does

improves with students in smaller classes. Small classes would appear to provide opportunities for an improved teaching environment. Even the link between physical activity/fitness/PE and academic achievement has seen some potential for improved cognitive functioning (Taras, 2005; Trost, & van der Mars, 2009).

Engagement of pupils in the learning process has been a favorite focus of many studies. It has been shown that if students are able to focus on the learning process rather than being distracted by other factors associated with administration, or discipline then the opportunities for academic or skill improvement is greatly improved. (Bevans et al., 2010; McKenzie et al., 2000).

With management issues often seen as important, there are studies which have looked at experience level of teachers and their abilities to deal with different class sizes (Ha-Young Kim & Housner, 2010; Mont & Rees, 1996). With large classes, Messineo, Gaither, Bott, and Ritchey (2007) found that students may be encouraged to take on passive learning roles because of the reduced individual interaction time between student and teacher. In other words, large classes may not challenge students sufficiently. Another issue associated with practical skill teaching is safety. There are some studies (for example, West, Westerlund, & Stephenson, 2003) which are focused on safety in school science lessons where contact with dangerous substances and the running of experiments may provide more threatening environments. Few PE studies seem to deal with safety concerns in teaching. There are of course many articles which deal with injury and its prevention in elite sport (one example see Nemeth et al, 2005).

Data Collection

Data was collected from a private Victorian boys school which had originally commissioned the research. Based on the review of literature, questions were developed and checked by the School's PE Department Head. Semi-structured Interviews were organized with Year 10 students who were participating in PE classes and three teachers who were teaching in the Year 10 PE program at a large private boys school in Victoria (Table 1). Of a convenience sample of 13 students selected by the PE Head, five were chosen based on their excellent ability in physical activity, five were selected who were close to the average ability in physical activity and a further three were chosen because of their lesser ability in physical activity. The initial intention was to have four from each category. Ethics approval and parental permission was organized by the school administration. Three male teachers were selected based on their experience of teaching PE. One teacher had been teaching for over 20 years, a second for about 10 years and the third teacher was a relatively inexperienced PE teacher.

The student interviews were planned for 10 to 15 minutes duration and were conducted over the course of one full day in a private interview room at the school. The three teachers were interviewed for between 15 and 25 minutes over half a day also in a private interview room. All interviews were electronically recorded and later transcribed by a typist. Participants were not available to check the accuracy of the transcriptions, but a small sample of the transcripts were read by the researcher after transcription and compared to the electronic recordings.

From the questions for the students, the first two were of a general nature about PE experiences this year and their predispositions towards PE. Most of the other questions were based on themes or issues, which were reported in the literature on, class size and school education. The process also allowed for additional themes or ideas to emerge, which may not have been revealed in the literature review. Quantifying the

qualitative data was avoided with the objective to provide a general picture of the overall view associated with a particular theme or issue. The major questions together with suggested probes are listed in Appendix A. A similar set of questions and probes was constructed to interview the three teachers except that no question was posed on enjoyment.

Table 1 Questions for Students and Teachers

Student Questions	Teacher Questions
How do you find PE classes at present?	How do you find PE classes at present?
Do you enjoy PE?	Do you enjoy the new arrangement?
Are there differences between your experiences in this year's lessons compared with those of last year?	How do you think the pupils experience the new class size arrangement?
Tell me about how you are getting on with other students in PE classes this year.	How has the new class size affected pupil learning?
Tell me how you find the teaching style of your physical education teacher this year? How does this compare with last year?	In what way if any has class management/administration changed?
Tell me how you think the teacher feels about smaller classes.	Has class size reduction affected your teaching methods?
How do your parents feel about the reduction in class size in PE?	Are there other factors which are more important than class size?
Is class size more important for physical education classes compared to other academic classes?	Is class size reduction a political issue?
	How do parents perceive the idea of smaller classes in PE?

Analysis

Data from the students' and teachers' interviews were analyzed separately by hand using a constant comparison technique (Glaser & Straus, 1967). Since many of the questions were based on themes and ideas obtained from the literature review, the analysis was guided by these themes. Other concepts which emerged from the data were also used to identify other common themes. Once the themes were identified from the teachers' and students' analyses, the two sets of results were submitted to a further

analysis. As a result, common themes or feelings were identified which were experienced by both teachers and students.

The following results are provided first from the students' and teachers' perspectives and then a final section provides an overall assessment of the common themes which were common to both teachers and students.

Table 2 Themes Emerging from Analyses of Interviews

Student Interviews	Teacher Interviews
Class management/discipline	Class management/discipline
Skill development/engagement	Skill development/engagement
Teaching approach	Teaching approach
Class atmosphere	Safety
	PE importance

General Conclusion from the Students' Perspectives

One major outcome from the student interviews focused on class management and discipline. This year with the smaller classes, it was perceived that there had been a sudden improvement in teacher control and demeanor and student behavior which left more time for the teachers to deal with skill development. According to one student, *"It's easier for the teacher to control the classyou get through stuff quicker because it's under control."* The less disciplined students were now more accountable since they could not hide at the back of the class. These observations also confirmed the students' ideas on the factors which made PE enjoyable: less student misbehavior, unnecessary repetitive activities and less explanation or instruction.

Students felt they were more fully involved in PE classes and even the less able ability students were perceived to be more effectively involved. The students were able to gain more satisfaction because they had a greater opportunity to master skills rather than rushing over the material without gaining much success. This was well endorsed by a student, *"The small classes mean more time to do things, more time in the gym."* On the other hand, the students did not seem to think that activity intensity had increased significantly with smaller classes but there was more efficient use of facilities and equipment.

The teaching approach of teachers was not seen to be any more innovative with smaller classes but the students had noticed that the teaching process had become more personalized with teachers being able to provide more individual assistance. Teachers' involvement was less diluted and their energy was not required to spread out over so many students. Subsequently, this year there was a greater feeling of friendship between the teacher and the student. The teacher communicated more easily and there was more effective assistance with technique correction. One student response endorsed this view, *"The teaching is a lot more personal than last year."*

The students did not raise safety issues significantly due perhaps to the fact that

with fewer students there was more space and therefore less chance of accidents occurring. Students did feel that with PE classes in general, more vigilance was required from teachers while most other school academic classes operated in more controlled less hazardous environments and did not require such ongoing teacher attention.

General Conclusion from the Teachers' Perspectives

Small classes were confirmed to be an important part of PE classes and enabled the teachers to achieve their overall subject objectives. Teachers were able to provide more individualized attention to students and deal with the wide range of physical skills in each class. Teacher aides were never an option for PE and therefore small classes were seen as an only alternative to provide more assistance for the less able. Most PE classes are generally dynamic in nature and required particular vigilance by the teachers in order to maintain a safe environment. Large classes hindered such vigilance. Teachers felt they were not dealing with elite performers and should not be perceived as coaches. Skill development was an essential outcome from PE and smaller classes inhibited inactivity and encouraged more student engagement. As one of the teachers observed, *"They're getting more personalized information and instruction. It's faster to get things up and going and they're more active."*

Class management was a major concern of the three teachers. With large classes, valuable time was often wasted in attending to the less disciplined students who become inattentive and avoided active engagement and learning. With the small classes, one experienced teacher said, *"I am definitely able to manage behavior and to have instructions followed or listened to."* Teachers experienced more stress with large PE classes and hence found it very difficult to maintain a quality educational program. With health and welfare an important outcome of PE, small classes enhanced student safety and helped to ensure that intimidation and bullying was reduced.

The teachers thought that the PE areas did not receive sufficient support within the school. It was perceived as non-academic program which was a useful add on subject to fill in the gaps. Many staff within the school were not aware of nature of PE teaching and considered it similar to a sport program. Sport and other external co-curricula subjects were obviously important in the school but often received better financial and emotional support at the expense of the daily face-to-face school classes.

The teachers felt that their major job was to enhance quality teaching and educate students effectively in a safe and happy environment. Large classes inhibited this objective and left the students disadvantaged and the teachers unhappy and stressed. As a teacher summed up, *"...it's definitely my preference to have smaller numbers and I find for my own mental health and for my own enjoyment that's definitely a preference for me...."*

Discussion

This paper is important because it provides the often-neglected pupils' voices as key sources of insight (see Pedder, 2006). Hence, the students provide useful perspectives and links them with the viewpoints from three of the PE teachers. There are some useful similarities which would obviously provide arguments for weighing the effectiveness of class size on student outcomes. The literature has provided mainly positive factors associated with small class size but there are many variables which restrict the making of any definitive conclusion on the issue (see review by Englehart, 2007). Type of

school, teacher expertise, student background and school facilities are but a few factors which may influence the effectiveness of class size reduction on educational outcomes. In this report, we have the results of some honest feelings from both teachers and students who in general appear to be very supportive of each other.

Class management was an important issue which was discussed by both teachers and students while the literature focused more on the outcomes of effective management such as more activity and better skill development (Bevans et al. 2010; Kim & Housner, 2010; McKenzie et al., 2000). A reduced class size improved teacher control and subsequently less time was spent on dealing with inappropriate student behavior. The students enjoyed their PE especially if the misbehavior had been controlled. With large classes, teachers were reduced to more formal teaching, longer explanations and more repetitive activities. These were features which caused students to lose enjoyment in PE.

Smaller classes helped personalize the teacher-student relationship and, as a result, the teachers' efforts were less diluted and more effective which concurs with the findings by Barroso, McCullum-Gomez, Hoelscher, Kelder and Murray (2005). A better and safer environment was associated with small classes and the stress level placed on teachers was alleviated. More time could now be devoted to skill development, because the one-on-one personal contact had definitely improved. The teachers were now most often able to get round to all the students in the class and as Hastie and Saunders (1991) found, large classes deny opportunities for students to engage in skill development activities

In summary, class size appears to be an issue with class management and skill learning. As one teacher summed up his frustration with the ongoing need to tolerate large classes: "*(Large classes were) not a problem but it was taking away from what my real purpose is, which is to enhance their learning opportunities in class and all I'm doing is spending a lot more time managing.*"

References

- Barroso, C. S., McCullum-Gomez, C., Hoelscher, D. M., Kelder, S. H., & Murray, N. G. (2005). Self-reported barriers to quality physical education by physical education specialists in Texas. *Journal of School Health*, 75(8), 313-319.
- Bohrnstedt, G. W. & Stecher, B.M. (eds.). 2002. *What we have learned about class size reduction in California*. Sacramento, CA: California Department of Education.
- Bevans, K. B., Fitzpatrick, L., Sanchez, B. M., Riley, A. W., & Forrest, C. (2010). PE resources, class management, and student physical activity levels: A structure-process- outcome approach to evaluating physical education effectiveness. *Journal of School Health*, 80(12), 573-580.
- Department for Education. (2011). *Class size and education in england evidence report* No. DFE-RR169). Runcorn, Cheshire: Department for Education.
- Deutsch, F. M. (2003). How small classes benefit high school students. *NASSP Bulletin*, 87(635), 35.
- Englehart, J. M. (2007). The centrality of context in learning from further class size research. *Educational Psychology Review*, 19(4), 455-467. doi:10.1007/s10648-006-9039-7.
- Finn, J. D., Pannozzo, G. M., & Achilles, C. M. (2003). The "Why's" of class size: Student behavior in small classes. *Review of Educational Research*, 73(3), 321-368.

- Glaser, B. G., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative analysis*. Chicago, IL: Aldine.
- Glass, G. V., & Smith, M. L. (1979). Meta-analysis of research on class size and achievement. *Educational Evaluation and Policy Analysis*, 1(1), 2-16.
- Hanushek, E. A. (2002). Evidence, politics and the class size debate. In L. Mishel, & R. Rothstein (Eds.), *The class size debate* (pp. 37-66). Washington DC: Economic Policy Institute.
- Hastie, P. A., & Saunders, J. E. (1991). Effects of class size and equipment availability on student involvement in physical education. *The Journal of Experimental Education*, 59(3), 212-224.
- Ha-Young Kim, & Housner, L. D. (2010). The influence of class size on the planning decision making, concerns, and instructional behaviors of experienced and inexperienced teachers. *International Journal of Applied Sports Sciences*, 22(2), 77-95.
- Krueger, A. B. (2002). Understanding the magnitude and effect of class size on student achievement. In L. Mishel, & R. Rothstein (Eds.), *The class size debate* (pp. 7-36). Washington DC: Economic Policy Institute.
- McKenzie, T. L., Marshall, S. J., Sallis, J. F., & Conway, T. L. (2000). Student activity levels, lesson context, and teacher behavior during middle school physical education. *Research Quarterly for Exercise & Sport*, 71(3), 249-259.
- Messineo, M., Gaither, G., Bott, J., & Ritchey, K. (2007). Inexperienced versus experienced students' expectations for active learning in large classes. *College Teaching*, 55(3), 125-133.
- Mosteller, F. (1995). The Tennessee study of class size in the early school grades. *The Future of Children*, 5(2), 113-127.
- Mont, D., & Rees, D. (1996). The influence of classroom characteristics on teacher turnover. *Economic Inquiry*, 34(1), 152-167.
- Nemeth, R. L., von Baeyer, C. L., & Rocha, E. M. (2005). Young gymnasts understanding of sport-related pain: A contribution to prevention of injury. *Child: Care, Health & Development*, 31(5), 615.
- Nye, B., Hedges, L. V., & Konstantopoulos, S. (2004). Do minorities experience larger lasting benefits from small classes? *Journal of Educational Research*, 98(2), 94-100.
- Pate-Bain, H., Achilles, C. M., & Boyd-Zaharias, J. (1992). Class size does make a difference. *Phi Delta Kappan*, 74, 253-256.
- Pedder, D. (2006). Are small classes better? understanding relationships between class size, classroom processes and pupils' learning. *Oxford Review of Education*, 32(2), 213-234.
- Taras, H. (2005). Physical activity and student performance at school. *The Journal of School Health*, 75(6), 214-8.
- Trost, S. G., & van der Mars, H. (2009). Why we should not cut PE. *Educational Leadership*, 67(4), 60-65.
- West, S. S., Westerlund, J. F., & Stephenson, A. L. (2003). Safety in science classrooms: What research and best practice say. *Educational Forum*, 67(2), 174-183.

Translating feedback research in a motor learning laboratory into Physical Education practice

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There is a large body of research on augmented feedback for motor skill acquisition, however most of these studies have been conducted in the field of motor learning in controlled settings (Adams, 1971; Bilodeau & Bilodeau, 1958; Chen, 2001; Salmoni, Schmidt, & Walter, 1984). Previous research has predominantly focussed on the influence of feedback on motor learning and performance, through examining the influence of manipulating the timing, content and frequency of feedback on and learning a novel motor skill (Silverman, 1991). Although we understand how feedback influences performance and learning in a laboratory setting, we know much less about how this understanding translates, or should translate, into the practice of providing feedback in instructional settings such as a physical education. The limited research available on feedback provision by teachers in physical education suggests that feedback is provided at a rate greater than once per minute, with most studies reporting that feedback is provided between 30 and 60 times throughout a 30-minute physical education lesson (Siedentop, 1991; Spittle, Kennedy, & Spittle, 2012). While this provides some evidence surrounding teacher behaviour, it does not tell us how often individual learners are receiving feedback or, in fact, if all students are receiving any feedback on their performance. So although we have some theoretical understanding of how feedback should be applied from motor learning, how this translates into physical education is problematic due to the complicated environment of a physical education session. This paper traces the research on feedback in motor learning and encourages the reader to consider the application of motor learning research in physical education. The paper will discuss the role of feedback in instructing motor skills in physical education and has important implications for those training pre-service physical education teachers and for teachers looking to maximise motor skill acquisition and improve their instructional practice.

Key words: teacher feedback; research on teaching; instructional practice; teacher education.

Introduction

Augmented feedback is information regarding the performance of a skill provided by a source that is external to the performer, for example feedback given by a coach, team mate or teacher (Magill, 2011). Augmented feedback is used by performers in conjunction with *task-intrinsic feedback*, that is, sensory feedback that is gained intrinsically by the performer, for example seeing that a ball goes into a goal. Feedback is considered to be an integral variable in learning and skill acquisition and is often prescribed as a part of education and evaluation (Rink, 2013; Spittle, 2013). Feedback is often used in physical education, not only in the development of physical skills, but also as a tool to increase time spent in activity, motivation and student participation (Lee, Keh, & Magill, 1993). A large body of research exists on the effect augmented feedback on development of motor skills (Fredenburg, Lee, & Solmon, 2001; Magill, 1994; Salmoni et al., 1984), but this has mostly been conducted in the field of motor learning and tested in controlled, laboratory settings. Studies such as those conducted by Adams (1971) and Bilodeau and Bilodeau (1958) have predominately focused on the influence of feedback on motor learning and performance, such as the influence of manipulating the timing, content and frequency of feedback on learning a novel motor skill. Few studies have conducted research on actual feedback in pedagogical practices of physical education. Due to the limited amount of research, we are unable to determine trends

around augmented feedback given by physical education teachers. Whilst it is not the sole purpose of physical education, feedback is primarily used skill acquisition in physical education classes. However because of the limited research, it is currently unknown why and how feedback is used in physical education, whether it is simply in the development of motor skills or used as a strategy to increase time spent in physical activity, motivation and confidence. Therefore although we understand how feedback influences performance and learning in a laboratory, we know little about how feedback is delivered by physical education teachers and to what purpose. The complicated environment of a physical education class with factors such as class size, range of activities being taught and teaching space mean that feedback suitable in a laboratory may not be suitable for the practice of a physical education lesson. This paper aims to examine the motor learning literature on feedback and how it applies to instructional practice within physical education.

Content of Feedback

When providing feedback, there are many aspects of performance that may be discussed. For example when giving feedback on a cricket shot, the teacher may wish to discuss the performer's foot position, grip on the bat or even the amount of force behind the shot. This relates to the content of feedback. As learners can become overwhelmed during learning situations it is important teachers know which type of feedback is most appropriate.

Knowledge of results refers to feedback regarding the outcome of performance, for example "You missed the target by one metre" (Magill, 2011). *Knowledge of performance* on the other hand, refers to feedback regarding the process of performance, for example "You need more force behind your throw" (Magill, 2011). In laboratory based situations, knowledge of results is useful in those tasks where task-intrinsic feedback is not available, as seen in an early study by Trowbridge and Cason (1932). Participants in this study performed a limb positioning task whilst blindfolded. As a result, no task-intrinsic feedback was gained, nor were participants provided with any augmented feedback or knowledge of results. It was found that under these conditions no learning occurred. This supports the notion that knowledge of results can facilitate the skill acquisition process. In more practical, applied settings, however, knowledge of results is in fact only useful when intrinsic feedback is either not available or hard to interpret (Spittle, 2013). Examples of this may be the sports of diving or gymnastics where kinaesthetic awareness is the performer's only form of task-intrinsic feedback. It may only be when judges give their scores that the learner is able to gain a better understanding of their result. This means that coaches or physical education teachers who are teaching sports or activities where task-intrinsic feedback is difficult to interpret should provide feedback incorporating knowledge of results in order to maximise skill learning. Knowledge of performance, on the other hand, is much more likely to be required, as learners can generally interpret the results of a performance using task-intrinsic feedback. Intrinsic feedback regarding technique or movement patterns can be more difficult to interpret therefore feedback regarding the process of performance should generally be provided more often to the learner (Spittle, 2013).

Non-skill related feedback, which can be positive or negative in nature can also be used in instructional settings. This can allow for feedback to be used as a motivational tool and can help to keep students on task (Rink, 2013). A study by Koka and Hein (2005) examined the relationship between 14-18 year old students' intrinsic motivation

to participate in physical education and perceptions of positive general feedback. The results of the study indicate that positive motivational feedback will enhance students' motivation to participate in physical education classes. This well founded study had a large number of participants, being 638 school children aged 14-18 years, with the research based on students' general perceptions of their teachers and physical education lessons. This allowed for the physical education unit as a whole to be assessed, rather than creating an unauthentic environment of specifically arranged classes. This research suggests that non-skill related feedback should be used by teachers in physical education classes to keep students on task and enhance motivation. By using this tool, time spent in activity will be greater, thereby increasing skill practice opportunities.

Although motivational feedback can help to engage students in the task, care must be taken when using non-skill related feedback however, as feedback can often be misconstrued (Spittle, 2013). For example, if a teacher was to say "Great work!" because they are pleased the student kept their eyes on the ball while catching, the student may think that the teacher was happy because they moved towards the ball. It is often considered more valuable to provide more specific feedback to help the learner understand what was good or bad about skill performance in order to facilitate learning. A balance needs to be created between the provision of non-skill related feedback to keep students motivated and engaged with the task and specific feedback that can help with skill learning. Continued corrective feedback, for example repeating "You need to straighten your arm more; you still need to straighten your arm more", could be perceived as negative feedback whereby motivation to continue with the task could be lost.

Appropriate Frequencies of Augmented Feedback

Frequency of feedback has been a topic of debate for many years. Traditional literature suggests that feedback should be provided to a learner after every single trial (Thorndike, 1931). Thorndike's theory, the Law of Effect and Operant Conditioning, states that learning involves linking a stimulus and response, therefore it makes sense that more feedback would help to reinforce the correct response. Early research also supports this idea, with Bilodeau and Bilodeau (1958) finding that in a laboratory based simple lever-pulling task, performers completed the task better when provided with feedback after every trial as opposed to every second trial. These early studies, however, often did not incorporate retention tests, meaning that simply performance after the provision of feedback was measured, and not learning.

Early studies in motor learning described feedback in terms of absolute feedback frequency; that is the total number of times feedback was provided (Bilodeau & Bilodeau, 1958; Spittle, 2013). This becomes an issue when design between studies varies in terms of time spent in activity and number of practice trials, as comparisons between studies cannot be made. Motor learning researchers now describe feedback in terms of absolute feedback frequency, but also relative feedback frequency – the percentage of practice trials on which feedback is provided. By increasing the absolute feedback frequency, increases in learning are observed, however increases in relative frequency of feedback tend to reduce learning (Schmidt & Wrisberg, 2008). This means that providing more feedback is beneficial, but decreasing the relative frequency of feedback can also have a learning effect (Spittle, 2013). Although motor learning researchers know that a relative feedback frequency that is high is not beneficial for learning, the optimal frequency is still a hotly debated topic. Researchers have now

come to the conclusion that optimal frequency depends on the characteristics of the learner and the skill, that is, the skill level of the learner and also the skill complexity (Magill, 1994). Early in learning, augmented feedback can help the learner to understand the skill and movement pattern. These beginners are more likely to benefit from feedback, as they lack the error detection and correction capabilities that can be seen in more advanced performers (Magill, 1994). As skill level increases, feedback provision should decrease respectively, as the learners will become more capable in using intrinsic feedback (Magill, 1994; Spittle, 2013). If the learner continues to be provided with a great amount of feedback, they are less likely to learn how to detect and correct errors themselves thus becoming dependant on augmented feedback.

A number of different theories provide explanations as to why a reduced feedback frequency is beneficial for skill learning. The Guidance Hypothesis states that providing too much feedback can change the learning process, so that they are guided through learning as opposed to actively participating in their own learning (Salmoni et al., 1984). As previously stated, the learner is then more likely to depend on augmented feedback provided and they will have difficulty performing the skill without augmented feedback. Other reasons for this reduced feedback frequency are the Consistency Hypothesis and also information overload. By having a high relative feedback frequency, the learner makes too many changes to movement. This does not allow for the movement to stabilise or consistency in movement to be formed (Spittle, 2013). In addition to this, by providing feedback statements one after the other, a cumulative effect in the learner may occur resulting in the learner being unable to cope with all of the information they need to focus on.

The aforementioned studies have all been conducted in laboratory settings where feedback frequency is able to be manipulated from a 100 percent relative frequency. In such settings, manipulation of frequency is possible however in the complicated environment of applied settings such as a physical education class, it is impossible to provide learners with feedback after every skill trial. It would be extremely difficult for a teacher to even provide a relative feedback frequency of 50 per cent to each of their students. Therefore, giving too high a frequency of feedback is unlikely to be an issue in such a practical setting.

In applied learning environments such as physical education classes, various studies have been conducted into the relationship between the amount of feedback provided and student performance with very mixed results (Lee et al., 1993; Silverman, 1994). Whilst it may not be strongly associated to learning, teacher feedback can help to influence the learning environment, keeping students actively involved in physical activity and motivated to stay on task (Lee et al., 1993; Silverman, Woods, & Subramaniam, 1998; van der Mars, Vogler, Darst, & Cusimano, 1998). When time spent on the task is greater, practice opportunities increase respectively. This allows for an increase in feedback statements, as well as increased opportunities to use intrinsic feedback. These increased opportunities should therefore allow for greater learning.

Actual Feedback Frequencies

Few studies have conducted research on actual feedback frequency in physical education settings. Due to this, little is known about how often and what types of feedback physical education teachers provide to their students, and in addition to this, much of the research is now dated. Although the research that is available suggests that feedback is provided at a rate that is greater than once per minute. A summary presented

by Siedentop (1991) suggests that in general, feedback is provided by teachers as often as 30-60 times throughout a 30 minute lesson. More recent data largely confirms this review (Behets, 1997; Spittle et al., 2012).

In a study by Behets (1997) comparing effective teaching behaviours, nine teachers were asked to teach a novel gymnastics skill over four consecutive lessons spanning four weeks. The observed teachers provided a mean total of 77 feedback statements throughout the 25 minute gymnastics lesson, with a total of 4:34 minutes being dedicated to this feedback provision. This equates to a rate of 3.08 feedback statements per minute. When further broken down, 30 percent of feedback given fell under the category of directions given as a reminder, with corrective feedback counting for 17 percent and the least common type of feedback being specific at only 7 percent. It should be noted however, that feedback statements were 79 percent relevant to the actual errors performed and 37 percent effective in causing a change in performance. Similar results were found by van der Mars et al. (1998) when studying teachers' active supervision and students' physical activity levels. When measuring total feedback as a factor of active supervision, it was found that total feedback was provided at a rate of 3.73 statements per minute.

In the two studies listed above, despite not being conducted in laboratories, the research was still conducted in very controlled settings. When conducting research in less controlled settings, we find that feedback frequency may decrease slightly. One strategy in creating authentic settings is to not control the sport or activity being taught. This occurred in a study by Spittle, Kennedy and Spittle (2012) where the sports and activities being taught varied between participants, finding that feedback was provided by 23 secondary school physical education teachers at a mean rate of 63.7 instances within a 45 minute lesson. This frequency equates to 1.71 feedback statements per minute, or feedback every 42.39 seconds.

Conclusion

The majority of feedback literature is focused on the influence of manipulating the various components of augmented feedback in order to maximise skill acquisition. Research in the area has been conducted in controlled laboratory settings examining specific components of feedback such as content, frequency and timing. Through research, we now have a greater understanding of the role feedback plays in skill acquisition and traditional motor learning settings. Feedback's role in applied physical education settings is less clear, as environments between a physical education lesson and a motor learning laboratory differ greatly. Factors such as class size, lesson length and activities being taught all contribute to the uncontrollable nature of a physical education setting.

As feedback is considered to be an essential teaching tool in physical education it is crucial that further research is conducted into its use in authentic physical education settings. The findings of such studies will represent feedback behaviour in physical education and may be applied to the physical education community regarding how classes are conducted. This will allow strategies around the provision of feedback to be developed, which may in turn influence university unit and course content. This will also ensure that physical education pre-service teachers are being provided with opportunities to learn about the importance of feedback and to practise such an essential skill.

References

- Adams, J. A. (1971). A closed-loop theory of motor learning. *Journal of Motor Behaviour*, 3, 111-149.
- Behets, D. (1997). Comparison of more and less effective teaching behaviors in secondary physical education. *Teaching & Teacher Education*, 13(2), 215-224.
- Bilodeau, E., & Bilodeau, I. (1958). Variable frequency of knowledge of results and the learning of a simple skill. *Journal of Experimental Psychology*, 55, 379-383.
- Chen, D. (2001). Trends in augmented feedback research and tips for the practitioner. *Journal of Physical Education, Recreation and Dance*, 72, 32-36.
- Fredenburg, K. B., Lee, A. M., & Solmon, M. (2001). The effect of augmented feedback on students' perceptions and performance. *Research Quarterly for Exercise and Sport*, 72(3), 232-242.
- Koka, A., & Hein, V. (2005). The effect of perceived teacher feedback on intrinsic motivation in physical education. *International Journal of Sport Psychology*, 36, 91-106.
- Lee, A. M., Keh, N. C., & Magill, R. A. (1993). Instructional effects of teacher feedback in physical education. *Journal of Teaching in Physical Education*, 12, 228-243.
- Magill, R. A. (1994). The influence of augmented feedback on skill learning depends on characteristics of the skill and the learner. *QUEST*, 46, 314-327.
- Magill, R. A. (2011). *Motor learning and control* (9 ed.). New York: McGraw-Hill.
- Rink, J. E. (2013). *Teaching Physical Education for Learning* (7 ed.). New York: McGraw-Hill.
- Salmoni, A., Schmidt, R. A., & Walter, C. (1984). Knowledge of results and motor learning: A review and critical appraisal. *Psychological Bulletin*, 95(355-386).
- Schmidt, R. A., & Wrisberg, C. (2008). *Motor learning and performance: a situation-based learning approach* (Vol. 4). Champaign, IL: Human Kinetics.
- Siedentop, S. (1991). *Developing teaching skills in physical education* (3 ed.). Mountain View, CA: Mayfield.
- Silverman, S. (1991). Research on teaching in physical education. *Research Quarterly for Exercise and Sport*, 62(4), 352-264.
- Silverman, S. (1994). Communication and motor skill learning: what we learn from research in the gymnasium. *QUEST*, 46, 345-355.
- Silverman, S., Woods, A. M., & Subramaniam, P. R. (1998). Task structures, feedback to individual students, and student skill level in physical education. *Research Quarterly for Exercise and Sport*, 69(4), 420-424.
- Spittle, M. (2013). *Motor learning and skill aquisition: Application in physical education and sport*. Melbourne: Palgrave-Macmillan.
- Spittle, M., Kennedy, M., & Spittle, S. (2012). Frequency of teacher augmented feedback and teaching style in secondary physical education. *The Global Journal of Health and Physical Education Pedagogy*, 1(3), 173-188.
- Thorndike, E. (1931). *Human learning*. New York, NY: Century.
- Trowbridge, M., & Cason, H. (1932). An experimental study of Thorndike's theory of learning. *Journal of General Psychology*, 7(245-260).
- van der Mars, H., Vogler, B., Darst, P., & Cusimano, B. (1998). Students' physical activity levels and teachers' active supervision during fitness instruction. *Journal of Teaching in Physical Education*, 18, 57-75.

An examination of pre service teachers' confidence to teach primary Physical Education

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A number of barriers have been identified that can prevent quality physical education programs being delivered in primary schools, including inadequate training, low levels of confidence and limited resources and support. These barriers can often lead to teachers avoiding teaching or compromising student learning outcomes in the content areas in which they feel most challenged. The aim of this study was to measure the confidence of pre-service teachers specialising in primary physical education to teach content areas based on requirements of accrediting and registration guidelines for primary physical education. To measure confidence, a questionnaire was developed, so a further aim of the study was to determine the validity and reliability of the questionnaire. To investigate the underlying factor structure of the twenty-four items within the questionnaire data was collected from 277 pre-service teachers (M age = 21.37 years, SD = 3.09) completing a Bachelor of Education degree (P-12) specialising in Primary Physical Education. Principal axis factoring with direct oblimin rotation was used to identify the underlying factor structure. Two factors were identified; Teaching Physical Education and Dance and Gymnastics, which displayed high levels of internal consistency reliability ($r=.93$ and $r=.76$ respectively). The average item score was 4.52 (SD = .64) for Teaching Physical Education and 3.60 (SD = 1.20) for Dance and Gymnastics. These findings suggest that pre-service teachers view dance and gymnastics as different from other content areas and also were lower in confidence in these areas. These findings suggested despite receiving specific training in these content areas pre-service teachers may need further support or training to engage with these areas. Further research is needed to gain an understanding of why pre-service teachers view these content areas as different and more difficult. The implications of the findings of pre-service teacher training in primary physical education will be discussed.

Keywords: physical education; pre-service teachers; primary; dance; gymnastics

Introduction

A number of barriers have been identified that can prevent quality physical education programs being delivered in primary schools, including inadequate training, low levels of confidence and limited resources and support (Morgan, 2005). These barriers can often lead to teachers avoiding teaching or compromising student learning outcomes in the content areas in which they feel most challenged (Cundiff, 1990; Hickey, 1992).

The curriculum area of Physical Education (PE) has been charged with many important roles, including the physical, social, and emotional development of a child (Bailey et al. 2009). Primary school has been identified as the ideal setting for the development of fundamental motor skills, which are imperative for continued participation in physical activity (Gallahue, Ozmun, & Goodway, 2012; Gabbard, 2008). The development of fundamental motor skills allows for success and enjoyment to be achieved in physical education, which creates positive early learning experiences that can influence adult health behaviors and promote continued participation in physical activity (Dobbins, De Corby, Robeson, Husson, & Tirilis, 2009). For fundamental motor skills to be developed and enjoyment to be achieved quality PE programs need to be delivered (Morgan, 2005). Within Australian primary schools PE is not always taught by a specialist teacher and is sometimes delivered by a generalist

classroom teacher. Previous research has found that these teachers often experience feelings of low confidence and motivation toward the subject (Callea, Spittle, O'Meara & Casey, 2008; Morgan & Bourke, 2005, 2008). These feelings have been attributed to personal experiences with the subject, a limited amount of training, and lack ongoing support available.

The Importance of Physical Education in the Primary Years

Quality PE programs that focus on physically educating young people in a enthusiastic, supportive, and encouraging environment have the opportunity to foster positive health behaviours and enjoyment in physical activity at the present time and into the future (Lee, Burgeson, Fulton, & Spain, 2007). It is during the primary school years that positive attitudes towards physical activity should be encouraged. For some students, PE at school may be the only opportunity they have to engage in any type of physical activity (Morgan, 2005). The need for quality PE programs in primary schools is strongly supported by the proposition that sport and PE are influential factors in motor skill development and refinement during childhood and adolescence (Gabbard, 2008). As children have the potential to reach a mature stage in a majority of fundamental motor skills by the age of six or seven (Gabbard, 2008), primary school PE is the ideal setting for the learning, development and mastering of these skills. Late childhood (7 - 10 years of age) is distinguished by the emergence of sport skill behaviours (Gabbard, 2008). These skills are the advanced version of the basic skills developed in earlier childhood. If these basic skills are not mastered, then individuals are unable to begin to develop more sport - oriented skill behaviours. Proponents of the importance of establishing acceptable levels of fundamental motor skills have suggested that the attainment of these skills allow children to successfully participate in sport and physical activity throughout their lives (Gallahue & Donnelly, 2003; Gallahue & Ozmum, 2001).

Without the successful development of fundamental motor skills, and the consequential maturation of sport specific behaviours, many children find it extremely difficult to experience success and enjoyment in physical activity (Gallahue, Ozman & Goodway, 2012). An individual's ability to competently perform motor skills appears to be a major reason for children engaging in physical activity and sport (Morgan, 2005). As previously stated, those who have positive experiences as a child and are engaged in physical activity are more likely to continue to lead an active lifestyle beyond their schooling years (Morgan & Bourke, 2005). A study by Bouffard, Watkinson, Thompson, Causgrove, and Romanow (1996) found that children with limited motor skill ability were less physically active and spent less time in social settings with their peers. This once again highlights the importance of quality physical education programs and how much influence they can have on children and the implications for health related behaviour later in life.

Current Practices in Primary School Physical Education

The process of defining physical education has been something of a preoccupation of educators for many years (Kirk, 2010). While physical educators seem to agree on what PE isn't, the core aims of the subject are a lot less clear (Penney & Chandler, 2000). The multiple and diverse claims about the contributions the subject makes to a child's development and later life has been criticised, with the degree to which PE can continue to make varied claims and pursue multiple agendas brought into question (Penney &

Chandler, 2000). Along with the unclear definition of what physical education is, and the outcomes it should be achieving, further complication is added to the subject when trying to establish who is responsible for deciding on the content and activities being delivered (Lisahunter, 2006). In many countries, such as Australia, the decisions regarding the delivery of physical education curriculum in primary schools is left up to the classroom teacher, who has often had limited training in the subject area (Green, 2008). This limited amount of training within the specialty area often leaves teachers feeling uncomfortable and unqualified to teach PE (Cundiff, 1990; Hickey, 1992). Xiang, Lowy and McBride (2002) found that low levels of confidence exhibited by generalist teachers towards teaching PE could be attributed to recognising that they are not equipped to teach PE after observing the complex nature of teaching PE. Morgan and Bourke (2005) found that generalist teachers possessed only moderate levels of confidence towards teaching certain content areas within PE. Games and Sports were reported to have the highest mean confidence rating, with gymnastics and aquatics the lowest. A later study conducted by the researchers (Morgan & Bourke, 2008), which explored the non-specialists teachers' confidence to teach PE with reference to the nature and influence of personal school experiences, also found participants exhibited only moderate levels of confidence in their PE teaching abilities. When asked to indicate specific PE content areas they would prefer not to teach, gymnastics and aquatics were at the top of the list once again.

Inadequate training, low levels of confidence, a lack of time, interest, limited resources and support are some of the major barriers to effective PE teaching (Morgan, 2005). These barriers can often lead to teachers avoiding teaching the subject, or specific content areas which they feel most challenged by, such as gymnastics and aquatics. Evans (1990), as cited in Morgan and Bourke (2005), proposed that teachers can feel quite intimidated in teaching a subject such as PE when student knowledge of sports and various games outweighs their own. A teacher's doubt about their ability to impact on student outcomes can result in avoidance behaviours, and a negative attitude towards PE, which can influence student attitudes (Morgan & Bourke, 2005).

The aim of this study was to measure the confidence of pre-service teachers specialising in primary physical education to teach content areas based on requirements of accrediting and registration guidelines for primary physical education.

Method

Participants

Data was collected from 277 pre-service teachers (131 male, 146 female; $M = 21.37$, $SD = 3.09$) enrolled in a Bachelor of Education (P-12) degree. All participants had elected to specialise in primary physical education (P – 6) as one of their teaching methods. There were 93 first year, 105 second year, and 70 third year students.

Measures

A questionnaire was used to measure the demographic information as well as the pre-service teachers' self-perceived levels of confidence towards primary school physical education. The questionnaire was developed by Spittle and Watt (2011) to measure the confidence of generalist primary school teachers to teach primary school physical education. The following documents were examined to develop an original item pool which was then reduced following analysis; (a) The Victorian Essential Learning

Standards, Health and Physical Education, Levels 1 – 3 (VCAA, 2012); (b) The Australian Council for Health, Physical Education and Recreation (ACHPER) Professional Standards for Graduate Teachers of Physical Education, Primary generalist Year Prep to 6 (ACHPER, 2010); (c) National Professional Standards for Teachers, Draft 12 February 2010 (AITSL, 2010); and (d) Victorian Institute of Teaching, Standards of professional practice for full registration; Standards for graduating teachers (VIT, 2010). The final version of the questionnaire used consists of 24 six-point Likert question with all items requiring participants to respond to the statement ‘I am confident in my ability to’. Participants were asked to indicate how much they agreed on a scale of 1 (strongly disagree) to 6 (strongly agree).

Testing Procedures

Students studying a Bachelor of Education (P – 12) who had chosen primary physical education as a teaching method were invited to participate in the study. Participants were provided with a plain language statement as well as a verbal explanation of the study. They were informed the participation was entirely voluntary and that completion of the questionnaire implied consent. The questionnaire took between 10 – 15 minutes to complete.

Data Analysis

Data analysis involved an exploratory factor analysis of the underlying structure of the items designed to assess confidence to teach primary school physical education. Principal axis factoring with direct oblimin rotation was used to reduce the number of items and identify the factor structure. Test-retest stability and internal consistency of the subscales of the measure were also analysed.

Results

Using the principal axis factoring method, two factors with eigenvalues greater than one were extracted accounting for 48% of the total variance. Direct oblimin rotation converged in seven iterations. Variables with loadings greater than .30 were used to interpret the factors. After examining the loadings the following labels were given to the factors: Factor 1, Physical Education and Factor 2, Dance and Gymnastics. Descriptive statistics for each of the factors are presented in Table 1. Independent samples t-tests compared confidence scores for gender and one-way ANOVAs compared confidence scores for year level. Internal consistency reliability values (Cronbach’s alpha) presented in Table 1 show very good internal consistency for the questionnaire.

Table 1 Descriptive Statistics and Internal Consistency Coefficients for the Teacher Confidence in Physical Education Scale

Subscale	Total	Scale	Average Score Per		Internal
	Score		Item		Consistency
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Physical education	99.34	14.18	4.52	.64	0.93
Dance and gymnastics	7.19	2.39	3.60	1.20	0.76

Pre-service teachers reported higher confidence in teaching the general physical education factor than dance and gymnastics. Females reported significantly higher confidence for teaching dance and gymnastics than males, $t(275)=-4.67$, $p<.001$ (Table 2).

Significant differences between year levels were found for both of the factors; physical education ($F(2,274)=14.89$, $p<.001$) and dance and gymnastics ($F(2,274)=49.59$, $p<.001$). Third year students were significantly more confident than 2nd and 1st year students, and 2nd year students were significantly more confident than 1st year students (Table 2).

Table 2 Descriptive Statics for the Teacher Confidence in Physical Education Scale by gender and year level

Subscales	Gender				Year Level					
	Male		Female		1 st Year		2 nd Year		3 rd year	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Physical education	4.59	0.61	4.45	0.67	4.27	0.71	4.54	0.58	4.78	0.52
Dance and Gymnastics	3.26	1.20	3.90	1.1	2.77	1.13	3.81	0.99	4.28	0.95

Discussion

Results from this study further support research, which has found that there are specific physical education content areas that teacher would prefer not to teach (Morgan & Bourke, 2008). Pre-service primary physical education teachers possessed moderate levels of confidence towards the physical education factor. This factor contained questions that focused on teaching specific content areas such as swimming and water safety, team games and sports, the skills of fitness, as well as task such as maintaining records, planning a year, unit and individual session in physical education and understanding the place of physical education in the curriculum.

The pre-service teachers were substantially less confident for teaching dance and gymnastics. Thus, the findings suggest that pre-service teachers view dance and gymnastics as different from other content areas and also were lower in confidence in these areas. These findings suggested despite receiving specific training in these content areas pre-service teachers may need further support or training to engage with these areas. Perhaps the pre-service teachers did not feel that they had adequate training in dance and gymnastics or had not had enough personal experience of these activities. For example, Morgan and Bourke (2005) found that teachers had greater confidence in the content areas of physical education if they believed they has received adequate teacher training. This lack of confidence could be a barrier to teaching these content areas, which can lead to teachers avoiding teaching or compromising student learning outcomes in the content areas in which they feel most challenged (Cundiff, 1990; Hickey, 1992). Further research is needed to gain an understanding of why pre-service teachers view the content area of dance and gymnastics as different and more difficult to teach than other areas of the curriculum.

Female pre-service teachers reported higher levels of confidence in teaching dance and gymnastics than males. This may be because males have less personal experience in these content areas are perhaps they are viewed as not being “sporty”

activities or what they perceive as being physical education. Further research exploring difference in teaching dance and gymnastics in primary physical education and reasons for different perceptions for male and female teachers appear warranted to help clarify these issues. It is important to determine the cause of these differences because the lack of confidence could impact on how male teachers teach these areas of the curriculum (Cundiff, 1990; Hickey, 1992).

Differences in confidence levels were also observed between the year levels. Confidence in both factors increased as year level increased, with 3rd year students being the most confident and 1st year students being the least confident. These results are to be expected as students progress from year to year they complete more physical education units, which should develop their confidence to teach areas of the curriculum. For example they complete units in the area where they were lowest in confidence, dance and gymnastics, in 1st and 2nd year.

Over the course of the degree, pre-service teachers also engage in other learning experiences, such as teaching rounds/practical placement, which gives students the opportunity to experience physical education in a practical setting. Despite these practical opportunities to teach physical education pre-service teachers are still not as confident to teach dance and gymnastics. This lack of confidence could be attributed to the pre-service teachers not being given the opportunity to teach these content areas or perhaps these content areas or not being taught in schools hence appropriate practice is not able to be observed.

This suggests that exposure to physical education units and experience of teaching physical education in practice are important to developing confidence to teach. Limited training in the subject area (Green, 2008) may leave teachers feeling a lack of confidence to teach physical education (Cundiff, 1990; Hickey, 1992; Xiang, Lowy, & McBride, 2002), which could be a barrier to quality physical education programs in primary schools.

References

- Bailey, R., Armour, K., Kirk, D., Jess, M., Pickup, I. & Sandford, R. (2009). The educational benefits claimed for physical education and school sport: an academic review. *Research Papers in Education*, 24(1), 1-27.
- Bouffard, M., Watkinson, E.J., Thompson, L.P., Causgrove Dunn, J.L., & Romanow, S.K.E (1996). A test of the activity deficit hypothesis with children with movement difficulties. *Adapted Physical Activity Quarterly*, 13 (1), 61-73.
- Callea, M.B., Spittle, M., O'Meara, J., & Casey, M. (2008) Primary school teacher perceived self-efficacy to teach fundamental motor skills. *Research in Education*, 79, 67-75.
- Cundiff, L. B., (1990). Perceptions and behaviors of classroom teachers concerning elementary physical education. *Kentucky Association for Health, Physical Education Recreation and Dance Journal*, 26(2), 27 – 29.
- Dobbins, M., De Corby, K., Robeson, P., Husson, H. & Tirilis, D. (2009). School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6-18. *Cochrane Database Systematic Reviews* 2009(1)
- Evans, J. (1990). Sport in schools threatened by lack of teacher training. *The ACHPER National Journal*, 130, 8-11.

- Gabbard, C. P. (2008). *Lifelong Motor Development* (5th ed.). San Francisco: Pearson Benjamin Cummings.
- Gallahue, D. L., & Donnelly, F. C. (2003). *Developmental physical education for all children* (4th ed.) Champaign, IL: Human Kinetics.
- Gallahue, D. L., & Ozmun, J. C. (2001). *Understanding motor development. Infants, children, adolescents, adults* (5th ed.) NY: McGraw-Hill.
- Gallahue, D. L., Ozmun, J. C., Goodway, J.D., (2012). *Understanding motor development. Infants, children, adolescents, adults* (7th ed.) NY: McGraw-Hill.
- Green, K. (2008). *Understanding physical education*. London: SAGE.
- Hickey, C. (1992). Physical education in Victorian primary schools: A review of current provisions. *The ACHPER National Journal*, 138, 18 – 23.
- Kirk, D. (2010). *Physical education futures*. New York, NY: Routledge.
- Lee, S. M., Burgeson, C. R., Fulton, J. E. & Spain, C. G. (2007). Physical education and physical activity: results from the School Health Policies and Programs Study 2006. *Journal of School Health*, 77(8), 435-463.
- Morgan, P.J. (2005). Primary school physical education: Far from reaching its potential. *Every Child*, 11(1), 20 - 21.
- Morgan, P.J. & Bourke, S.F. (2005). An investigation of preservice and primary school teachers' perspectives of PE teaching confidence and PE teacher education. *ACHPER Healthy Lifestyles Journal*, 52(1), 7-13.
- Morgan, P.J., Bourke, S. (2008). Non-specialist teachers' confidence to teach PE: the nature and influence of personal school experience in PE. *Physical Education and Sport Pedagogy*, 13(1), 1 - 29.
- Penney, D. & Chandler, T. (2000). Physical education: What future (s)? *Sport, Education and Society*, 5(1), 71 – 87.
- Xiang, P., Lowy, S., & McBride, R. (2002). The impact of a field-based elementary physical education methods course on preservice classroom teachers' beliefs. *Journal of Teaching in Physical Education*, 21(2), 145 – 161.

Pre-service teachers' reasons for choosing to specialise in primary Physical Education

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The choices of pre-service teachers towards physical education as a teaching method can influence the way that they approach their teaching. This study investigated the attractors and facilitators to choose primary physical education as a teaching method for 248 pre-service teachers (M age = 21.24 years, SD = 2.99) completing a four-year Bachelor of Education (P-12). Participants completed the Attractors and Facilitators for Physical Education questionnaire (AFPE; Spittle, Jackson, & Casey 2009), which measures five factors for choosing physical education: confident interpersonal service reasons, sport and physical activity, low perceived demand, role model, and family. Strong reasons for choosing to specialise in primary physical education included confident interpersonal service reasons (M = 5.75, SD = 0.78), interest in sport and physical activity (M = 5.98, SD = 0.88), and the influence role models (M = 5.46, SD = 1.40). Male pre-service teachers (M = 3.84, SD = 1.15) reported that low perceived demand was a stronger influence than females (p < .01). Family (p < .01) was also a stronger influence for males (M = 2.59, SD = 1.83) than for females (M = 2.01, SD = 1.57). Low perceived demand was a stronger influence (p < .05) for pre-service teachers whose other teaching method was health (M = 3.78, SD = 1.14) than those who had selected other teaching methods (M = 3.43, SD = 1.00). First and second year pre-service teachers reported significantly higher confident interpersonal service (p < .01), sport and physical activity (p < .05), and role model (p < .05) influences than third year pre-service teachers. Second year students reported significantly higher family reasons than first and third year students (p < .05). The findings of this study have significant implications for understanding the choices and motives of those training in primary physical education, which are discussed in relation to choice of course and learning outcomes for students.

Keywords: motivation; career choices; attractors; facilitators; teacher education

Introduction

Why students chose physical education teaching as a career is an interesting question for the profession. Previous research has identified choices for teaching (e.g., Book & Freeman, 1986; Brookhart & Freeman, 1992; Goodlad, 1984; Joseph & Green, 1986; Osguthrope & Sanger, 2013; Serow, Eaker, & Ciechalski, 1992; Watt & Richardson, 2007) and, more specifically, a range of reasons people choose to become physical education teachers (e.g., Dewar & Lawson, 1984; Hutchinson, 1993; Pooley, 1972; Richardson & Watt, 2005; Templin, Woodford, & Mulling, 1982). It may be possible, however, to conceive the broad range of reasons identified in the literature as facilitators for and attractors to physical education teaching (Dewar & Lawson, 1984; Lortie, 1975; Lawson, 1983).

Spittle, Jackson, and Casey (2009) explored these attractors and facilitators delimited these attractors and facilitators using the Attractors and Facilitators for Physical Education (AFPE) questionnaire. Their analysis identified five reasons for becoming a physical education teacher: confident interpersonal reasons (being confident and helping others), sport and physical activity (to be involved in sport and physical activity), low perceived demand (because it is easy), role models (to emulate a teacher, physical education teacher or other significant person), and family (because of family influence). They found that confident interpersonal service reasons were the strongest

predictor of intrinsic motivation, whereas sport and physical activity reasons were the strongest predictor of extrinsic motivation. Confident interpersonal service, sport and physical activity, and low perceived demand predicted amotivation.

The current study further aimed to further explore these reasons identified by Spittle, Jackson, and Casey (2009) but with pre-service teachers who enrolled in a teacher education course and then elected to specialise in teaching primary school physical education. Pre-service teachers who choose to specialise in primary physical education may have different reasons for selecting physical education as a specialisation than students who originally chose to study a physical education course. Recognising the reasons for choosing physical education is important because the reasons for choice of course may influence outcomes for the pre-service teacher and the students they teach.

Method

Participants

A total of 248 pre-service teachers with a mean age of 21.24 years ($SD = 2.99$) completing a four-year Bachelor of Education (P-12) degree specialising in primary physical education (P-6) were invited to participate in this study. The primary physical education specialisation is a six unit major, which does not enable registration to teach secondary school physical education.

Measures

Demographics. The demographics from asked participants to indicate their gender, age, current year level, and second teaching method.

Attractors and Facilitators for Physical Education (AFPE). The Attractors and Facilitators for Physical Education (AFPE) questionnaire (Spittle, Jackson, & Casey, 2009) consists of 44 seven-point Likert questions. Exploratory factor analysis identified five reasons for choosing physical education teaching: confident interpersonal reasons (13 items), sport and physical activity (8 items), low perceived demand (15 items), role models (4 items), and family (4 items). All 44 items in the present study were related to the global stem “Why do you want to become a primary physical education teacher?” For example, participants were asked to indicate how much they agreed on a scale of 1 (*not at all*) to 7 (*exactly*) with: “Because I am a people person” (confident, interpersonal service); “Because I want a sport related job” (sport and physical activity); “Because it was easy to get into the course” (low perceived demand); “Because I had a good physical education teacher at school” (role model); or “Teaching runs in our family” (family). Cronbach’s alpha coefficients displayed adequate internal consistency, with all subscales between .82 and .90.

Procedure

Pre-service teachers were invited to participate in the study, given a plain language statement, and informed that participation was voluntary. The questionnaire took between 10 – 15 minutes to complete. A University Human Research Ethics Committee approved the study.

Data Analysis

Independent samples t-tests were used to determine if there were any significant differences in reasons for gender or second teaching method. One-way analyses of variance (ANOVAs) were used to determine if there were any significant differences in reasons for year level. Scores are presented as the item mean of the subscale, with the maximum possible mean score for each subscale being seven.

Results

The pre-service teachers reported higher scores (greater than 5) for the sport and physical activity, confident interpersonal service, and role models reasons; a moderate score for low perceived demand; and a lower score for family (see Table 1).

Table 1. Descriptive statistics and t-test results for all participants and by gender

Subscales	Average Score Per Item		Gender				<i>p</i>
			Male		Female		
			(n = 120)		(n = 128)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Confident interpersonal service	5.75	0.78	5.72	0.72	5.77	0.83	0.61
Sport and physical activity	5.98	0.88	6.04	0.75	5.92	0.99	0.27
Low perceived demand	3.65	1.10	3.84	1.15	3.47	1.02	0.01*
Role models	5.46	1.40	5.54	1.33	5.38	1.45	0.38
Family	2.29	1.73	2.59	1.83	2.01	1.57	0.01*

**p* < 0.05

Gender

Males reported significantly higher low perceived demand and family reasons than females (Table 1.).

Year level

There were statistically significant differences between year levels for four of the five reasons: confident interpersonal service, sport and physical activity, role models, and family (Table 2). There was no significant difference for low perceived demand. Post hoc tests revealed that second year students reported significantly higher scores for confident interpersonal reasons and sport and physical activity reasons than third year students; first year students reported significantly higher role model reasons than third year students; and second year students reported significantly higher family reasons than first year and third year students.

Table 2. Descriptive statistics and t-test results by year level

Subscales	Current year level								<i>p</i>
	1 st year		2 nd year		3 rd year		4 th year		
	<i>(n</i> = 60)		<i>(n</i> = 105)		<i>(n</i> = 74)		<i>(n</i> = 9)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Confident interpersonal service	5.84	0.74	5.89	0.83	5.51	0.67	5.75	0.78	0.01*
Sport and physical activity	6.10	0.83	6.10	0.81	5.74	0.99	5.78	0.62	0.03*
Low perceived demand	3.49	0.83	3.82	1.29	3.52	0.99	3.82	0.96	0.18

Role models	5.72	1.21	5.62	1.38	5.07	1.46	4.93	1.49	0.01*
Family	1.90	1.53	2.62	1.91	2.07	1.53	2.72	1.58	0.03*

* $p < 0.05$

Other teaching method

Pre-service teachers who were completing health as a second teaching method reported significantly higher scores for low perceived than pre-service who were completing other teaching methods (Figure X.)

Table 3.

Descriptive statistics and t-test results by teaching method

Subscales	Teaching method				<i>p</i>
	Health		Other teaching		
	(n=158)		methods		
			(n=90)		
	M	SD	M	SD	
Confident interpersonal service	5.81	0.77	5.64	0.79	0.12
Sport and Physical Activity	6.05	0.83	5.87	0.96	0.13
Low perceived demand	3.78	1.14	3.43	1.00	0.02*
Role Models	5.51	1.31	5.36	1.53	0.43
Family	2.26	1.71	2.34	1.77	0.72

* $p < 0.05$

Discussion

Strong reasons for choosing to specialise in primary physical education included confident interpersonal service reasons, interest in sport and physical activity, and the influence of role models. Thus, pre-service teachers were most likely to choose the primary physical education specialisation because they wanted sport and physical activity to be part of their job, because they were confident and enjoyed helping others in a school setting, and to emulate a teacher, physical education teacher, or significant other. The importance of confident interpersonal service findings and lower importance of family and low perceived demand is consistent with research in teacher education outside of physical education, which has found perceived ability and intrinsic reasons to be important to teacher career choice and that seeing teaching as a back-up career was less important (Richardson & Watt, 2006). These findings also correspond to research in physical education, where the desire to work in a people focused occupation and help others (Dewar & Lawson, 1984), having fun at work, helping others, continued involvement in physical activity (Belka, Lawson, & Lipnickey, 1991), desires to be physically active, and the desire to coach sport (Hutchinson, 1993) have been identified as motivations for choosing a career in physical education teaching. The findings also correspond with research in physical education, which highlighted that pre-service physical education view themselves and their peers as sporty and outgoing (Spittle, Petering, Kremer, & Spittle, 2011).

Male pre-service teachers reported that low perceived demand and family were a stronger influence than females. This suggests that males expected the specialisation to be easier than other specialisations such as, creativity and the arts, home economics, humanities and social science mathematics teaching, outdoor education, and science.

There is a concern that choosing physical education for this reason, could lead to less committed teachers who are only there because they think it is easy. Future research may explore how this perception of primary physical education being easy influences learning outcomes for pre-service teachers and students, because other research in physical education has found facilitators for choosing physical education including subjective warrant, blocked aspirations, continuation, time compatibility, material benefits, and the desire to coach sport (Hutchinson, 1993; Templin, Woodford, & Mulling, 1982), which may be associated with low perceived demand.

First and second year pre-service teachers reported significantly higher confident interpersonal service, sport and physical activity, and role model influences than third year pre-service teachers. Second year students reported significantly higher family reasons than first and third year students. These findings generally suggest that teacher educators need to consider the requirements of third year students in four year Bachelor of Education course. This finding also warrants further research in teacher education to identify if there are motivational issues in third year students and, if so, what the causes are.

Low perceived demand was a stronger influence for pre-service teachers whose other teaching method was health than for those who had selected other teaching methods. This suggests that students who were also specialising in health perceived the primary physical education specialisation to be easy and to have low demands. This could be because health and physical education are now often considered to be two streams in the one discipline (ACARA, 2012), so students may think that it is like doing two methods in one, making it easier than doing two separate methods. It could also be because these students are those with the most interest in this discipline area, because they have elected to study both streams, not just health or just physical education, thus they have the most confidence in their ability to cope with the demands and view it as easier than other discipline areas.

The findings of this study have significant implications for understanding the choices and motives of those training in primary physical education. Previous research has postulated a range of reasons for pre-service teachers choosing a career in teaching (e.g., Book & Freeman, 1986; Brookhart & Freeman, 1992; Goodlad, 1984; Joseph & Green, 1986; Osguthrope & Sanger, 2013; Serow, Eaker, & Ciechalski, 1992; Watt & Richardson, 2007). Similarly, research has identified a range of reasons people choose to become physical education teachers (e.g., Dewar & Lawson, 1984; Hutchinson, 1993; Pooley, 1972; Richardson & Watt, 2005; Templin, Woodford, & Mulling, 1982). This study has identified specific reasons for choosing to specialise in primary physical education. This is important to understand because the choices of pre-service teachers towards primary physical education as a teaching method may influence the way that they approach their teaching, which should be a focus of future research.

References

- ACARA (2012). *The Shape of the Australian Curriculum: Health and Physical Education*. Australian Curriculum, Assessment and Reporting Authority. Available at: www.acara.edu.au
- Belka, D., Lawson, H. & Lipnickey, S. (1991). An exploratory study of undergraduate recruitment into several major programs at one university. *Journal of Teaching in Physical Education*, 10, 286-306.

- Book, C. L., & Freeman, D. J. (1986). Differences in entry characteristics of elementary and secondary teacher candidates. *Journal of Teacher Education*, 37, 47–51.
- Dewar, A. & Lawson, H. (1984). The subjective warrant and recruitment into physical education. *Quest*, 36, 15-25.
- Goodlad, J. I. (1984). *A place called school: Prospects for the future*. New York, NY: McGraw-Hill.
- Hutchinson, G. (1993). Prospective teachers' perspectives on teaching physical education: an interview study on the recruitment phase of teacher socialization. *Journal of Teaching in Physical Education*, 12, 344-354.
- Joseph, P. B., & Green, N. (1986). Perspectives on reasons for becoming teachers. *Journal of Teacher Education*, 37(6), 28–33.
- Lawson, J. (1983). Toward a model of teacher socialization in physical education: The subjective warrant, recruitment, and teacher education (Part 1), *Journal of Teaching in Physical Education*, 2, 3-16.
- Lortie, D. (1975). *Schoolteacher: a sociological study*. Chicago: University of Chicago Press.
- Osguthorpe, R., & Sanger, M. (2013) The moral nature of teacher candidate beliefs about the purposes of schooling and their reasons for choosing teaching as a career. *Peabody Journal of Education*, 88(2), 180-197.
- Pooley, J. (1972). Professional socialization: A model of the pre training phase applicable to physical education students. *Quest*, 18, 57-68.
- Richardson, P., & Watt, H. (2005). 'I've decided to become a teacher': Influences on career change. *Teaching and Teacher Education*, 21, 475 – 489.
- Serow, R. C., Eaker, D., & Ciechalski, J. (1992). Calling, service, and legitimacy: Professional orientations and career commitment among prospective teachers. *Journal of Research and Development in Education*, 25, 136–141.
- Spittle, M., Jackson, K., & Casey, M. (2009). Applying self-determination theory to understand the motivation for becoming a physical education teacher. *Teaching and Teacher Education*, 25, 190-197.
- Spittle, M., Petering, F., Kremer, P., & Spittle, S. (2011) Stereotypes and self-perceptions of physical education pre-service teachers. *Australian Journal of Teacher Education*, 37(1), Article 2.
- Templin, T., Woodford, R., & Mulling, C. (1982). On becoming a physical educator: occupational choice and the anticipatory socialization process. *Quest*, 34, 119-133.
- Watt, H. M. G., & Richardson, P. W. (2007). Motivational factors influencing teaching as a career choice: Development and validation of the FIT-Choice Scale. *The Journal of Experimental Education*, 75, 167–202.

SafeLanding: a defining model for addressing the barriers to teachers delivering sexuality education in schools

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The potential for schools to be effective sites for health promotion in sexual and reproductive health is affirmed by international research. Evidence supports teachers being best placed to impact on the sexual health and wellbeing of young people when a comprehensive, whole-school approach is taken linking curriculum and learning within the school environment to the wider school community.

In practice however, barriers exist to schools teaching sexuality education. These include a lack of leadership within schools, inadequate pre service training, lack of access to professional development and peer support, limited frameworks to engage community input to sexuality education programs, fear of parental criticism and a lack of skills, confidence and tools to address the sensitive and complex nature of sexuality and relationships education.

Family Planning Victoria (FPV) has developed SafeLanding to provide an evidence based model addressing the barriers schools face in teaching comprehensive sexuality education. The SafeLanding model and toolkit provide a framework for schools to deliver a whole-school learning approach to sexuality education utilising community partnerships. SafeLanding seeks to influence policy and curriculum frameworks, leadership support, teaching practices and community engagement practices within schools.

This paper will outline the SafeLanding Model and toolkit, the evidence base for the model, findings from the pilot studies and the research framework that will be used to evaluate its implementation.

Keywords: Sexuality education; capacity building; sustainable practice

Sexuality is an integral part of being human and relating with others. It has the potential to be a positive force in the lives of all young people, but if not understood it can contribute to poor life choices and health risks. Sexuality education is one way to address these health issues and the potential for schools to be effective sites for health promotion in sexual and reproductive health is affirmed by international research. However, despite a strong evidence base for the role of schools as well as excellent curriculum materials being available and strong government direction in Victoria, barriers exist which impact on teaching practice in the area of sexuality education. Family Planning Victoria (FPV) is a statewide community based health organization which has developed SafeLanding as an evidence based model addressing the barriers schools face in teaching comprehensive, sustainable sexuality education. SafeLanding provides a framework to place schools at the centre of targeted, sustainable responses to improving the sexual health literacy of children and young people.

Sexual and reproductive health is a significant health issue for young people as evidenced in the *4th National Survey of Australian Secondary Students* (Smith et al 2009). Concerns include unplanned pregnancies, rising rates of sexually transmitted infections, increasing incidence of unwanted sex and the impact of technology and social media on sexual health and wellbeing.

Schools have a central role to play in the implementation of sexual health education. The 2010 Victorian government inquiry into *The Potential for developing opportunities for schools to become a focus for promoting healthy community living* concluded that “schools represent the most effective way of universally targeting

children and young people and their families”. The report concludes that “schools can be the most stable, predictable, safe and potentially nurturing environments available for children while acting as a health resource for communities” (Parliament of Victoria 2010a).

Research conducted by UNESCO (United Nations Educational, Cultural and Scientific Organization) and presented in the *International technical guidance on sexuality education* demonstrates that the education sector and schools have a critical role in building sexual health literacy, with young people spending a large proportion of their time at school and teachers offering a respected means of delivery. It argues effective programs can reduce misinformation, increase knowledge and skills, clarify values, improve perceptions about peer group norms and increase communication with parents or other trusted adults (UNESCO 2009, p.2).

The guidelines are based on a review which considered 87 studies from around the world. Of these studies, 29 were from developing countries, 47 were from the United States and 11 were from other developed countries. All were curriculum-based programs, with 70% implemented in schools and the remainder implemented in community or clinic settings. The review examined the impact of these programs on sexual behaviours directly affecting pregnancy and the transmission of STIs. It found the majority of programs with long-term positive effects were implemented in schools, and that programs sharing key characteristics could help to delay the debut of sexual intercourse, reduce the number of sexual partners and increase the use of protection against pregnancy and STIs during sexual intercourse.

In Victoria the inclusion of comprehensive, whole-school sexuality education is firmly entrenched at a policy and curriculum level. *The Victorian Essential Learning Standards* make sexuality education a compulsory component of the health curriculum in Victorian schools from Prep to Year 10 (VCAA2007). Sexuality education is explicitly included throughout the Health and Physical Education and Interpersonal Development domains, with teachers also encouraged to adopt an integrated approach, teaching sexuality education across the curriculum.

Practice in Victorian schools is also guided by the emerging national curriculum. In 2013 the federal government is still finalizing the national curriculum with the area of sexuality education being included in the Health and Physical Education curriculum area. Early drafts look promising with the inclusion of a range of sexuality issues across most levels of schooling (ACARA 2013). The final detail will be important however, in terms of what is included and what is specifically excluded. FPV has remained closely connected to the development of the new national curriculum and has structured SafeLanding to ensure it will be consistent with it, once finalized. The next phase of the national curriculum which begins to identify relevant resources will provide an opportunity for SafeLanding to be included and made available for a broader audience.

Explicit policy guidelines regarding sexuality education are also included in the online Victorian *Schools Government and Advisory Guide* (DEECD 2013a). This resource guides schools in the management of student health and wellbeing issues, including sexual health issues. It includes information related to sexual assault, homophobic bullying and the school engagement of pregnant and parenting students. Other Victorian government policies which are explicit about guiding the practice of sexuality education include the *Supporting sexual diversity in schools policy* (DEECD 2008), the *National Framework for Education about STIs, HIV/AIDS & Blood-borne Viruses* (Australian National Council 1999), the *Health Promoting Schools Framework*

(Parliament of Victoria 2010b) and the *Victorian Equal Opportunity Act 1995* (Parliament of Victoria 1995). The Department of Education and Early Childhood Development's website also has a section *Catching On-line* (DEECD 2013b) which provides information on sexuality education teaching and learning resources for Victorian primary and secondary schools. All materials recommended on the website support a "comprehensive, whole-school learning approach to sexuality education" as advocated by the Victorian government.

In Victoria, the provision of school-based sexuality education does not reflect this formal policy context. The practice reality in schools is much more diverse with the work achieved at government level not always reflected in the work undertaken by schools. FPV refer to this as "the practice gap". No formal audit of school provision of sexuality education in Victoria has been undertaken so it is difficult to make firm conclusions. However in FPV's experience sexuality education provision in Victoria is hugely diverse in terms of how well it is delivered. FPV receives a large number of calls each year requesting our educators to deliver school sessions or for advice from schools keen to begin establishing sexuality education programs. In almost all instances, the requests represent an appeal by schools and teachers for FPV to undertake essential program work they do not feel equipped to do on their own. Rarely are we alerted to programs which exemplify a best-practice whole-school approach.

This practice gap clearly demonstrates that more is required for Victorian schools to become effective sites for sexual health promotion. As a health promoting agency whose core business is sexuality education, FPV is concerned about this gap and has set out to address the barriers to effective delivery of sexuality education with the development of SafeLanding.

The SafeLanding model evolved from a 2003 project aimed at equipping local primary schools in a rural part of Victoria, to build and conduct sustainable, comprehensive sexuality education programs. The project was called the Bass Coast project and was initiated by the Department of Education and Early Childhood Development (DEECD) in collaboration with Family Planning Victoria (FPV), Deakin University and the San Remo Community Health Centre.

Primary schools in the Bass Coast region had traditionally relied on the community health centre to provide a sexuality education program for their students. As a result of changing strategic priorities, the centre was unable to continue to deliver this education to local schools and a number of the schools requested assistance from the DEECD. Professional learning for the teachers was delivered by FPV in line with findings from a teacher needs analysis developed by Deakin University (Leahy, D., Horne, R., & Harrison, L 2004). The needs analysis also identified a number of barriers to sexuality education which included perceived parental opposition to sexuality education, a lack of confidence in teachers' capacity and suitability to teach sexuality education, a lack of clearly articulated sample programs or classroom activities and competing curriculum demands. These barriers are consistent with those identified in the *First National Survey of Secondary Teachers of Sexuality Education* (Smith, A., Schlichthorst, M., Mitchell, A., Walsh, J., Lyons, A., Blackman, P., & Pitts, M. 2011) conducted by the Australian Research Centre of Sex, Health and Society. Teachers in this survey particularly highlighted the lack of specialist training and competing curriculum and time demands as the most significant barriers they faced.

The professional development component of the Bass Coast project set out to address these identified concerns by providing local data and other evidence to

counteract the misinformed views that parents opposed sexuality education and that teachers were not best placed to teach it, up-to-date specialist knowledge on sexuality education, sample programs and classroom activities, opportunities to practice conducting these activities to build confidence and ongoing specialist support using a collaborative approach with local community health organisations.

Deakin University was commissioned to conduct an impact evaluation for the Bass Coast region in 2003. The evaluation sought to determine whether the professional development had contributed to improving levels of confidence, comfort, knowledge and skills amongst teachers, and in turn, to more effective program delivery. The evaluation found that the professional development program created a profound shift in attitudes and confidence levels of teachers, and demonstrated the program had scope to be adapted as a model (Leahy et al 2004).

There were also significant shifts in terms of how teachers conceptualised the field of sexuality education. After the professional development, all interview participants were able to articulate the importance of the classroom teacher being central to the development and implementation of sexuality education programs. When discussing the role of outside agencies, the language had shifted and it was clear that teachers were aware that outside organisations could contribute to a school program, but essentially the classroom teacher should play the central role. This is in line with central policy recommendations of the DEECD and the evidence base around sexuality education.

The Bass Coast project was later replicated by FPV in the Portland, Bayside Central and Wyndham regions of Victoria, at the request of schools in these regions. Each region adapted the model to suit their particular needs, capacity and resources.

In each region, a needs analysis was conducted before the program commenced. Similar barriers to providing sexuality education were consistently identified including a lack of specialist knowledge, a lack of clearly articulated sample programs, a lack of sample classroom activities and practical teaching resources and competing curriculum and time demands.

Subsequent regions who delivered the Bass Coast Project did not receive funding to allow for impact evaluation. However in 2009, FPV funded a range of research activities to evaluate the success of the Bass Coast Project in enabling teachers to deliver sexuality education in their classrooms. The research, conducted by Deakin and Southern Cross universities, also sought to determine the project's outcomes, evaluate the project's strengths and weaknesses, and make recommendations as to any changes needed to adapt the program as an effective capacity building model.

Data was compared across all four regions that had implemented the Bass Coast Project. The research included process, impact and outcome evaluations and a comparative study of the parent needs analyses (Leahy n.d). The variability of data and methodology used across the regions made it difficult in some instances to draw effective comparisons. However, the questions sought similar feedback and therefore themes and trends were able to be identified.

Overall results supported the findings of the initial impact evaluation from the Bass Coast region. The data found a key impact of the approach was to shift the beliefs and attitudes of teachers while providing them with the skills and knowledge to deliver a comprehensive sexuality program. Figure 1 below outlines teacher belief regarding the impact of the Bass Coast intervention:

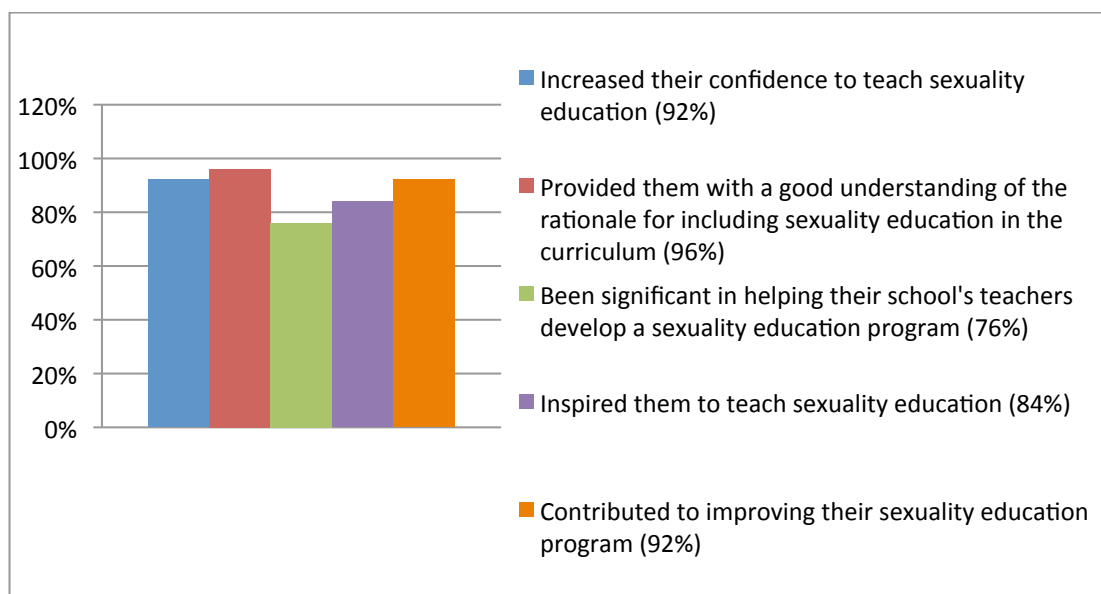


Figure 1

In addition, the data identified a number of key issues. These included that the sustainability of the model was limited largely due to teacher movement. In the region which allowed longitudinal data to be compared, only 5 of the original 17 teachers remained at the same school six years on. Only 3 of these 5 teachers were still teaching at the same year level. This was in stark contrast to the fact that 15 of the 17 teachers in this region had implemented programs in their schools in the first year following the professional development program. Many schools had in fact reverted back to using an outside expert to deliver sexuality education when they lost key trained teachers.

The lack of a whole-school approach also impacted on the sustainability of the model. The data identified that it was imperative to provide a model which ensures that sexuality education is entrenched in the school at a systems level using a whole-school approach. This is in line with government policy and broader shifts within the education sector as part of the *Health Promoting Schools Framework* and the whole-school approach to health issues.

Leadership support was found to be a crucial enabling factor in the school setting. Schools that continued to offer sustainable programs were most often those with strong management support. Leaders played a central role in supporting adequate curriculum time and professional learning for teachers. When key leaders changed many schools lost their impetus for teaching sexuality education.

Finally, the need for further resources for sexuality education delivery and a lack of assessment and reporting tools were identified as being necessary for the implementation of comprehensive sexuality education. Whilst there were a number of excellent curriculum resources available, the majority of these were aimed at middle-upper secondary level. At the time of the evaluation there were no sexuality curriculum materials available that were mapped against the *VELS* across all levels of primary and secondary education.

To this end, FPV developed SafeLanding to respond to the barriers and other issues identified in the evaluation findings and the wider evidence base on sexuality education. SafeLanding aims to build school and sector capacity in a partnership approach to developing the sexual health literacy of children and young people.

SafeLanding consists of a model which provides a framework for schools to implement whole-school learning in sexuality education. The model is supported by professional learning for teachers and community partners and a toolkit of practical tools and classroom resources.

The SafeLanding model is based on internationally accepted health promotion principles and has a number of critical factors that respond to the international evidence base which outlines best practice in sexuality education. These factors include adopting a whole-school approach, incorporating leadership training, ensuring there is a process in the approach to mentor and train new teachers in an ongoing way, extending the original model to be used in secondary school settings and the development of improved classroom programs and resources.

The SafeLanding model responds on a number of levels to the challenge of building sustainable practice in this area of the curriculum. The professional learning emphasises the importance of adopting a whole-school approach to ensure that sexuality education is implemented at a systems level within the school. This is supported by a number of practical tools in the SafeLanding toolkit to ensure this happens. These tools include a whole-school audit, a number of resources to engage parents around sexuality education and templates to use when establishing community partnerships. The aim is to ensure a sexuality education program is embedded into school policy, curriculum and practice and is supported by the whole school community.

The concept of champions is a crucial one in health promotion literature and is central to the success of the SafeLanding model. Champions act as agents of change who embrace the challenge of driving whole-school implementation of sexuality education. SafeLanding recognises the enabling capacity of these individuals and their role in engaging key stakeholders at a regional or local level. The SafeLanding model utilises champions at both a school and community level to support the delivery of school-led sexuality education and the implementation of the SafeLanding model.

SafeLanding is designed to meet the workforce development needs of school communities in building the sexual health literacy of their students. It is characterized by three key phases of scoping and planning, implementing and reviewing and revising:

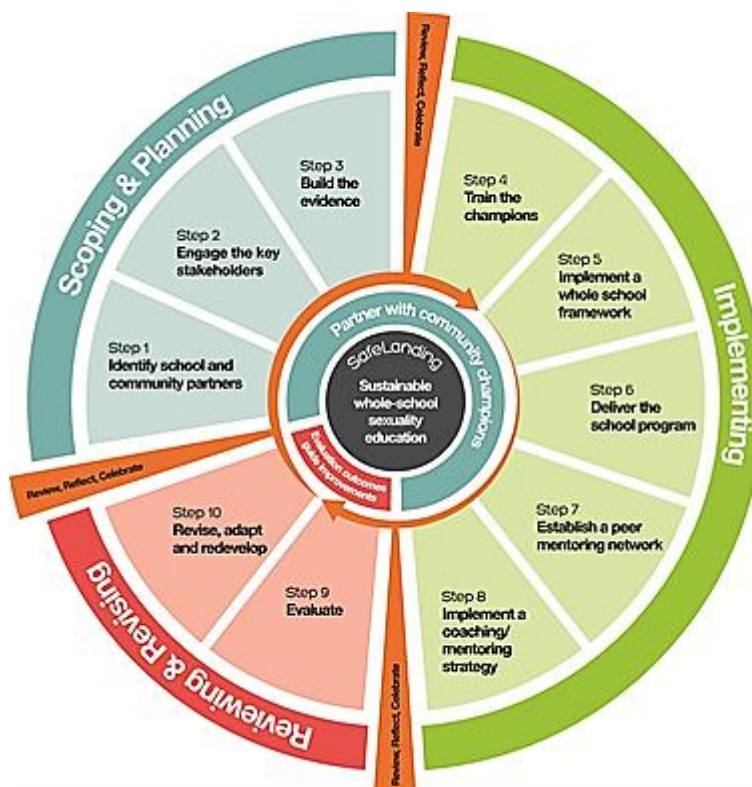


Figure 2: The SafeLanding model

As outlined in this paper, the SafeLanding Model is underpinned by internationally accepted health promotion principles and the evidence base identifying what constitutes sound practice in sexuality education.

The framework of our research on SafeLanding is also informed by the evidence base relating to effective school-based sexuality education programs and the view that an understanding of sexuality is fundamental to developing the skills required to maintain optimal sexual and reproductive health.

Our evaluation framework seeks to establish baseline data so that over time we can track changes in perceptions, attitudes and practices that occur after the implementation of SafeLanding. The findings will provide feedback into the barriers and facilitators faced by regions when implementing sustainable sexuality education. The findings will also inform future involvement with parents, teachers and community workers in rolling out SafeLanding across Victoria.

In evaluating the SafeLanding Model we will focus on the impact in relation to four broad participant groups:

- Parents – a survey will be provided to parents to explore their beliefs and attitudes about sexuality education including the topics that should be covered and when, whose responsibility it is to teach their child sexuality information, and their familiarity and satisfaction with current school sexuality education arrangements.
- Teachers – an online survey will be used to establish baseline data including teacher confidence, comfort and perceived capacity to teach sexuality education, as well as briefly explore any current policies and/ or teaching practices.

- Community workers – an online survey will be used to establish baseline data including their beliefs on what topics should be covered in sexuality education and when, as well as briefly exploring the recent history of sexuality education within regions and what they perceive to be barriers and facilitators.
- Champions (School and Community) – a survey will be used to establish baseline data about the recent history of sexuality education within regions, current barriers and facilitators and future plans in place.

The findings of this SafeLanding evaluation will be instrumental in providing further evidence around what constitutes good practice in the delivery of sexuality education. Family Planning Victoria looks forward to sharing the findings more broadly with the sector and to contribute to the evidence base around how schools, in partnership with their local communities, can champion the effective delivery of sexuality and relationships education in Victorian schools.

References

- ACARA: Australian Curriculum, Assessment and Reporting Authority. (2013). *Revised Australian curriculum: Health and Physical Education: Foundation to Year 10*. Retrieved from http://www.acara.edu.au/verve/_resources/Revised_HPE_curriculum_for_publication_on_ACARA_website_-_FINAL.pdf
- Australian National Council on AIDS, Hepatitis C and Related Diseases. (1999). *Talking sexual health: National framework for education about STIs, HIV/AIDS and blood-borne viruses for secondary schools*. Retrieved from <http://www.latrobe.edu.au/arcschs/downloads/arcschs-research-publications/TSHframework.pdf>
- Department of Education and Early Childhood Development. (2013a). *School Policy and Advisory Guide*. Retrieved from <http://www.education.vic.gov.au/school/principals/spag/Pages/spag.aspx>
- Department of Education and Early Childhood Education. (2013b). *Sexuality education*. Retrieved from <http://www.education.vic.gov.au/school/teachers/teachingresources/social/physd/pages/sexualityed.aspx>
- Department of Education and Early Childhood Development. (2008). *Supporting sexual diversity in schools*. Retrieved from <https://www.eduweb.vic.gov.au/edulibrary/public/teachlearn/student/supportsexualdiversity.pdf>
- Leahy, D. (n.d.) *The Bass Coast model: compilation of process evaluations from across regions for Family Planning Victoria* (Unpublished report). Southern Cross University, Lismore, NSW.
- Leahy, D., Horne, R., & Harrison, L. (2004). *Bass Coast sexuality education project: Needs analysis and professional development evaluation report*. Retrieved from <https://www.eduweb.vic.gov.au/edulibrary/public/teachlearn/student/basscoastfinalreport.pdf>
- Parliament of Victoria. (1995). *Equal Opportunity Act 1995*. Retrieved from http://www.legislation.vic.gov.au/domino/Web_notes/LDMS/LTObject_Store/L

- TObjSt2.nsf/d1a8d8a9bed958efca25761600042ef5/b0c98922c32e73a2ca257761001fb804/\$FILE/95-42a059.pdf
- Parliament of Victoria. Education and Training Committee. (2010a). *Inquiry into the potential for developing opportunities for schools to become a focus for promoting healthy community living*. Melbourne: Parliament of Victoria.
- Parliament of Victoria. (2010b). *The health promoting schools framework*. Retrieved from http://www.parliament.vic.gov.au/images/stories/committees/etc/SH_Report/Ch2_HPS_framework.pdf
- Smith, A., Agius, P., Mitchell, A., Barrett, C., & Pitts, M. (2009). *Secondary students and sexual health 2008: Results of the 4th national survey of Australian secondary students, HIV/AIDS and sexual health*. Melbourne: La Trobe University.
- Smith, A., Schlichthorst, M., Mitchell, A., Walsh, J., Lyons, A., Blackman, P., & Pitts, M. (2011). *Sexuality education in Australian secondary schools: Results of the 1st national survey of Australian secondary school teachers of sexuality education 2010*. Retrieved from http://www.latrobe.edu.au/__data/assets/pdf_file/0018/135450/SexEducationinAustSecondarySchools2010-1-5-2011.pdf
- UNESCO. (2009). *International technical guidance on sexuality education*. Retrieved from <http://unesdoc.unesco.org/images/0018/001832/183281e.pdf>
- VCAA: Victorian Curriculum and Assessment Authority. (2007). *Victorian Essential Learning Standards*. Retrieved from <http://pandora.nla.gov.au/pan/129125/20121206-0015/vels.vcaa.vic.edu.au/index.html>

TGfU-GS: an imagined dialogue between a teacher and an academic

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This paper comprises an imagined dialogue between a teacher and an advocate of other alternatives to what has been described as a “traditional method” of teaching characterised by an academic. Drawing on research by Green (1998, 2000, 2002) that physical education (PE) teachers operate from an “everyday” philosophy, and not curriculum or pedagogical models, this paper proceeds from the premise that competing descriptions of PE teaching found in the literature, and its applications are problematic to the physical educator. The nature of the problem exists within the school environment because teachers do not necessarily see or want to see the same boundaries between pedagogical models as researchers do as theory generators (Green, 2000; Stolz & Pill, 2013). Subsequently, the intent of the imagined dialogue is to recapture some of the conceptual confusion and uncertain nature of various teaching approaches used in PE in a format that is engaging to the reader and deliberately controversial in order to generate further discussion and research surrounding games and sport pedagogy in PE.

Keywords: Teaching games for understanding (TGfU); game sense (GS); teaching; physical education (PE); research

Introduction

It has been recognised that the teaching of games for understanding (TGfU) (Bunker & Thorpe, 1982a, 1983) and its subsequent developments have captured academic interest, but “the rationale seems to have passed by practitioners without any major effect [because] TGfU currently thrives in only a few areas where the practitioners are faithful to the original approach” (Almond, 2010, p. vii). TGfU has been particularly advocated as a superior alternative (Kirk, 2010; Metzler, 2011; Tinning, 2010) to what has been referred to as a “traditional method” (Hoffman, 1971; Kirk, 2010; Metzler, 2011; Tinning, 2010). However, internationally the critical literature has shown that many physical education (PE) teachers have not changed the way that they teach (see for example Capel, 2005; Evans et al., 1987; Kirk, 1993, 2010) for a variety of complicated reasons. For instance, Armstrong and Sparkes (1991) and Jewett et al. (1995) emphasised that teachers are resistant to change when they believe that the specific alternative is in some way incompatible with their own beliefs about what they think PE ought to be, particularly when they believe that their students will not benefit in any way from the alternative. It is interesting to note that recent research by Pill (2011) highlighted that the use of small-sided modified games and the use of questioning was not distinctive of a TGfU-Game Sense approach, but considered to be good pedagogical practice for sport and sport related games teaching. This paper will focus on TGfU as the Australian development Game Sense (GS) (den Duyn, 1996; 1997; Thorpe, 1997) as it is most relevant to the geographical context of this paper as the version of TGfU most common in Australian games teaching and coaching scholarly literature. As GS developed from the earlier TGfU ideas (Light, 2013) the acronym TGfU-GS has been adopted for this paper to signal this relationship.

Although there is a diverse array of approaches available to teachers in PE the effectiveness of different approaches to teaching exists in a highly contested terrain (see for example Rink, 2001). Indeed, research by Curtner-Smith (1999) indicated that the

teaching approach adopted by teachers' is influenced by their perceptions of what they think PE ought to be. Likewise, decisions about which approaches to adopt are possibly more likely to be ideological in nature (Green, 1998, 2000, 2002) and not a choice based on empirical-scientific evidence. Furthermore, part of the reason why teachers' ideologies appear at times, somewhat confused and contradictory owes much too competing nuanced descriptions and interpretations of essentially the same curriculum and pedagogy (Stolz & Pill, 2013).

This paper comprises an imagined dialogue between a critic played by a teacher and an advocate of other alternatives to the "Traditional Method" (TM) of teaching. The paper consists of four sections: The catalyst: What is the problem?; What about skill acquisition and development?; Conceptual confusion; and, The problems of "applied theory": From theory into practice. The "teacher" disparages ideas of a normative pedagogical model for games teaching as illogical to the way teachers work because good pedagogical practice (or "best practice"), – although grounded in academic or theoretical research – to the teacher is not always required for effective teaching. Consequently, this has led to the teacher becoming sceptical about the value of theory and the role theory can play in improving educational practice.

It will be argued that good pedagogical practice is grounded in a body of theory because teacher practitioners need to be able to give a principled account of what they are doing, and also why they are doing it. However, the paper concludes with agreement that games teaching cannot be defined by a knowable sequence, as it is multi-dimensional and fundamentally entangled with interactive relationships engaging embodied and situational constraints. It is argued that TGfU-GS is a process and not a procedural "blueprint" that can be blindly followed. Furthermore, it is proposed that it is necessary to distinguish between the academic idea of TGfU-GS and the concept itself. Hence, it is important to note that PE teachers approach the reality of the classroom not as an abstract concept, but as practically acting agents according to time, space, place and other people in order to bring about particular ends and interests within situated complex social relations (Kosik, 1976).

Why a narrative format?

The origin of this paper has emerged from various discussions with undergraduates, practitioners and colleagues that often deviate to conversations about the uncertain nature of various teaching approaches used in PE. This has subsequently resulted in many in-depth conversations over the years between the authors surrounding TGfU-GS and its various iterations. Therefore, the intent of the imagined dialogue is to recapture some of the central themes discussed over the years in a format that is engaging to the reader and deliberately controversial in order to generate further discussion and research surrounding games and sport pedagogy in PE.

The use of a narrative connects strongly with the growing interest in qualitative social science mechanisms used to investigate conceptual debates (see for example Jones, 2007) and how educational (Clough, 2002) or sporting (Sparkes, 2002) issues can be told using narrative and fictional approaches which are researched informed.

The imagined dialogue

An academic from a university, is on a scheduled visit to a secondary school to see a pre-service teacher (the name of "John" is a pseudonym) who is on practicum. After the

initial meeting with John, the academic and the supervising mentor begin an informal conversation about some of the teaching approaches that John has used whilst on practicum. From the academic's perspective it is quite obvious that the experienced supervising teacher is quite sceptical and even critical of some the teaching approaches adopted by John.

The catalyst: What is the problem?

Whilst walking through the gymnasium to the whole school staff room.

TEACHER: John tells me that he uses a TGfU-GS approach in his teaching and that you talk a lot about its educational benefits at university compared to the TM, which is more likely to be discussed critically.

Maybe, you can help me to understand something? The problem I have is that they all involve teacher use of small sided games, game related practices or play practices and guided inquiry, making them all seem the same.

ACADEMIC: What do you mean that they are "all the same"?

TEACHER: I have heard academics at conferences and other teachers talk about TGfU-GS, but to me they all seem the same. So I guess you could say that I am wondering: What is the difference between TM to teaching games and sport and other approaches like TGfU, GS and so on in PE for games and sport teaching?

ACADEMIC: The TM is a term given to the "common" approach historically adopted by PE teachers and sports coaches. The TM can be summarised by the acronym "DEP": "D" for demonstration, "E" for explanation, and "P" for practice, in linear sequence of application (Tinning, 2010). Central to DEP is a pedagogy characterised by maximum teacher control over what is to be taught, how it is to be taught, and how it is to be evaluated (Tinning, 2010). Other authors describe the traditional directive or behaviourist approach to PE teaching as "the physical education method" (Metzler, 2011) or "PE-as-sport-techniques" (Kirk, 2010). Activities were simplified and "bit-by-bit" progressively reassembled. Teaching moved in a linear progression from closed-to-progressively more open game environments, or simplicity towards complexity. From a pedagogical perspective, a linear progressive-part approach was normative. From a skill learning theory perspective, "noise" was reduced so the beginner could focus on the cues that were "important". The result was a technical emphasis preceding a tactical emphasis as it was presumed that the technique had to be learnt before tactics could be taught. These ideas were evidenced as a practice-before-play lesson plan.

TEACHER: How is TGfU-GS different, if it is different at all?

ACADEMIC: Teaching games for understanding (Bunker & Thorpe, 1982a, 1983), which is commonly referred to by its acronym "TGfU", brought together a number of pedagogies into a "pedagogical model" (Pearson & Webb, 2008). The TGfU model suggested tactical understanding and game appreciation before technique development in a game-centred lesson plan (Hopper et al., 2009) (see Figure 1). The model also foregrounded student understanding by guided discovery of target concepts and movement solutions as teachers question players in preference to telling (Hopper, 1994; Hopper & Kruisselbrink, 2001; Pill, 2008a). From a pedagogical perspective, a whole-part-whole approach was described in so far as teaching progressed from a game to practice and then back to game play. From a skill learning theory perspective this alternative operated from the idea that games may be simplified, but retain the principles of play and "internal logic" (Grehaigue, Wallian, & Godbout, 2005) still representative of the more complex "full rules". The idea of progressing from tactics to skill was not new,

however, the coherent organisation of pedagogy into a student-based games teaching approach for secondary PE was new (Hopper, Butler & Storey, 2009).¹

TEACHER: What about the GS approach John uses? How is this approach different from the TGfU I have heard other academics talk about?

ACADEMIC: It is important to note that GS builds on the original TGfU model by “incorporating more than the original teaching games for understanding” (Thorpe, 2001, p.27). GS contained a specific educational intent on developing a certain kind of student performer, a “thinking player” (den Duyn, 1997). The idea of TGfU has however developed since Bunker & Thorpe (Bunker & Thorpe, 1982) edited the special edition of the Bulletin of Physical Education that “launched” TGfU in PE (Bunker & Thorpe, 1982b). The Tactical Games approach (TGA) (Griffin et al., 1997) from America and GS (Charlesworth, 1993; den Duyn, 1996, 1997; Thorpe, 1997) from Australia are possibly the most recognised developments of the original TGfU model in Australia.

What about skill acquisition and development?

Whilst standing in the staff room.

TEACHER: Thanks for outlining some of these theoretical differences for me, but one thing is still bugging me. For instance, when observing John’s classes of TGfU-GS I have noticed that students that do not have a certain level of skill and ability find it difficult to participate because they simply cannot catch and throw in some cases. So what’s the point of using a TGfU-GS approach when students’ need a level of skill before they can competently participate in game play (Ward, 2012)? In a way game play before skill acquisition to me seems metaphorically speaking, like putting the cart before the horse.

ACADEMIC: This is a good question. Two items arise in response to the metaphor. Firstly, how one defines “skill” is important because in a traditional “technical” model, skill is a motor pattern (Curry & Light, 2007; Kirk & MacPhail, 2002; Morris, 1988). In a TGfU-GS model, “skill” is a performance measure in context. That is, skill is the observed response providing an effective solution to the momentary problem emerging from the dynamics of play. The behaviour is not separate from the context within which the behaviour occurs as there is an information-movement coupling inherent in the production of the movement. Furthermore, the training of a technique separate to the play of the game implies there is an ideal solution (single motor pattern) – a technique (Chow, Davids, Button, & Shuttleworth, 2006; Davids, Button & Bennett, 2008). This is not an assumption accepted when a TGfU-GS model is looked at from the dynamic systems perspective as a non-linear pedagogical approach (Chow et al., 2006). The reality is technical diversity. For example, in cricket there may be as many as 2,592 technical variations to bowling a cricket ball possible within the laws of the game (Ferdinands, 2013). Secondly, the statement appears to make presumptions about the definition of play. For instance, “play” to a novice might look like a simple drill where to someone with well-developed expertise because the game-structure and game-play constraints are not challenging enough to bring about game learning (Storey & Butler, 2010).

Conceptual confusion

TEACHER: Earlier you mentioned the concept of a “linear” approach in TGfU-GS, but Bunker & Thorpe’s (1982) original model is circular? Likewise, if the traditional and TGfU approaches are linear, what is the difference, if any?

ACADEMIC: Bunker & Thorpe’s (1982) model is diagrammatically presented as circular (see Figure 1), but proceeds in linear fashion through six sequential steps, 1-to-6. As mentioned earlier, it has also been described as tactic-before-technique because of the sequential nature of the steps. In this way it is still linear. Similar, the traditional PE method has been characterised as technique-before-tactics (Mitchell, Oslin & Griffin, 2006).

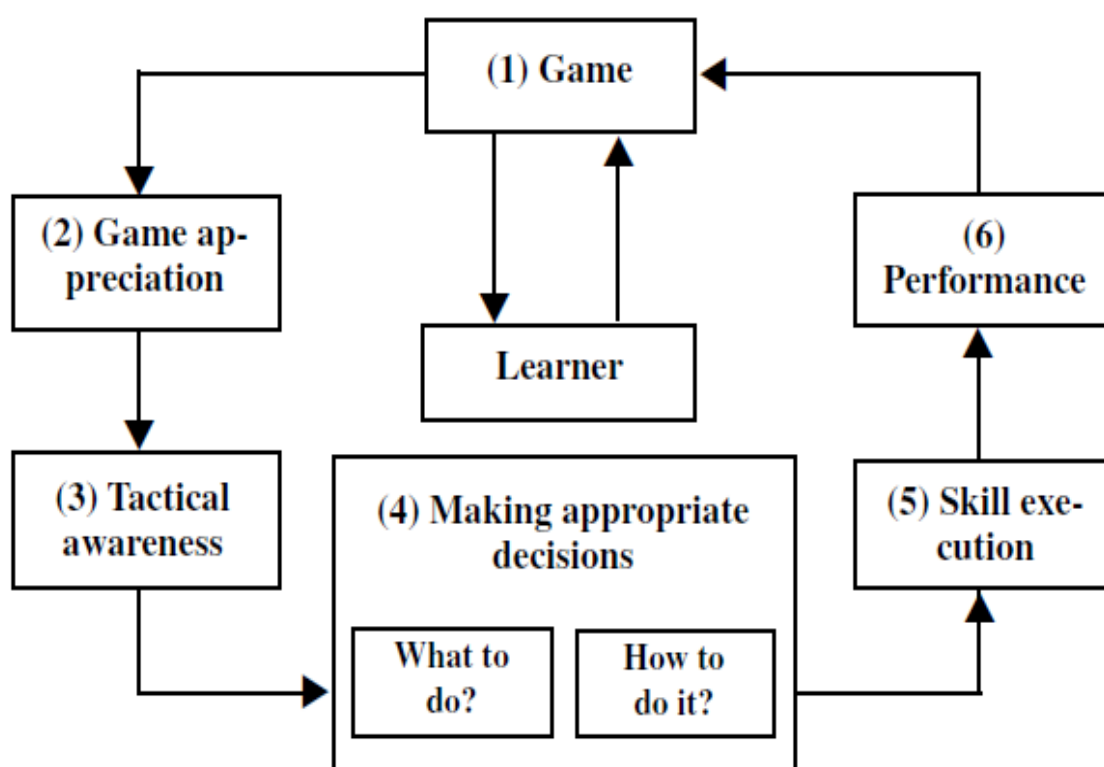


Figure 1: The teaching games for understanding model (taken from Bunker & Thorpe, 1982)

To the teacher, the difference between traditional and TGfU, if any, appears substantially in the learning order. Game understanding before technique in TGfU, compared with technique before game understanding in a TM that assumes motor pattern development precedes play. GS, on the other hand, appears to emphasise a more iterative sense of skill learning consistent with dynamic systems thinking and non-linear pedagogy as it did not separate movement performance from its context in defining skill; technique + game context = skill (den Duyn, 1997).

Perhaps, TGfU-GS’s particularity is best captured in the phrase associated with GS – “*developing thinking players*” (den Duyn, 1997), as it contrasts to the mechanical emphasis of the “sport-as-techniques” accent of traditional games teaching (Kirk, 2010).

TEACHER: I notice that there is an emphasis upon “linear” or “non-linear” approaches to pedagogy. Why? Surely, “linear” and “non-linear” explanations are overly simplistic descriptions of the complex and sometimes chaotic nature of movement environments.

ACADEMIC: Non-linear is a phrase emerging from dynamic systems theory for skill learning (Edwards, 2011) and fits comfortable with your description of the PE teaching context as complex and sometimes chaotic. Dynamic systems theory and ecological models, such as constraints-led coaching (Davids et al., 2008), capture the complex and sometimes seemingly chaotic nature of movement environments in their explanation of skill learning. Dynamic systems theory provides a theoretical description that accounts for the momentary dynamics of play and the role of cognition in the execution of functionally effective movements in ever-changing game environments. As for the idea of non-linear pedagogy (Chow et al., 2006), this pedagogical concept attempts to capture the complexity of skill teaching as an iterative process and less a “blueprint” of formulaic steps.

The problems of “applied theory”: From theory into practice

TEACHER: As a teacher I don’t see the same nuanced demarcations as you do between TGfU-GS and TM to teaching in PE. To be honest sometimes they appear overly theoretical, and I don’t see the TGfU-GS framework or any other approach as being a superior alternative because I consider they incorporate simply good pedagogical practice for sport related game teaching (Pill, 2011). This is why my own teaching approach is a hybrid selected from the “smorgasbord” that has come about through trial and error. I am confused by competing descriptions of TGfU (see for example, den Duyn, 1997; Grehaigne et al., 2005; Mitchell et al., 2006; Launder, 2001; Pill, 2007; Stolz & Pill, 2013) vying for space and advocating their own emphasis. For example, the Queensland Studies Authority (QSA) HPE sourcebook modules for developing skills and strategies for soccer (QSA, 1999) cites the TGA (Griffin et al., 1997; Mitchell et al., 2006), whereas, the New South Wales PDHPE Curriculum Support Service (1999) cites GS. This confusion is magnified by differing approaches to teaching in PE that claim to be superior to other approaches, but at the same time each approach seems to be competing against each other, complicating understanding of each approach and its practical implications (Stolz & Pill, 2013).

ACADEMIC: The developments in TGfU since 1982 (Bunker & Thorpe, 1982) address theoretical and practical “gaps” in the original TGfU description. For example, GS (den Duyn, 1996, 1997; Thorpe, 1997) took TGfU from PE into the field of sport coaching and described a product (GS) of teaching sport for understanding. The pedagogical description of GS is, for all intents and purposes, identical to the recent constraints-led practice emerging from dynamic systems theory. The TGA explained how TGfU pedagogy could be applied at different stages of the continuum of sport learning in PE through a description of levels of tactical complexity. The TGA also added the Games Performance Assessment Instrument (GPAI) as a tool for game performance data collection (Griffin et al., 1997; Mitchell et al., 2006) that measures game understanding.

Even though a “theory-practice” gap between academic or theoretical research may appear at times due to teachers connections to particular notions or ideological themes about the value and necessity of PE (such as, “fun”) (Green, 2000), we shouldn’t lose sight of the fact that teachers need to be able to give a principled account of what they are doing, and also why they are doing it. However, in saying this we also need to be cognisant that good pedagogy is simply not a matter of blindly applying a body of

theory, or a theoretical model into practice without making any necessary modifications according to the contextual situation. Understandably, confusion occurs when teachers have not been successful in implementing theory into their practice, and hence why teachers become quite critical of theory in their everyday practice.

Whilst leaving the staff room.

Unfortunately, I will have to leave it there as I'm late for a meeting back at university.

Conclusion

By using a narrative style, this paper has highlighted the tension that can exist between theory generation and theory application in the “natural” setting (Brooker et al., 2000) of the PE learning context. By exploring what “sits behind” one of the original TGfU authors call to revisit and rethink the TGfU premise (Almond, 2010) our intent was to take up this challenge by generating further discussion and research surrounding games and sport pedagogy in PE so that pedagogy is a central and practical issue for PE in Australia. We hope to encourage further research in the “pedagogue tradition” (Bishop, 1992) that are exploratory in nature and capture concerns with classroom practicalities (Pill, 2008b) surrounding the application of theory in the natural setting of the PE class.

It has been acknowledged that, TGFU internationally, and GS in Australia, has not been as well accepted by PE teachers as it has by academics. In setting up the narrative, competing descriptions of PE design and enactment are positioned as problematic to the physical educator within the school environment because teacher practitioners do not necessarily see, or want to see the same boundaries between teaching theories and pedagogical models as researchers do as theory generators (Green, 2000; Stolz & Pill, 2013).

Although accepting that strongly held ideologies of PE teachers (such as, the premise of the importance of “fun” in PE) influence their everyday practice, the notion of “fun”, “enjoyment” and so on as a fundamental aim of PE is problematic because pleasure in isolation is not normally regarded as something of educational value. Generally, it is educationally more acceptable that “fun” and “enjoyment” are the by-products of good teaching in PE as opposed to the primary intent of teaching as these are notoriously allusive entities to achieve. We argued that PE teachers should be able to give a principled account of what they are doing, and why they are doing it, particularly the justifications for their curriculum design and enactment beyond calls to convention or perceptions of normative practices. To this end, our intent was to highlight some of the theoretical problems of applying TGfU-GS in teaching contexts in order to generate further discussion, and research surrounding games and sport pedagogy in PE.

Notes

1. Mauldon & Redfern (1969) described a new approach to primary school games teaching that incorporated similar pedagogical features and conceptual emphasis as TGfU.

References

- Almond, L. (2010). Forward: Revisiting the TGfU brand. In J. Butler & L. Griffin (Eds.), *More teaching games for understanding: Moving globally* (pp. vii–x). Champaign, IL: Human Kinetics.
- Armstrong, N., & Sparkes, A. (1991). *Issues in physical education*. London: Cassell.

- Bishop, A. (1992). International perspectives on research in mathematics education. In D. Grouws (Ed.), *Handbook of research in mathematics teaching and learning* (pp. 710–723). New York, NY: MacMillan.
- Brooker, R., Kirk, D., Braiuka, S., & Bransgrove, A. (2000). Implementing a game sense approach to teaching junior high school basketball. *European Physical Education Review*, 6(7), 7–26.
- Bunker, D., & Thorpe, R. (1982a). A model for the teaching of games in secondary schools. *Bulletin of Physical Education*, 18(1), 5–8.
- Bunker, D., & Thorpe, R. (Eds.). (1982b). Reflecting on the teaching of games [Special issue]. *Bulletin of Physical Education*, 18(1).
- Bunker, D., & Thorpe, R. (Eds.). (1983). Games teaching revisited [Special issue]. *Bulletin of Physical Education*, 19(1).
- Butler, J. (2006). Curriculum constructions of ability: Enhancing learning through teaching games for understanding (TGfU) as a curriculum model. *Sport, Education and Society*, 11(3), 243–258.
- Capel, S. (2005). Teachers, Teaching and Pedagogy in Physical Education. In K. Green & K. Hardman (Eds.), *Physical Education: Essential Issues* (pp. 111–127). London: SAGE.
- Charlesworth, R. (1993). *Discussion topic: Designer games*. Paper presented at the Hockey Level 3 National Coaching Accreditation Scheme (NCAS). Conference. Canberra, ACT: Australia.
- Chow, J., Davids, K., Button, C., & Shuttleworth, R. (2006). Nonlinear pedagogy: A constraints-led framework for understanding emergence of game play and movement skills. *Nonlinear Dynamics, Psychology and Life Sciences*, 10(1), 71–103.
- Clough, P. (2002). *Narratives and fictions in educational research*. Buckingham: Open University Press.
- Curry, C., & Light, R. (2007) *Addressing the NSW Quality Teaching Framework in physical education: Is game sense the answer?* Proceedings for the Asia Pacific Conference on Teaching Sport and Physical Education for Understanding (pp. 7–19). Retrieved from: http://sydney.edu.au/education_social_work/professional_learning/resources/papers/Proceedings_TGfU_06_AsiaPacificSport.pdf
- Curtner-Smith, M. (1999). The more things change the more they stay the same: Factors influencing teachers' interpretations and delivery of National Curriculum Physical Education. *Sport, Education and Society*, 4(1), 75–97.
- Davids, K., Button, C., & Bennett, S. (2008). *Dynamics of skill acquisition: A constraints-led approach*. Champaign, IL: Human Kinetics.
- den Duyn, N. (1996). Why it makes sense to play games. *Sports Coach*, Spring, 6–9.
- den Duyn, N. (1997). *Game Sense – Developing thinking players workbook*. Canberra, ACT: Australian Sports Commission.
- Edwards, W. (2011) *Motor learning and control: From theory to practice*. Belmont, CA: Wadsworth Cengage Learning.
- Evans, J., Lopez, S., Duncan, M., & Evans, M. (1987). Some thoughts on the political and pedagogical implications of mixed sex grouping in the PE curriculum. *British Educational Research Journal*, 13(1), 59–71.

- Ferdinand, R. (2013). *Biomechanics and the art of bowling*. Retrieved from http://www.coachesinfo.com/index.php?option=com_content&view=article&id=280:introduction&catid=84:cricket-bowling&Itemid=159
- Green, K. (1998). Philosophies, ideologies and the practices of physical education. *Sport, Education and Society*, 3(2), 125–143.
- Green, K. (2000). Exploring the everyday ‘philosophies’ of physical education teachers from a sociological perspective. *Sport, Education and Society*, 5(2), 109–129.
- Green, K. (2002). Physical education teachers in theory figurations: A sociological analysis of everyday ‘philosophies’. *Sport, Education and Society*, 7(1), 65–83.
- Grehaigne, J.F., Wallian, N., & Godbout, P. (2005) Tactical decisions learning model and student’s practices. *Physical Education and Sport Pedagogy*, 10(3), 255–269.
- Griffin, L., Mitchell, S., & Oslin, J. (1997). *Teaching sport concepts and skills: A tactical games approach*. Champaign, IL: Human Kinetics.
- Hoffman, S.J. (1971). Traditional methodology: Prospects for change. *Quest*, 23(1), 51–57.
- Hopper, T. (1994). Can we play the game? *Runner*, 32(2), 21–22.
- Hopper, T., Butler, J., & Storey, B. (2009). Simply good pedagogy: Understanding a complex challenge. In T. Hopper, J. Butler & B. Storey (Eds). *TGfU...simply good pedagogy: Understanding a complex challenge* (pp. 1–7). Ottawa: Physical Health Education Association.
- Hopper, T. & Kruisselbrink, D. (2001). Teaching games for understanding: What does it look like and how does it influence student skill acquisition and game performance? *Journal of Teaching Physical Education*. Retrieved from: <http://web.uvic.ca/~thopper/articles/JTPE/TGFU.htm>
- Jewett, A., Bain, L., & Ennis, C. (1995) *The curriculum process in physical education* (2nd ed.). Madison, WI: Brown & Benchmark.
- Jones, R. (2007). Coaching redefined: an everyday pedagogical endeavour. *Sport, Education and Society*, 12(2), 159–173.
- Kosik, K. (1976). *Dialectics of the concrete: A study of problems of man and the world*. Dordrecht, Holland: D. Reidel Publishing Company.
- Kirk, D. (1993). *Defining physical education: The social construction of a school subject in post-war Britain*. London: The Falmer Press.
- Kirk, D. (2010). *Physical education futures*. London: Routledge.
- Kirk, D. & MacPhail, A. (2002). Teaching games for understanding and situated learning: Rethinking the Bunker-Thorpe model. *Journal of Teaching in Physical Education*, 21(2), 177–192.
- Lauder, A. (2001). *Play Practice: The games approach to teaching and coaching sport*. Adelaide: Human Kinetics.
- Light, R. (2013). *Game sense: pedagogy for performance, participation and enjoyment*. New York, NY: Routledge.
- Mauldon, E., & Redfern, H. (1969). *Games teaching: A new approach for the primary school*. London: MacDonald and Evans.
- Metzler, M. (2011). *Instructional models for physical education* (3rd ed.). Scottsdale, AZ: Holcomb Hathaway.

- Mitchell, S., Griffin, L., & Oslin, J. (2006). *Teaching sport concepts and skills: A tactical games approach*. Champaign, IL: Human Kinetics.
- Morris, T. (1998). Teaching games for understanding: Its contribution to the knowledge of skill acquisition from a motor learning perspective. *European Journal of Physical Education*, 3(1), 65–74.
- New South Wales Government. (1999). *Game sense approach to practical lessons*. Retrieved from: http://www.curriculumsupport.education.nsw.gov.au/secondary/pdhpe/assets/pdf/pa_002.pdf
- Pearson, P., & Webb, P. (2008). *Developing effective questioning in teaching games for understanding (TGfU)*. 1st Asia Pacific Sport in Education Conference: Ngunyawaiendi Yerthoappendi Play to Educate, Adelaide, 21, January 2008.
- Pill, S. (2007). *Play with purpose*. Adelaide: ACHPER Australia.
- Pill, S. (2008a). Teaching games for understanding. *Sport Coach*, 29(2). Retrieved from: http://www.ausport.gov.au/sportscoachmag/coaching_processes/teaching_games_for_understanding
- Pill, S. (2008b). A teachers' perceptions of the sport education model as an alternative for upper primary school physical education. *Healthy Lifestyles Journal*, 55(2/3), 23–30.
- Pill, S. (2011). Teacher engagement with teaching games for understanding - game sense in physical education. *Journal of Physical Education and Sport* 11(2), 115–123.
- Queensland Studies Authority (QSA). (1999). *HPE source book modules: Skills and strategies for soccer*. Retrieved from: <http://www.qsa.qld.edu.au/747.html>
- Rink, J. (2001). Investigating the assumptions of pedagogy. *Journal of Teaching in Physical Education*, 20, 112–128.
- Sparkes, A. (2002). *Telling tales in sport and physical activity: A qualitative journey*. Champaign, IL: Human Kinetics.
- Stolz, S. A., & Pill, S. (2013). Teaching games and sport for understanding: Exploring and reconsidering its relevance in physical education. *European Physical Education Review*, DOI: 10.1177/1356336X13496001.
- Storey, B., & Butler, L. (2010). Ecological thinking and TGfU: Understanding games as complex adaptive systems. In J. Butler & L. Griffin (Eds.), *More teaching games for understanding: Moving globally* (pp. 139–154). Champaign, IL: Human Kinetics.
- Thorpe, R. (1997). We love the games, but when do we teach technique? *Sports Coach*, 20(2), 4–5.
- Thorpe, R. (2001). Rod Thorpe on teaching games for understanding. In L. Kidman (Ed.), *Developing decision makers: an empowerment approach to coaching* (pp. 22–36). Christchurch, NZ: Innovative Print Communications.
- Thorpe, R., Bunker, D., & Almond, L. (1986). *Rethinking games teaching*. Loughborough, UK: Loughborough University of Technology.
- Tinning, R. (2010). *Pedagogy and human movement: Theory, practice, research*. London: Routledge.
- Ward, G. (2012). Games in the primary school: They can't catch so what's the point in teaching them to play?. In G. Griggs, (Ed.), *An Introduction to Primary Physical Education* (pp. 68–107). London: Routledge.

A case study of a Queensland Senior Physical Education syllabus: does the rubber (ever) meet the road?

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This paper will explore statements in the Senior Physical Education Syllabus (2004) and inconsistencies in terminology and concepts that have been identified. In 1998 the Board of Senior Secondary Schools Studies (now known as the Queensland Studies Authority) published the Queensland Senior Physical Education Syllabus. The QSA is “a statutory body of the Queensland Government” (QSA, 2013) which provides for “kindergarten to Year 12 syllabuses, guidelines, assessment, reporting, testing, accreditation and certification services for Queensland schools” (QSA, 2013). At the time of publication the Queensland Senior Physical Education Syllabus was credited with being ‘unique’ and it was suggested that “there is very little else currently underway in the English- speaking world to match developments in Queensland” (Penney and Kirk, 1998, p. 43). Whether this syllabus would translate into workable document for teachers, students and district panellist’s (individuals who ensure consistency of standards and work programs throughout the state of Queensland) was another matter. This paper will review literature to evaluate Queensland Senior Physical Education Syllabus themes such as: the intelligent performer, suggesting and naming six specific teaching styles to be used; integration of theoretical subject matter and physical performance; learning in, about and through physical activity; and, assessing higher order thinking skills (HOTS) such as *evaluating*. It was these concepts that led Penney and Kirk (1998) to form the view that the Senior PE syllabus was innovative and cutting edge. Issues and concerns raised from this analysis will be discussed in the context of the Queensland Senior Physical Education Syllabus (2004) and the role of teachers in implementing a syllabus document which may be perceived to be based on some contentious or imprecise concepts and ideas. A doctoral study on teaching styles by SueSee (2012) highlighted the need to explore these aspects. If syllabus documents are built on concepts which could be ill-defined then it may be argued that student results will be produced which are open to uncertainty. A discussion of, and detailed scrutiny of syllabus planning and implementation issues and concerns, is important as Australia moves towards the implementation of a national syllabus document for HPE. This discussion to be undertaken will be based on research by SueSee (2012) and through experiences of a teacher of senior physical education for 19 years. This presentation seeks to highlight aspects related to the underlying assumptions of syllabus documents and their actual implementation and educational outcomes.

Keywords: critique; physical education; curriculum; pedagogy

Introduction

The Queensland Senior Physical Education Syllabus (from this point referred to as the QSPES) is a fundamental document relevant to the teaching of physical education in the Australian state of Queensland. The QSPES (1998) underwent its first rewrite in 2004 and in 2010 a further re-write of the syllabus was produced and implemented into Queensland schools in 2011. The QSPES (2004) had numerous concepts that while innovative they were questionable in their application and definitions. The first of these that will be discussed centres around the concept of integration and the intelligent performer. This integration of physical activity and theoretical knowledge learning experiences is “central to the construction of meaning in physical education” (Queensland Studies Authority, 2004, p. 2). The 2004 QSPES was chosen as it was the current syllabus document when the study was being undertaken.

The Intelligent Performer

The intelligent performer is a key concept of the 2004 QSPES. This concept derives from work by Kirk (1983) where he suggested that intelligent performance would require “a high level of dexterity, and be so effective in relation to a particular sports situation” (p. 43). He proposed that the second part of intelligent performance would require “that the performer has intended to act in this way and not in another, and on the basis of his actions, his own repertoire of skills, and the immediate circumstances of the game” (p. 43).

The *rationale* of the QSPES (the 2004 edition will be referred to for this paper at all times unless otherwise specified) states that physical education involves the study of physical activity and engages “students as intelligent performers learning in, about and through physical activity” (QSA, 2004, p. 5). The terms (*in*, *through* and *about*) are based on Arnold’s (QSA, 2004) three dimensions of movement that acknowledges that the dimensions “are not mutually exclusive but overlap and interrelate with each other” (QSA, 2004, p. 1). It is suggested by the QSPES (2004) that it is the integration of the three dimensions that are “central to the construction of learning experiences in physical education” (QSA, 2004, p. 1). These integrated learning experiences will generate intelligent performers capable of “rational and creative thought at a high level of cognitive functioning” (QSA, 2004, p. 5) and will involve “students as decision makers engaged in the active construction of meaning through processing information” (QSA, 2004, p. 5). From these definitions it can be seen that the QSPES (2004) was significantly influenced by aspects of Kirk (1983) and Arnold’s (1985) work with regards to the two concepts outlined.

The concept of the intelligent performer also has some overlap within the Global Aims section of the QSPES (2004) which lists a range of characteristics of a person who may be considered physically educated. In particular, two of the Global Aims seem to indicate an intelligent performer could use knowledge of their past performance to improve their future performance. Two of the Global Aims suggest that a student should:

“demonstrate the ability to select and use information in order to evaluate and enhance learning in, about and through physical activities” and “demonstrate the application and evaluation of movement concepts and principals to performance in physical activities” (QSA, 2004, p. 4).

This reference to using information and the application of movement means the student must already have this knowledge to use it or apply it. Consequently, this means the student will recall this knowledge from *memory*. Presuming this is a *memory* task then it is not higher order thinking (or a high level of cognitive functioning) as defined by the QSPES (2004), as creative thought is not demonstrated. The alternative concept to accept is that the earlier definition is not correct and *evaluating* can be undertaken using *memory* as well as *creativity*, and completed in a new environment. This ambiguity of terms must be questioned as these two assumptions cannot be accurately assessed by the QSPES (2004) criteria. An examination of literature from the field of cognitive psychology would shed more light on this seemingly contradictory terminology contained within the QSPES (2004).

Masters, Poolton, Maxwell, and Raab (2008) taught two novice groups a table tennis shot explicitly or implicitly. Explicit training was considered to be step-by-step

instruction about movement patterns, while implicit training was done by providing analogical instruction (e.g., “swing your racquet in an arc”). The researchers found two interesting results that would seem to contradict what it means to be physically educated in QSPES (2004) terms.

First, when participants were asked to perform in a time constrained environment (i.e., little time to perform a skill and make a decision) those that had been instructed implicitly showed “characteristics that normally are not evident in perception-action behaviour until the performer is much farther along the road to expertise” (Masters et al., 2008, p. 78). The second interesting result was that “analogy learning resulted in less movement-related knowledge than did explicit learning, suggesting that a smaller amount of movement information was accessible to working memory for online control of movement” (Masters et al., 2008, p. 76). Put simply, learners who were taught with an analogy did better learners taught explicitly in performing a table tennis skill and decision at the same time. Yet they knew less about explicit knowledge “relevant to the mechanics of the movements” (Masters et al., 2008, p. 76). So while the implicit or analogy group performed better, they knew less about the mechanics of their movements. Ironically, if assessed by the QSPES (2004), they would be termed to be less physically educated as they would not be able to “use information in order to evaluate and enhance learning in, about and through physical activities” (QSA, 2004, p. 4). If we accept this information and its ramifications for skill learning it can be argued that the concept of the intelligent performer is as defined by the QSPES (2004) needs closer examination.

Similarly, Howard and Howard (1992) required participants to observe a screen divided into four equal sections. An asterisk would appear in one of the sections on the screen. Under each of these four equal sections was a key. The task required the participant to press the key corresponding to the position of the asterisk as quickly as possible. The position of the asterisk was following a complex pattern. The participants showed evidence of learning the pattern as their response speed improved over time. However, when they were asked to predict where the asterisk would appear next, their performance was not indicative of knowing explicitly.

From this research it appears that there could very likely be students in physical education classes that appear able to learn and perform skills, yet are unable to explain concepts or lack the ability to speak about the knowledge that was used in performing a skill. This phenomenon clearly contradicts and questions the concept of the *intelligent performer* being “analysts, planners and critics in, about and through physical activity” (QSA, 2004, p. 1).

Any syllabus built around such foundations will most likely find difficulty in its application, teaching, implementation, and assessment. It can be argued that if these three principles are cornerstones of the QSPES (2004), and they are ill-defined, contradictory and questionable, then it is quite likely that teachers will display difficulty in applying it, teaching it and assessing it. If a syllabus document is not clear about what it aims to do, how to do it, and how to assess its educational objectives, then its outcomes will not be what it originally desired.

Range of Teaching Styles

Another innovative aspect of the QSPES (2004) was that it suggested the use of specific teaching styles to be used to assist in the achievement of educational objectives. The QSPES (2004) calls for “a range of pedagogical approaches, for example, guided

discovery, inquiry, cooperative learning, individualised instruction, games for understanding and sport education” (QSA, 2004, p. 28). While it is suggested in the QSPES (2004) to use such teaching styles, it also presumes that teachers will know when to use these in terms of meeting the *general objectives*. There is also a presumption that the styles suggested by QSPES (2004) are appropriate. Literature relating to teaching styles from Mosston and Ashworth’s *Spectrum of Teaching Styles* (2002) will be examined and used to make such judgments. The *Spectrum of Teaching Styles* has been selected for a few reasons. The *Spectrum of Teaching Styles* has had almost fifty years of research and refinement conducted on it. Cothran, Kulinna, Banville, Choi, Amade-Escot, Macphail, Macdonald, Richard, Sarmiento, & Kirk (2005) describe the Spectrum of Teaching Styles (Mosston & Ashworth, 2002) as “arguably the most pervasive influence on the international field of physical education pedagogy” (p. 194). Similarly, Arti (1995) suggested that “No single book has been translated into more languages, been used by more teachers and teacher educators, and endured so long in our field” (p. 421). Within the field of physical education no other model of teaching styles has been so thoroughly researched or has been scrutinised as intensively or for as long. It now has widespread acceptance (though not always with good understanding) in field of physical education and it allows for a conciseness in defining the differences in the anatomy of every teaching style outlined. The differences are determined by “who makes which decision about what and when” (Mosston & Ashworth, 2002, p. 20).

The first teaching style that the QSPES (2004) suggests should be used is *Guided Discovery*. Whether or not this is Mosston and Ashworth’s (2002) *Guided Discovery Style-Style F* is not specified however this lack of clarity is a recurring theme in parts of the QSPES (2004). According to Mosston and Ashworth (2002) *Guided Discovery Style-Style F* is a style characterised by the logical and sequential design of questions that lead the student to discover a predetermined concept, principle or relationship. It is the first style from the *production* cluster meaning that it is the first time that the learner or student will be producing knowledge which is new to the learner. From these characteristics (producing new knowledge) it can be concluded that this style would be appropriate for teachers who are designing learning experiences that allow the student to demonstrate behaviour or thinking that would fall under the *general objective* descriptors for *evaluating* in the QSPES (2004). Whether or not this is what the QSPES (2004) is suggesting is not clear, but it would seem from Mosston and Ashworth’s (2002) definition that it is not appropriate for reproducing knowledge and therefore not suitable for the QSPES (2004) general objective of *acquiring*.

Inquiry is the next teaching style suggested by the QSPES (2004) that would be of use in creating appropriate learning experiences. Like many of the teaching styles suggested by the QSPES (2004) it does not define what it is, suggest when to use it or, which of the *general objectives* it would be appropriate for. Similarly, the QSPES (2004) presumes that teachers know what inquiry teaching is and have a shared understanding of it. This ambiguous use of the term is common according to Mosston and Ashworth (2002) who suggest that:

this pedagogical term is inconsistently used in the literature and the classroom. Some examples of inquiry teaching (based on the decision and content design) represent the Practice style (guided practice), while others are examples of a divergent process representing either the Practice style or the next style-Divergent Production. Since the general term inquiry does not indicate a specific cognitive operation, it could apply to many different teaching-learning behaviours. (p. 222)

Cuevas, Lee, Hart, and Deaktor (2005) suggest, with regards to inquiry learning, that it is difficult if not impossible to give a definition that is commonly accepted. Considering this it seems unlikely that teachers of QSPES (2004) would have their own common definition of what inquiry learning is.

The QSPES (2004) also suggests that learning experiences should draw on the pedagogical approach known as *cooperative learning*. As with many teaching styles, it is difficult to find a definition that is consistent in meaning. For example, Johnson and Johnson (2001) define cooperative learning as “the instructional use of small groups so that students work together to maximise their own and each other’s learning” (p. 455). Similarly, Shoval (2011) suggests that it is children in small groups being “asked to perform external interactive activities, such as performing experiments, demonstrating ideas to their peers, helping each other and talking to each other” (p. 453). As with the two previously mentioned teaching styles, there is a lack of clear definitions regarding the suggested teaching styles in the QSPES (2004), no explanation given for this teaching style and no suggestion is given for which *general objective* it can be used for. Mosston and Ashworth (2002) offer their thoughts on the use of this term in such a manner when they suggest that “the label ‘cooperative learning’ does not carry a fixed decision structure; therefore, the decision within the group situations must be determined before learning conclusions can be made” (p. 111). Again it appears that the writers of the QSPES (2004) presume a shared common definition and understanding of teachers’ knowledge about when to use such styles, how to use them and which *general objectives* they are appropriate for. Quite clearly a theme has been identified here where clarity of definitions is needed but unfortunately lacking.

Poorly Defined Criteria and Contradiction of Integration

The third general objective *evaluating* is defined by the QSPES (2004) as “the ability to evaluate knowledge, understandings, values, attitudes, capacities and skills in, about and through physical activity” (QSA, 2004, p. 6). In contrast, Bloom defines it:

as the making of judgments about the value, for some purpose, of ideas, works, solutions, methods, materials, etc. It involves the use of criteria as well as standards for appraising the extent to which particulars are accurate, effective, economical or satisfying. The judgments may be either quantitative or qualitative, and the criteria may be either those determined by the student or those which are given to him. (Anderson & Sosniak, 1994, p. 25)

That there are differences between definitions between the two documents is not so unusual. Other definitions of *evaluation* have developed over the years to attempt to explain the functions that take place when a person attempts to *evaluate*. For example, Halpern (1996) believes “evaluation is also a creative act because the problem solver must be able to recognise when a good solution has been obtained” (p. 372). At other times evaluation has been closely linked to critical thinking. Again Halpern (1996) posits:

When we think critically, we are evaluating the outcomes of our thought processes-how good a decision is or how well a problem has been solved. Critical thinking also involves evaluating the thinking process-the reasoning that went into the conclusion we’ve arrived at or the kinds of factors considered in making a decision. (p. 5)

Once again another discrepancy between cognitive definitions of evaluating emerges. This definition does not refer to *creativity*, but rather more to *memory*, as the thinker or student is doing this thinking after the event. This concept or definition of *evaluation* as requiring *creativity* or original thought is also suggested by others. For example, Maier (Lewis & Smith, 1993) “used the terms reasoning or productive behaviour in contrast with learned behaviour and reproductive behaviour” (p. 132). He believed that learned behaviour came from “contiguous experiences with previous repetitions of the relationships involved in the learned behaviour pattern” (Lewis & Smith, 1993, pp. 132-133). Conversely reasoning or productive behaviour is behaviour integrations that are made up of two or more isolated experiences that are qualitatively different: “they arise without previous repetition and consequently are new. This constitutes reasoning” (Lewis & Smith, 1993, p. 133). Newman (1990) also makes clear distinctions between lower and higher order thinking by defining lower order thinking as “only routine or mechanical application of previously acquired information such as listing information previously memorised and inserting numbers into previously learned formulas” (Lewis & Smith, 1993, p. 133). Higher order thinking was different in that it “challenges the student to interpret, analyse, or manipulate information” (Lewis & Smith, 1993, p. 133). An interesting point is advanced by Newman (1990) when he suggests that “higher order thinking is relative – a task requiring higher order thinking by one individual may require only lower order thinking by someone else” (in Lewis & Smith, 1993, p. 134). Lewis and Smith (1993) extend on this point further by declaring:

whether or not an activity requires higher order thinking will depend upon the intellectual history of the learner. If it is possible for a learner to achieve his or her purpose through recall of information and without the need to interrelate or rearrange this information, then higher order thinking does not occur. (p. 136)

The QSPES (2004) does not attempt to distinguish between such points as whether the knowledge is new or original for the student in its definition of *evaluating* (QSA, 2004, p. 6), or if the learner has had previous intellectual history with the task. When the exit criteria matrix is examined (QSA, 2004, pp. 54-55) the concepts of new or unrehearsed contexts is introduced. A point worthy of note is that the exit criteria sheet only applies this concept (of the student having to perform in a new or unrehearsed context) to the physical performance and not the written work or *Focus Areas*. The *Focus Area* is sometimes referred to as the *theory* work. This difference in assessing *evaluating* in two different ways is not explained in the QSPES (2004). Why performing a motor program in a new or unrehearsed environment is of paramount importance for achieving an ‘A’ or ‘B’ standard in one situation yet not when *evaluating* an application of principles or facts not relevant in another is contradictory. This difference suggests that, with regard to the Focus Areas, *evaluating* is allowed to involve recall of known information or the evaluation of known facts or concepts and is by definition a task which requires memory. The QSPES (2004) does it justify or explain why this is. Neither of these terms are mentioned in the descriptors for an ‘A’ or ‘B’ standard with regard to *evaluating* when the QSPES (2004) exit criteria is examined for assessing the *Focus Area*. It can also be suggested that by having these two different assessment criteria for the same cognitive process or General Objective contradicts the concepts of the intelligent performer and that the concept of using a cognitive taxonomy descriptor for a motor-learning behaviour is evidence of the QSPES (2004) writers struggling with this concept. The point has previously been made that higher order thinking (including

evaluating) is contextual and, if the *evaluating* of a situation has been done previously, and the student is asked to perform such a task repeatedly, it becomes recall. If *evaluating* is performed as described then it has become a *memory or reproduction* task and not a new task. Therefore *evaluating* (HOTs) can be both done as both *reproduction* and *production* thinking.

Evaluating and the QSPES simple and complex performance environments

The QSPES (2004) does not attempt to distinguish between such points as to whether the knowledge is new or original, or if the learner has had previous intellectual history with the task, in its definition of *evaluation* (QSA, 2004, p. 6). However, when the QSPES (2004) speaks about Simple and Complex Performance Environments (used to assist teachers to decide on the exit level of achievement or grade for students), it does allude to some of the above concepts. For example it speaks about *simple environments* as:

a rehearsed, practised or mainly uncomplicated circumstance in which students experience opportunities to apply skills, tactics and strategies, and the outcomes are predictable and decisions making is limited. In this environment the student will have more space and time to make a few simple decisions. These skills, tactics and strategies may include a basic drill, a drill completed slowly, a limited number of skills, a single strategy or no opposition could all be qualities of a simple performance environment. (QSA, 2004, p. 28)

The concept of *predictability* is not only established here, but also the part it plays in apparently limiting decision making. Something is usually predictable due to the situation being experienced before. That is, there must be memory of an event occurring for an individual to predict with any kind of certainty what will happen. If the prediction is not based on memory (or thought) then it must be considered luck to an extent and the QSPES (2004) does not assess luck. With reference to rehearsal, it can be argued that something has been practiced over and over, or rehearsed. These two concepts, along with the mention of limited decision making, imply the learner's cognitive operation is *memory* when performing in a simple performance environment.

One issue that arises with the definition of *predictability* is what is simple to one person is not simple to another. The simplicity or complexity is contextual or relative to the learner and is based on the learner's experience, practice or skills that they possess at the time. The concept is similar to the view held by Lewis and Smith (1993) on higher order thinking being contextual. These skills become simpler the more they are practiced and if they are already known or mastered. If this notion is accepted then the environment also becomes a more simple performance environment as it becomes more predictable. Based on this assumption, it is not surprising that a teacher may create opportunities to practice a skill over and over until it becomes automated and predictable, and the learner will be required to use little or no decision making in what the QSPES (2004) would still term new or unrehearsed environments. To create these opportunities the teacher would more than likely use teaching styles from the *reproduction* cluster, where the learner will be asked to reproduce knowledge or skills. This point clearly illustrates a problem with the QSPES (2004) definition of complex performance environment.

Predictability

The concept of predictability and how it is increased is also related in some capacity to becoming a skilled performer. It can be suggested that a skill becomes predictable or increases in predictability when it is practised over and over so that the outcome becomes more certain. It can be argued that predictability is not always associated with how complex the environment or skill is, but is also associated with how skilled the performer is and their previous experiences that will impact on this. A skill or performance environment can still be considered complex, yet be simple or predictable to a highly skilled individual who has practised the skill to reach a high level. If the learner has practised the skill (or skills) over and over, then they are now recalling the movement from *memory*. If this argument is accepted, then it may be ironic to conclude that a tennis player playing in the Wimbledon final may be in a simple environment due to them practising their skills so often. What may be equally ironic is the answer to the following rhetorical question; *'If a student comes to a Queensland Senior Physical Education class as a National level athlete, will the assessment piece really only be a simple environment to them due to their exceptionally high skill level developed through repetition of skills and environments over and over'*? The answer to this question seems to be a 'Yes'. Hay (2008) found this was occurring when, during an interview with a teacher about assessment, the following comment was recorded:

Yeah, well, his general range of skills was very well developed right from the start. He could accurately set, dig and spike without any tuition from me ... He knew when to play the different shots and he was very strategically aware of...at a reasonably high level. I wouldn't say he was outstanding in that area, but he was certainly at a level which was an 'A' standard according to the criteria of this course. (p. 290)

However, if the teacher had read the QSPES (2004) criteria sheet they would have been faced with a dilemma. The descriptors for the *evaluating* learning objective refer to "new or unrehearsed contexts" (QSA, 2004, p. 55). Yet if this student was already at such a high level, it may appear almost impossible for the teacher to create such contexts to assess the student under.

What is confusing though is that more can be ascertained from the definition of a *simple performance environment*, about whether or not *memory* is involved, than can be construed from the definition of a *complex performance environment*. For example, a *complex performance environment*:

Is one in which students are required to make decisions to changing or new circumstances. It is often a new or unrehearsed situation and in these contexts students are expected to apply knowledge, tactics and strategies in which outcomes cannot always be predicted. A complex performance environment is a "real-life" situation and may include competitive circumstances. (QSA, 2004, p. 28)

At an initial glance of this definition the first line mentions that it is changing or new circumstances that define a *complex performance environment*. This is another poorly termed and confusing definition. Changing circumstances does not necessarily connote that the learner must use *discovery* or *creativity* (production of new knowledge) in this process. It may require the learner to use these two conscious thought processes. Conversely, it may also not require the learner to use them. An environment may change but if the student has witnessed the change before then it is more likely that they

can predict what will happen (from *memory*) and will not draw on *discovery* or *creativity* to deal with the change. Nevertheless new circumstance certainly does mean that the learner will be required to draw on the conscious thought process of *discovery* or *creativity* in such an environment as they have not seen it or experienced it before, hence why it can be defined as new. It can be seen that this definition of a *complex performance environment* is contradictory or poorly defined. Throughout the QSPES (2004) the definitions provided for this *complex performance environment* constantly swap or overlap between referring to *memory* (i.e., *changing* or *often new*) and *discovery* or *creativity* (*new circumstances* or *unrehearsed*) to define what it is assessing and how specific standards or *general objectives* will look.

The 'New' QSPES (2010)

The current version of the Queensland Senior Physical Education Syllabus (QSPES) was published in (QSA, 2010) and with it comes some noticeable changes. Firstly, the exit criteria become renamed as *dimensions*. The four dimensions remain as *acquiring*, *applying*, *evaluating* and *attitudes and values* (QSA, 2010). Many of the issues identified in this paper have been addressed in some capacity by the revised syllabus document – to the credit of the QSA. Most noticeable is that the terminology new or unrehearsed performance environments have been removed from the standards matrix and from the QSPES (2010). Gone also is a section explaining what constitutes a *complex performance environment*. The removal of the terminology new or unrehearsed means that *discovery* and *creativity* are no longer necessary to be used as the conscious thought process within the exit dimensions (criteria in the 2004 QSPES) of *evaluating*. Similarly the exit standards (previously exit criteria in 2004 QSPES) reflect this new focus by now describing the standards associated with an 'A' level in *evaluating* as:

The student work has the following characteristics:

- consistent and discerning reflection and decision making that enhances physical responses and outcomes in or about authentic performance contexts
- consistent and effective initiation of change or modification of personal and/or team strategies to solve problems in or about authentic performance contexts (QSA, 2010, p. 31).

It seems that the term *complex performance environments* have been replaced with the terminology authentic performance context (QSA, 2010, p. 31). These are defined as “contexts that are applicable to the performance of that activity” (QSA, 2010, p. 35). The way that *evaluating* is defined remains largely unchanged from the QSPES (2004). This definition is congruent with recognising the cognitive operation of *evaluating* can be completed with *memory* as the conscious thought process. All of these changes make the 2010 definition in the QSPES regarding *evaluating* more congruent than the 2004 QSPES. It may be confidently suggested that many of the changes to the QSPES (2010) took place because of feedback from practising physical educators and the research based arguments outlined in this paper.

Whilst it appears a number of the 'mistakes' or weaknesses with regards to terminologies in the 2004 QSPES were addressed in the 2010 version others were not. Unfortunately, shadows of the inconsistencies in terminology remain with regards to *evaluating* and the QSPES (2004) requiring *discovery* and *creativity* to be used or assessed. In the physical performance section of the 2010 QSPES it suggests that “performances involve the creative input of students and the application of technical skill in solving a problem or providing a solution” (QSA, 2010, p. 25). Similarly, in a

sample assessment unit for year 11 Aerobics provided by the QSA, the task asks the students to:

Create a 90 second Sport Aerobics routine to your selection of one Sport Aerobics music track of 152–155 beats/minute. The complete performance should reproduce the compulsory elements (high kicks, push-ups and jumping jacks) and skill elements (static strength, power, flexibility and dynamic strength) within the time and space (7x7m) constraints of a Sport Aerobics routine. (QSA Appendix, 2010, p. 1)

If the criteria or descriptions in the standards matrix (QSA, 2010) are examined there is no descriptor that allows *creativity* (meaning the production of new knowledge to the student) to be assessed. Equally, the task asks for reproduction (third line) to be used which requires *memory* as the conscious thought process. Clearly there is still some confusion with cognitive terminology or intent.

Although the focus of this paper is the inconsistencies in terminologies and concepts in the QSPES (2004) it is useful to briefly examine the national curriculum document being developed to see if it displays similar issues. It appears that the same confusion regarding cognitive intent may be seen in the descriptors for the broad learning sequence of the Australian Curriculum: Health and Physical Education. One descriptor for physical activity requires that:

Students learn to be creative in the way that they adapt and improvise their movements to respond to different movement situations, stimuli and challenges (for example changes in rules, change in music, restrictions in performance space, changes in equipment or number of performers) (ACARA, 2012).

Is this descriptor requiring students to only be creative when they adapt and improvise (meaning that the student produces new knowledge) or are they permitted to adapt and improvise with a known strategy (i.e., recalling from memory)? The Australian Curriculum: Health and Physical Education does elaborate by suggesting that:

[it] provides learning opportunities that support dance-making, games creation and technique refinement. Students will develop an understanding of the importance of the processes of creating movement in developing new thinking and feelings about movement (ACARA, 2012, pp. 25-26).

The fact that it alludes to new thinking is a positive sign. How accurately this is assessed with regard to new thinking being the defining characteristic of creativity remains to be seen. Although the national curriculum document is revealing with regards to including creativity as a characteristic of a physically educated person it can be argued that unless terminologies and concepts are specific and clearly defined teachers may not end up assessing what the syllabus writers had hoped for – a situation similar to that which occurred with the QSPES (2004).

In returning the focus to the 2004 QSPES a key aspect that was examined was the suggested teaching styles (i.e., guided discovery, inquiry, cooperative learning, individualised instruction, games for understanding and sport education) that were outlined. In the 2010 QSPES none of these styles are suggested (let alone expected) and the syllabus document instructed teachers to refer to the QSA website for examples of learning experiences. When the on-line material is consulted the QSA website still does not suggest any specific teaching style. It does suggest that a physical performance

involves “creative input of students and the application of technical skill in solving a problem or providing a solution” (QSA, 2010, p. 25). How this is accomplished is not suggested however if creative input is alluding to the production of new knowledge, then Mosston and Ashworth (2002) would argue that teaching styles from the production cluster must be used.

All syllabus documents, it is hoped, evolve over time and perhaps during the development of the 2010 QSPES it was realised by the authors of the document that some concepts were no longer relevant or were in fact causing problems similar to those discussed in this research. Perhaps the changes occurred because the syllabus writers were aware that some aspects raised here were contradictory, vague, confusing or led to assessment outcomes which may not have been equitable. While at this point it is easy to suggest that the QSPES (2010) has moved forward it is important to consider why lessons should be learnt. While the 2004 QSPES created a platform for the 2010 QSPES many students who studied under this syllabus document were awarded grades which contributed to university scores. From what has been raised here and by others (Hay, 2008) it is fair to argue that the consistency and equity of these results (under the 2004 QSPES) across the state are questionable. Similarly it does allow teachers to question the authority of organisations which are put in charge of upholding standards and writing syllabus documents such as the QSA. It may be suggested that while some of the questionable aspects of the 2004 QSPES have been addressed some teachers may feel inclined to wonder why we should believe that you have written a sound document this time.

Conclusion

While viewed positively by some (Kirk & O’Flaherty, 2004; Macdonald & Brooker, 1997a, 1997b,) the QSPES (2004) has, according to Hay (2008), been the focus of little research with regards to its claims, ambitions and actual implementation at the classroom level. This paper has addressed how well some of its claims, ambitions and principles are questionable. Hay’s (2008) research on the process teachers engage in to assess their students’ ability in senior physical education in Queensland clearly highlighted this questionable nature when he suggested that “students’ achievements were influenced by the use of alternative criteria and standards” (p. 306). It could be argued that, if the QSPES was asking teachers to assess with the contradictory and ambiguous concepts and principles outlined in this paper, is the outcome that Hay (2008) describes surprising?

With the ACARA board announced in May 2009 and with Maths F-10, History F-10, English F-10 and Science F-10 already being implemented in 2013 and 13 more syllabus documents to come, what processes are in place to ensure similar questionable documents, definitions and principles do not emerge? To write and implement syllabus documents in this time period seems a hasty process.

The intent of this paper was to analyse the QSPES (2004) in detail and to ascertain what it is advocating for in regards to general objectives, teaching styles, learning experiences and exit criteria for assessment. A strong argument has been made that many principles, concepts and definitions are questionable and may have contributed to questionable assessment and confusion amongst both students and teachers. If documents are produced in this fashion then equity within educational outcomes seems unlikely and relevant authorities (usually in charge of maintaining

standards in the interest of equity and high quality educational outcomes) will begin to lack credibility amongst practicing professionals.

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References

- Arti, Z., (1995) Muska Mosston Symposium: Introduction. In R. Lidor, F. Elder & I. Harari (Eds.), *Bridging the gap between disciplines, curriculum and instruction. Proceedings of the 1995 AISEP World Congress*. Wingate Institute, Israel.
- ACARA (2012) *The Shape of the Australian Curriculum: Health and Physical Education*.
- Anderson, L.W., & Sosniak, L.A. (Eds.). (1994). Bloom's taxonomy: a forty-year retrospective. *Ninety-third Yearbook of the National Society for the Study of Education*, Pt.2 . Chicago, IL., University of Chicago Press.
- Cothran, D.J., Kulinna, P.H., Banville, D., Choi, E., Amade-Escot, C., MacPhail, A., MacDonald, D., Richard, J.F., Sarmiento, P.A. & Kirk, D. (2005). Cross-cultural investigation of the use of teaching styles. *Research Quarterly for Exercise and Sport*. 76(2), 193-201. (United States).
- Cuevas, P., Lee, O., Hart, J. and Deaktor, R. (2005). Improving science inquiry with elementary students of diverse backgrounds. *Journal of Research in Science Teaching*, 42(3): 337–357.
- Halpern, D. (1996). *Thinking Critically about Critical Thinking*. New Jersey: Lawrence Erlbaum Associates.
- Hay, P. (2008). *The social construction of abilities and conduct of assessment in Senior PE*. Brisbane: Unpublished PhD Dissertation, University of Queensland.
- Howard, D.V., & Howard, J.H. *Psychology and Ageing*, 232-241. Vol. 7 (2). Adult age differences in the rate of learning serial patterns: Evidence from direct and indirect tests.
- Kirk, D. (1983). A new term for a vacant peg: conceptualising physical performance in sport. 38-44.
- Kirk, D., & O'Flaherty, M. (2004) Learning theory and authentic assessment in physical education. Paper presented to the physical and sport education SIG as the Annual Conference of BERA, Edinburgh, September 10-13.
- Lewis, A., & Smith, D. (1993). Defining Higher Order Thinking. *Theory into Practice*, 32(3), 131-37.

- Macdonald, D. & Brooker, R. (1997a) Assessment issues in a performance-based subject: a case study of Physical Education, *Studies in Education Evaluation*, 23(1), 83-102.
- Macdonald, D., & Brooker, R. (1997b). Moving Beyond the crisis in Secondary Physical Education: An Australian Initiative. *Journal of Teaching in Physical Education*, 16 (2), 155-175.
- Masters, R.S.W., Poolton, J.M., Maxwell, J.P., & Raab, M. (2008). Implicit motor learning and complex decision making in time-constrained environments, *Journal of Motor Behavior*, 40, 71-79.
- Mosston, M., & Ashworth, S. (2002). *Teaching Physical Education*. San Francisco: Benjamin Cummings.
- Penney, D & Kirk, D. (1998). *Evaluation of the Trial-Pilot Senior Syllabus in Physical Education in Queensland Secondary Schools*. Brisbane: Board of Senior Secondary School Studies Queensland.
- SueSee, B. (2012). *Incongruence between self-reported and observed senior physical education teaching styles: An analysis using Mosston and Ashworth's Spectrum*. Brisbane: Unpublished PhD Dissertation, QUT, Brisbane.
- Queensland Studies Authority. (2004). *Physical Education Senior Syllabus*. Brisbane, Queensland, Australia: Queensland Studies Authority.
- Queensland Studies Authority. (2010). *Physical Education Senior Syllabus*. Brisbane, Queensland, Australia: Queensland Studies Authority.
- The Queensland Studies Authority (2013). Retrieved from <http://www.qsa.qld.edu.au/> July, 2013.

***Kia Marama Te Au Tauira Ite 'Āite'anga Ote Au Peu 'UiTūpuna:* students' perceptions of cultural activities in Physical Education**

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This study examined student perceptions of teaching that included cultural activities, with an emphasis on Cook Islands traditional cultural values. Education researchers believe that teaching in a culturally responsive manner can improve student learning and achievement (Akuffo & Hodge, 2008; Kirk, 2004). It was anticipated in this study that students' perceptions of cultural activities may reveal an emphasis on Cook Islands cultural values and how this contributes to their participation in and enjoyment of physical education. This article explores how Cook Islands cultural values and practices could be utilised in teaching physical education, and how can they be embedded in the curriculum of physical education. A qualitative methodology was used to analyse the results, and findings showed the significance of recognising Cook Islands cultural values in the curriculum of physical education.

Keywords, cultural activities; student perception; culturally responsive pedagogy; physical education

This study reports on the qualitative component of a larger study that explores student perceptions of teaching, including the influence of traditional Cook Islands cultural values. Interestingly, the study investigated how physical education teachers used a culturally responsive pedagogy of teaching cultural values that influenced student participation and enjoyment in physical education. Researchers, including Cheypator-Thomson (1994), Ladson-Billings (1995) and Thaman (2003), believe that teaching in a culturally responsive pedagogy can enhance student learning and classroom participation. The research question for this study was: 'Do students perceive that teaching which includes cultural activities had an emphasis on Cook Islands traditional values and how could this influence their learning, participation and enjoyment in physical education?' It was expected that students' learning of culture showed an appreciation of the cultural activities. This study contributes to an understanding of why teaching Cook Islands cultural values in physical education is linked to students' perception and enjoyment of physical education.

Research design

Participants

One hundred and one students and teachers from three different schools participated in the study. Only 5% of the student population were non-Cook Islanders. Demographic details of the student participants from the three schools are shown in Table 1. This table includes the total number of students who completed the survey questionnaires, and the total number of boys and girls by school and year level. They were invited to participate in the study by signing an information and consent form.

Table 1: Students in Study Three by Gender and School

School and year level	NCY9/10	TCY9/10	PCY9/10 combined
Boys	21	23	9
Girls	19	20	9
Total	40	43	18

Methodology

Survey questionnaires

In September 2007, Year 9 and Year 10 students were invited to complete the pilot questionnaires, which asked them to rate their perceptions of teaching that included cultural activities and that had an emphasis on Cook Islands traditional cultural values. A 1–5 Likert scale was used for surveying the students' perceptions of culturally responsive teaching in physical education where 1 = *strongly agree*, 2 = *agree*, 3 = *neither agree nor disagree*, 4 = *disagree*, and 5 = *strongly disagree*. Of particular interest in the qualitative study were the students' perceptions of cultural activities, which were being taught with an emphasis on Cook Islands traditional cultural values.

Interview

The questionnaires also contained open questions to which students were asked to respond. When students responded on the 1–5 scale they were asked to explain why they had chosen that particular response. The students' perceptions of the inclusion of cultural activities in physical education were of particular interest in the study; however, student perceptions of cultural values, family values, personal values, community values, health, and physical fitness were also of interest. In analysing these qualitative responses, Bernard (2005) offered a unique way of understanding the data by thematically analysing students' feelings and thoughts and then labelling them for common themes through the process of 'open coding'. Data from the surveys were categorised, then compared and merged into new concepts and eventually renamed and modified (Bernard, 2005). This approach enabled participants' thoughts and voices to be expressed and these in turn empowered students to feel their ideas were important and valued.

Findings

Qualitative analysis

The Year 9 and Year 10 students in the study were asked to comment on their experiences of how they perceived the teaching of cultural games and activities within physical education. They also commented on their reasons for particular choices in relation to the family and personal physical education. It was anticipated that the qualitative data would provide explanations for the students' choices. The

results are presented below in the following order: family's view of physical education, cultural activities physical education and students' perceptions of personal physical education.

Student perceptions of their family's view of physical education

The qualitative comments for students in relation to family physical education indicated that most students appeared to believe that their families valued cultural activities as a crucial part of physical education and the curriculum. However families think that physical education is a priority in schools. The quote below is one such statement from a student:

My family thinks physical education is important because it helps my family to be healthy. (Std0010.Y9f)

In addition, a Year 9 student agreed that physical education was important to her family. She said:

My family think that playing sport is an important part of physical education but they mostly want us to play sports so that we get out of the house. (Std005.Y9m)

A Year 10 student strongly agreed and said the following:

Because they want me to take physical education to actually know more goals and to know more about games and rules. (Std0012.Y10m)

Apart from those comments, no students made any other positive comments in relation to what their families thought of physical education. A few of the students did not agree that their families valued physical education. The quote below is illustrative of students whose perception was negative in relation to this factor:

My family thinks that focusing on school-work like other subjects is more important than physical education. (Std0016.Y9f)

In response to one of the questions about the importance of physical education to the family, a Year 9 student also disagreed that her family thought that physical education at school was important, and said:

Not really because I take part in after-school activities like water sports. (Std0012.Y10f)

Overall, of the students who provided a response about their perceptions of physical education, most believed that their families valued physical education as an important component of the curriculum, although there were only five comments in total. However, a few students commented that their family thought that physical education was not important in school. It appeared, therefore, that most families valued physical education as an important part of the curriculum and believed that physical education formed a significant component of student learning.

The next section reported the findings from the qualitative data relating to student responses to items that formed the cultural physical education factor.

Student perceptions of the inclusion of cultural activities in physical education

The quantitative results showed that some students supported the inclusion of cultural activities in physical education while others were less enthusiastic. However, overall, most of the students who provided a response to one of the cultural physical education items perceived the inclusion of culture very positively; very few made negative comments. The first three comments below were from students who perceived the inclusion of cultural activities in physical education to be important. A Year 10 student said:

We should have more cultural activities like traditional sports, dancing, weaving and games in physical education. (Std008.Y10m)

Also, a Year 9 student said she valued culture as an important part of physical education:

I would enjoy physical education more if cultural activities were included. (Std0014.Y9f)

Another Year 10 student said:

I put strongly agree because I love cultural activities more than physical education. (Std0019.Y10f)

However, some other students did not value the inclusion of cultural activities and values in physical education so enthusiastically. The following two quotes are from such students. A Year 10 student said:

I disagree with the inclusion of cultural activities and values in physical education because I hate doing culture and also it does not do any good for me. (Std008.Y10f)

Also, a Year 9 student explained:

I like the modern sports in physical education more than the cultural activities and I don't think that culture will help us learn more in school. (Std0014.9m)

Some students who valued the inclusion of cultural activities in physical education appeared to believe that, as a Year 9 student said:

It is enjoyable to learn culture from others. Also cultural activities are fun and very interactive. (St0020.Y9f)

Another Year 10 student explained that she found that:

cultural activities involve everyone socially and it does not matter if I make a mistake. (Std0013.Y10m)

From these comments, it may be concluded that student participation and enjoyment could be enhanced if cultural activities were included in physical education. Dowling (2006) suggested that students gain a better understanding of physical education if cultural activities are positioned within learning and in the current study, many of the students appear to concur with that statement. On the other hand, some students did not

value the inclusion of cultural activities and values in physical education because they appeared to value western activities in physical education more. There seemed to be a perception that cultural activities were not of value. Hence, in order to enhance student interest in the inclusion of cultural activities within physical education it will be important to educate students about the perceived value of such activities (Lu'uwai, 1997).

Nabobo-Baba (2006) suggested that there are various ways to encourage cultural practice within physical education. One way for schools to make culture a higher priority is by holding a cultural day and festivals, for example,. Furthermore, Nabobo-Baba also suggested that education administrators can encourage cultural experts in the community to be part of the school system so they can create opportunities for the students to become involved in various cultural workshops.

Student perceptions of personal physical education

The quantitative items for this factor were related to students' personal valuing of physical education. The three comments below showed why students liked the traditional and western form of physical education. A Year 9 student reported:

I enjoy physical education because even though I may look fat I am still fit and sporty. And I think that if everyone plays together in one sport then it will be better because I believe that it is good to keep people in shape and also great fun to get to know people. (Std001.Y9f)

A Year 10 student said:

I like physical education because it can keep you healthy and strong and this is very healthy for your body. (Std0014.Y10m)

Another Year 10 student stated:

I chose 'strongly agree' because I really love doing physical education.

The following two quotes are from students who disliked physical education. A Year 10 student said:

I don't enjoy physical education during the day time when it is hot and I don't have the energy in the morning. (St006.Y10m)

A Year 9 student said:

Sometimes it is cool and sometimes physical education is boring because we don't do many games, skills and programmes. We just play and don't learn anything. (Std001.Y9f)

Most of the students perceived physical education as an important part of their life because they saw the personal benefits of physical education. However, some students did not believe physical education was important and did not perceive any benefits from their participation in physical education. The Cook Islands Ministry of Health (2005) reported that active students like physical activities and that participation in physical education increases understanding of skills. According to the report from the Cook

Islands Ministry of Health (2005), when students develop skills in physical education, they learn to accept various leadership roles. Their relationship with others improves, with greater cooperation with other students and teachers. According to the Cook Islands Ministry of Education (2004), students who dislike physical education may have difficulties learning because of the physical demands required for learning. Such students may feel left out of the activities and may not be chosen for other sports. An emphasis on western physical education appears to encourage a form of competition, whereas cultural activities foster the participation of all students. The study showed the breadth of activities that could be included in physical education and how teachers can implement these activities. Such activities provide opportunities to enable physical education to become a positive experience, not just for competitive, physical, capable students, but also for those who dislike physical education, as the inclusion of cultural activities offers more opportunities for all students to participate and work together for success. Such opportunities may provide the foundation for students to become fit and help them to live a healthier lifestyle.

Conclusion

This article has explored students' valuing of physical education as a curriculum area. Some students saw benefits in physical education as a means to achieving a healthy, active, lifestyle. On the other hand, students who did not value physical education commented negatively. Thomas, Nelson, and Silverman (2011) suggest that these students do not perceive the benefits of physical education for their learning. Students who commented positively perceived physical education to be an important part of their wellbeing and enjoyed the inclusion of cultural activities in physical education. In a recent study, Rossi, Sirna, and Tinning (2008) suggested that those who value physical education performed better in their schooling than students who do not. The study by Rossi et al. (2008) showed that the inclusion of cultural activities can help healthy students do well overall at school, and these students understand physical education to be an important part of their lifestyle. Similarly, Dagkas (2007) argued that students from an ethnically diverse society perceived physical education as being important in helping them to become active learners. The qualitative results showed that most students had positive attitudes towards physical education and viewed it as an important part of their lives.

References

- Akuffo, B., & Hodge, R. (2008). Roles and responsibilities of adapted physical education teachers in an urban school district. *Journal of Education and Urban Society*, 40, 243–268.
- Bernard, H. R. (2005). *Research methods in anthropology: Qualitative and quantitative approaches* (4th ed.). Walnut Creek, CA: AltaMira Press.
- Cheypator-Thomson, J. R. (1994). Multicultural education: Culturally responsive. *Journal of Physical Education Recreation and Dance*, 65(9), 31–36.
- Cook Islands Ministry of Health. (2005). *Health survey: Non-communicable diseases*. Avarua, Cook Islands: Author.
- Cook Islands Ministry of Education. (2004). *Oraanga e teTupuangaMeitaki: Health and physical wellbeing curriculum*. Rarotonga, Cook Islands: Author. Retrieved May 23, 2006, from www.education.gov.ck/docs/curriculumHealth&PE

- Dagkas, S. (2007). Exploring teaching practices in physical education with culturally diverse classes: A cross-cultural study European. *Journal of Teacher Education*, 30, 431–443.
- Ladson-Billings, G. (1995). Towards a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32, 465–491.
- Lu'uwai, P. (1997). *A Hawaiian physical education program units instruction*. Manoa, HI: University of Hawai'i.
- Nabobo-Baba, U. (2006). *Knowing learning: An indigenous Fijian approach*. Suva, Fiji: Institute of Pacific Studies, University of the South Pacific.
- Rossi, T., Sirna, K., & Tinning, R. (2008). Becoming a health and physical education (HPE) teacher: Student teacher 'performances' in the Physical Education subject department office. *Teaching and Teacher Education*, 24, 1029–1040.
- Thaman, H. K. (2003). Decolonising Pacific studies: Indigenous perspectives knowledge, and wisdom in higher education. *The Contemporary Pacific*, 15, 190–191.
- Thomas, R. J., Nelson, K. J., & Silverman, J. S. (2011). *Research methods in physical education* (6th ed.). Champaign, IL: Human Kinetics.

Perceptions of Health and Physical Education university students about the value of peer assessment in a Sport Education unit

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There has been much written about teachers' perceptions and practice of assessment and less about the role assessment plays in improving student learning within Health and Physical Education (HPE). Traditionally, HPE has been seen as a subject where skill acquisition has been the main focus of assessment (Nixon and Locke, 1973). Some argue that this approach is not inclusive of the range of student abilities and privileges certain outcomes over others (Stiggins, 2002; Wiggins, 1993). This has corresponded with a call for the use of assessment practices that are able to capture the richness, breadth and depth of students' lived experience in the HPE learning area (Lorente-Catalan & Kirk 2013; Hay, 2009; Glasby, 2006). This study contributes to the growing interest in alternative assessment strategies by identifying student teacher's perspectives and opinions about the use of peer assessment within a University level HPE unit. Data was collected at the beginning and toward the end of a HPE unit that utilised Sports Education Model as an organising framework. Students were required to report on their perceptions, thoughts, opinions and experiences with peer assessment. Once they had participated in a peer assessment process, they were interviewed and asked to reflect on their experiences. Participant responses provided valuable information about their experiences with peer assessment and their perceptions of its use in a HPE context. This research identified that student teachers conditionally supported the peer assessment process but placed some parameters around how they they might best used in specific contexts.

Keywords: peer assessment; critical pedagogy; sport education; Health and Physical Education

Introduction

This paper reports on the perceptions of Health and Physical Education¹ (HPE) student teachers regarding their use of peer assessment within a University unit. Whilst there has been increased interest in the use of alternative assessment practices in tertiary institutions in recent years, very little research has focused on the use of peer assessment by HPE student teachers (Lorente-Catalan & Kirk, 2013). Very few studies examined the impact assessment had on student learning or improving teacher practice (Hay, 2009; 2006). As a consequence very little is known about their perceptions, thoughts, opinions and experiences with peer assessment.

Much of the early research about HPE assessment, focused on the extent and types of assessment practices used (Hay, 2006; Glasby, 2006; Melograno, 1994). HPE assessment focused on measurement of tangible 'products' within strictly defined parameters e.g. sport specific skills and physical attribution (Stiggins, 2002; Veal, 1995; Wiggins, 1993). These assessment practices took little or no account of the academic values associated with student centred learning and reflected assumptions about the perceived nature of student learning founded in the behaviourist traditions (Boud, 1995).

In the late 1970s and early 1980s, the emergent 'assessment for learning' paradigm challenged pedagogic and assessment practices that narrowly focused on summative information for accountability (Linn and Grounland, 1995). Proponents of critical pedagogies argued that the assessment processes inherent in these approaches provided many educational benefits for students not the least being greater participation

in the assessment process (Lorente-Catalan & Kirk, 2013; Hargreaves et al; 2002; Shepard, 2000; Veal; 1992).

In the 1990s interest in participative assessment processes grew and these practices were variously named 'authentic' or 'educative' and included portfolios, peer and self assessments (Brooks, 2002; Butler and Hodge, 2001; Mohnsen, 1997; Metzler, 2000). At the heart of these alternative assessment practices was a genuine desire to actively promote the inclusion of students in the assessment process (Lorente-Catalan & Kirk, 2013).

The development and implementation of the 'games based curriculum' around that time, signalled a shift from traditional pedagogic practices associated with issues of 'power' and 'heirarchy' to models that reflected constructivist orientations (Lorente-Catalan & Kirk, 2013). 'Traditional' didactic modes of teaching were being replaced by student orientated models built upon democratic principles. These approaches shifted the role of teachers from 'knowledge-experts' to 'knowledge-facilitators' and students from 'passive' to more 'active' roles in the learning process. For example in the HPE learning area, the adoption of the Sports Education Model offered a framework thsat clearly valued student input in the learning process. The model prioritised student ownership and participation in the design, administration and reporting on a full 'season' of a organised sport. It provided opportunities for teachers to consider a range of inclusive assessment practices to account for a broad range of possible outcomes (Taggart et al. 1995).

In this study, the Sport Education Model was incorporated into a undergraduate HPE unit specifically to enhance student learning. The model provided students with the opportunity to participate in relevant, meaningful and authentic sport experiences. These were designed to enhance their skills, knowledge and overall development as a HPE teacher. The model afforded them opportunities to take responsibility for their learning by stipulting specific roles students were required to manage and perform within the given sport season. As part of the Sport Education Model, the teacher designed an assessment schedule that incorporated peer, self and group assessment. The assessment process was made explicit in Unit Materials and the rubrics for all assessment tools were designed by the teacher.

This study focused on only one of the assessment tools used - peer assessment. It aimed to describe how students perceived the use of peer assessment within the model. In this case peer assessment was used as a summative assessment tool to guide them in assessing achievement of Unit outcomes as defined in Unit Materials. Training and guidance in use of peer assessment was provided for students by their University teacher.

Data about the perceptions of the peer assessment process were collected at the beginning and toward the end of the unit. Data collection consisted of two stages:

- Stage One: Students were initially required to write about their current perceptions, thoughts, opinions and experiences with peer assessment.
- Stage Two: Once they had participated in a peer assessment process, they were interviewed and asked to reflect on their experiences in a semi-structured interview.

Participant responses provided valuable information about their experience of peer assessment. This research contributes to the discussion around inclusive assessment strategies and how these may be used productively and effectively in the HPE context.

Peer assessment in University HPE courses

For the purposes of this study the following definition of peer assessment was used: *'Peer assessment is an arrangement in which individuals consider the amount, level, value, worth, quality or success of the products or outcomes of learning of peers of similar status.'* (Topping 1998, 250). Historically assessment practices used in HPE courses have been narrow, skill-based and largely teacher-centred (Snowman, Dobozy, Scevak, Bryer, Bartlett, Biehler, 2009). Criticism of these practices are that they are in-authentic in nature, set apart from meaningful game-based situations and that they lower student engagement and motivation (Snowman et al, 2009).

Teachers in Higher Education Institutions have become more interested in using alternative assessment methods and have increasingly adopted peer assessment techniques in their courses over the past twenty years (Lorente-Catalan and Kirk, 2013; Topping, 1998). Lindblom (2006), described the trend toward using authentic assessment practices such as peer assessment, as being representative of a new 'assessment culture' aimed at promoting active learning and engaging learners' in the assessment process.

Lorente-Catalan and Kirk (2013) suggested democratic assessment practices should be a part of physical education teacher education teacher courses. They cited studies showing that assessment is more effective when students were included in the process and made 'partners in learning' (Boud et al 2010).

The idea that students should be be a the centre of the assessment process has gained momentum as a result of the growing body of evidence illuminating the educational benefits e.g. encourages motivation, promotes higher order thinking and competencies among students (Lindblom 2006; Elwood and Klenowski, 2002). Boud (1995), summarised the advantages peer assessment in that it allowed students to:

- give and receive feedback in 'real time'
- develop assessment skills e.g. judgement and communication
- develop a sense of autonomy and ownership of the process.
- improve on task behaviours and motivation (Race, 1998; Zariski, 1996)
- observe other assessors and learn from that experience
- engage in deep rather than surface learning (Race, 1998; Zariski, 1996).

Students can be engaged in the assessment process by planning for their active involvement in the construction and design of assessment tools. These experiences promote the development of their personal assessment skills which in turn facilitates the monitoring of their own learning (Race, 1998; Zariski, 1996).

The move toward participative assessment processes signalled a shift toward more equitable, democratic and student centred process aimed at the long term benefits of creating autonomous and reflective learners within University settings (Lorente-Catalan and Kirk, 2013).

Research design and methods

Aims

1. To analyse HPE students' opinions about peer assessment in the HPE context.

2. To investigate whether preservice teachers participation in a peer assessment process confirms and/or challenges their beliefs about the merits or otherwise of the process.

Participants

This was convenience sample representing a 'snapshot' of the diverse population of HPE student teachers at the University. Participants were all enrolled in a second year unit within a four year course that graduates HPE teachers. They all participated in a unit that used peer assessment as part of the assessment process. Eleven students volunteered to participate in the study - six male and five female.

Procedures

Data collection occurred at the beginning and during a HPE unit. Co-investigators sought informed consent from all participants and gained permission from the lecturer teaching the unit to conduct the research. Ethics permission was sought and provided by the University the students attended.

Stage One

Students were asked to write a one page response on peer assessment based on their current thoughts, opinions and experiences:

- What have your experiences (if any) of peer assessment been?
- Would you describe those experiences as positive or negative?"

This was a class writing activity for all students in the unit and it did not contribute to their grades. Only those who agreed to participate in the study had their answers collected and included in the study. These data were aggregated and analysed using a thematic frequency analysis. Data was analysed using multi coding systems that clustered main themes and associated sub themes. The frequency of sub themes emerging from the transcripts of interviews, were tabulated and converted to percentages for analysis.

Stage Two

Students were interviewed after undergoing their first round of peer assessment. Two co-investigators conducted the interviews but were not involved in teaching the unit. Participants were asked to reflect on their experience of peer assessment and whether they felt it was an appropriate tool for measuring student learning in HPE classes. Audio recordings of interviews were transcribed for analysis and the thematic frequency analysis was used to identify emergent themes (see explanation of process in Stage One).

Results & discussion

Stage One - Written responses

Table 1. Previous experiences with peer assessment

Themes	Sub-themes	Frequency	%
Largely positive		1	
	TOTAL	1	7%

Mostly positive	Better view of learners	1	
	Saves time	1	
	More relaxed/comfortable	2	
	Good to get feedback from peer	2	
	Realise my own abilities	1	
	Made me think about assessment	1	
	TOTAL	8	53%
Mostly negative	Need good knowledge of skills	1	
	Judgemental	1	
	Your mark in hands of someone who doesn't know you	1	
	Time	1	
	TOTAL	4	27%
Undecided on value of peer assessment	Students know each other socially and this could positively or negatively influence their assessment.	2	
	TOTAL	2	13%

Analysis of the participants' prior experience of peer assessment showed a majority of responses that indicated largely positive or mostly positive experiences (60%). This confirmed results from other studies e.g. Vickerman (2009) and Lindblom-ylanne et al (2006) that showed positive experiences with peer assessment practices. Some peer assessment process issues worthy of further consideration included:

- The need for assessors to have good content knowledge about specific skills.

Two participants were concerned about the depth and breadth of the feedback they received and speculated that a lack of content knowledge of the peer assessor may have been an issue.

- Issues arising about working with peers.

This issue suggests teachers need to be aware of the complexity the social milieu and the power, peer status and relationships/structures that exist between students. Teachers need to acknowledge that 'stress' and 'discomfort' may be associated with peer assessment and may need to account for this in their implementation of the process.

Implications for practice would be to ensure students are provided with adequate training and support as part of the peer assessment process (Lindblom-ylanne et al., 2006; Hanrahan and Isaacs, 2001; Pope, 2001).

Stage Two - The semi structured interview

This phase of the data collection allowed the two interviewers to probe many of the issues that emerged from the data collected at the beginning of the study. The semi-structured interview format used a series of pre-prepared questions designed to explore participants' experiences of peer assessment. Questions targeted the appropriateness of the technique for measuring student learning in HPE classes and whether or not students would be comfortable using the process in their professional practice.

General perceptions about peer assessment

The majority of participants agreed there were benefits in using peer assessment but qualified their responses. A minority stated that social factors e.g. status, gender and other social issues impacted negatively on their experience.

Table Two. General perceptions about peer assessment as a strategy

Themes	Sub-themes	Frequency	%
Mostly positive	Can monitor my performance & see areas for improvement	5	
	Didn't feel intimidated	1	
	Allowed my team to bond	1	
	Motivates me	1	
	Can listen to my peers	1	
	Saved time	1	
	TOTAL	10	56%
Mostly negative	Social awkwardness	4	
	Time consuming	1	
	Felt intimidated	1	
	Friends not giving accurate marks to each other	1	
	Relies on expertise of marker	1	
	TOTAL	8	44%

Mostly positive experiences

A common theme expressed by participants was that they were able to monitor their performance and gain an understanding of expectations for specific tasks. They also became aware of what was required for personal improvement. They commented on their improved knowledge of the assessment requirements/tasks and the fact that they felt motivated as part of the process e.g.

'It definitely makes them more motivated to be able to understand their grade or what they have to do to get that grade.' Participant 7

Participants also noted that they could learn from each other and be drawn closer together as a result of working in teams during the assessment process e.g.

'..a closer bond with your team because you seem to be working with them a lot more you know and focusing on their skill development a bit more as well.' Participant 1

Mostly negative experiences:

The most common theme linked to negative experiences was the perceived social awkwardness expressed by participants. Participants illuminated a range of social factors that impacted final results including the provision of advice or a mark to a peer e.g. gender, age, ability or status in the group. In some cases where a peer was well known to them, participants commented on the possibility of the inflation of marks e.g.

'...you get a lot of, give me a good mark, I'll give you a good mark, which is a problem and maybe not being fair.' Participant 2

Some participants felt that the determination of a final mark relied too much on individual interpretation/perception of what constituted a good grade. Others expressed concerns that the verbal feedback they received was not sufficient for their immediate needs e.g.

'...my partner still told me about things I could work on and improve on but never really went into the depth of it or detail to try to nut out what the problem was sort of thing. It was more a case of here's your peer assessment, here's my marks.' Participant 11

These responses were significant in light of Butler and Hodges's (2001) work, which showed that the 'type' and 'perceived importance' of feedback were key elements in 'peer to peer' interactions.

Future use of peer assessment in professional practice

Participants were also asked about whether they would use peer assessments in their teaching, and all agreed they would. However some set parameters around their use of the strategy and qualified their responses by noting a preference to use the process with older children.

Table 3. Would you use peer assessment in your teaching?

Themes	Sub-themes	Frequency	%
Definitely		1	
	TOTAL	1	9%
Yes or likely	Only from upper primary and into secondary school	5	
	Only in secondary school	2	
	TOTAL	7	64%
Partially	Used as formative assessment only	1	
	Not as the sole source of assessment	1	
	TOTAL	2	18%
Never	TOTAL	0	0%

Five out of eleven (45%) participants indicated peer assessment was best suited to children between upper primary to year 10 only e.g.

'... I know a lot of teachers at my school didn't do it with the younger ones because they didn't want them just making up a mark or giving them a good mark because they didn't want to be mean. I wouldn't do it with younger ones.' Participant 2

Interestingly the dilemma of whether peer assessment is best suited as a formative or summative assessment tool was highlighted in one participant's response when they indicated it should not be weighted highly. They qualified this by suggesting it shouldn't be the only form of assessment e.g.

'I don't think there should be a lot of weighting on it because you know personality clashes outside the PE classroom are going to translate into, this kid doesn't want to pass that kid.'

Participant 9

Boud (1995) argues that peer assessment should be used in formative rather than summative assessment because it enhances learning (former) rather than undermining cooperation (latter). Participants in this study used peer assessment as a summative assessment tool but made no mention of undermining each other. Although one participant did comment that on two occasions, they sought advice from their teacher to resolve a final grade. It appeared this was largely a point of clarification rather than a dispute between peers.

This study has many limitations. The small sample size makes it unwise to generalise any findings to other contexts. There are also many variables left unaccounted for in this study e.g. influence of the teacher; quality of the rubrics used and the usefulness of the assessment criteria; student's backgrounds and level of skills; the influence of weighting of the tasks and the significance of power relationships within the group. All these variables were left unaccounted for and would be useful starting points for further study. It is likely that in at least one case, students' have a better understanding of the assessment process in HPE e.g.

'I can't even remember having a class where my teacher said, alright you're going to be assessed in this class. It was just sort of, you rocked up and at the end of the semester you got a grade.' Participant 8 (Interview transcript)

One could speculate that this student along with the others in the study, are likely to adopt this form of assessment into their own professional practice having confirmed its worth and being aware of the limitations.

Conclusion

This study described student perceptions of peer assessment experiences within a Sports Education Model. It contributes to the field where little published work regarding the use of alternative assessment practices in Higher Education HPE courses is evident. The student teachers who participated in the study had opportunities to reflect on their understanding and expectations about the process of peer assessment in the HPE context. They built on their existing assessment skills and understandings and became more informed about the process of peer assessment.

Participants were able to clearly articulate their perceptions of the value of the peer assessment process and made explicit some of the barriers and limitations of the process. The seeds have been sewn for this small group to consider the future use of participative assessment practices in their professional careers.

Notes

1. HPE is referred to here rather than PE as the specific outcomes described in the Unit refer to Health and Physical Education outcomes inclusively rather than PE outcomes alone

References

- Boud, D. et al. (2010). Assessment 2020: Seven propositions for assessment reform in higher education. Sydney: Australian Learning and Teaching Council.
- Boud, D. (1995). *Enhancing Learning Through Self Assessment*. London: Kogan Page.
- Brooks, V. (2002). Assessment in secondary schools. *The new teacher's guide to monitoring, assessment, recording, reporting and accountability*. Buckingham: Open University Press.
- Butler, S.A. and Hodge, S.R. (2001). Enhancing student trust through peer assessment in physical education. *Physical Educator* 58, 30–41.
- Elwood, J. and Klenowski, V. (2002). Creating communities of shared practice: The challenges of assessment use in learning and teaching. *Assessment and Evaluation in Higher Education* 27(3):243-256.
- Glasby, T. (2006). Assessment and reporting of learning outcomes in PE, in R. Tinning, L. McCuaig and Lisahunter. *Teaching Health and Physical Education in Australian Schools*. Pearson Education Australia.
- Hanrahan, S., and Isaacs, G. (2001). Assessing self and peer assessment: The students' views. *Higher Education Research & Development*. 20 (1): 53-70.
- Hardman, K., and Marshall, J.J. (2000). *World wide survey of the state and status of school physical education*. Manchester: University of Manchester.
- Hargreaves, A., Earl, L. and Schmidt, M. (2002). Perspectives on alternative assessment reform. *American Educational Research Journal*, 39 (1): 69-95.
- Hay, P.J. (2009). Broadening perspectives on assessment in health and physical education in Health and Physical Education, M. Dinan Thompson (Ed). *Issues for Curriculum in Australia and New Zealand*. Oxford, Australia.
- Hay, P. J. (2006). Assessment for accountability in in R. Tinning, L. McCuaig and Lisahunter. *Teaching Health and Physical Education in Australian Schools*. Pearson Education Australia.
- Hay, P. J. (2006). Assessment for learning in physical education, in D. Kirk, D. Macdonald and M. O'Sullivan (eds). *The Handbook of Physical Education*, pp. 312–25. London: SAGE.
- Hay, P. J and Penney, D., (2009). Proposing conditions for assessment efficacy in physical education. *European Physical Education Review*, 15: 389.
- Johnson, R., (2004): Peer assessments in physical education. *Journal of Physical Education, Recreation & Dance*, 75:8, 33-40.
- Jones, D.L. (1992). Analysis of task systems in elementary physical education classes. *Journal of Teaching in Physical Education*. 11: 411-425.
- Linblom-ylanne, S., Pihlajamaki, H. and Kotkas, T. (2006). Self, peer and teacher assessment of student essays. *Active Learning in Higher Education* 2006 7:51.
- Linn, R.L., and Gronland, N.E., (1995). *Measurement and Assessment in Teaching*. New Jersey: Prentice Hall.
- Lorente-Catalan, E., and Kirk, D. (2013). Making the case for democratic assessment practices within the critical pedagogy of physical education. *European Physical Education Review*.
- Melograno, V.J. (1994). Portfolio assessment: documenting authentic student learning. *Journal of Physical Education, Recreation and Dance*, 65(8):50-61.
- Metzler, M.W. (2000). *Instructional models for physical education*. Boston, MA: Allyn and Bacon.

- Mohnsen, B. (1997). Authentic assessment in physical education. *Learning and Leading with Technology*, 24(7):30-33.
- Naul, R. (2003). Concepts of physical education in Europe in K. Hardman (Ed.), *Physical education: Deconstruction and Reconstruction – issues and directions*. Berlin Germany.
- Nixon, J.E. and Locke, L. (1973). Research in teaching in physical education. In R.M.W Travers (Ed.), *Second Handbook of Research on Teaching* (pp.1210-1242). Chicago, Ill: Rand McNally.
- Pope, N., (2001). An examination of the use of peer rating for formative assessment in the context of the theory of consumption values. *Assessment and Evaluation in Higher Education* 27(4):309-23
- Race, P. 1998. Practical pointers in peer assessment, (113-122) in *Peer Assessment in Practice*, S. Brown. (ed.) (SEDA paper 102) Birmingham: SEDA.
- Schon, D. (1987). *Educating the Reflective Practitioner*. San Francisco: Jossey-Bass.
- Shepard, L. (2000). The role of assessment in learning culture. *Educational Researcher*, 29(7):4-14
- Siedentop, D. and Tannehill, D. (2000). *Developing Teaching Skills in Physical Education*. (3rd Ed). Palo Alto, CA: Mayfield Publishing
- Snowman, J., Dobozy, E., Scevak, J., Bryer, F., & Bartlett, F. Biehler (2009). *Psychology Applied to Teaching*. Wiley and Sons. Australia.
- Stiggins, R.J. (2002). Assessment crisis: The absence of assessment for learning. *Phi Delta Kappan*.
- Taggart, A., Browne, T. and Alexander, K. (1995). Three schools approaches to assessment in sport education. *The ACHPER Healthy Lifestyles Journal*, 42(4):12-15.
- Topping, K. (2013). Peer assessment between students in colleges and universities. *Review of Educational Research*. March 1, 2013 83:70-120
- Topping, K. J., & Ehly, S. W. (Eds.). (1998). *Peer-Assisted Learning*. Taylor & Francis.
- Veal, M-L. (1995). Assessment as an instructional tool. *Strategies*, 8(6): 10-15.
- Vickerman, P. (2009). Student perspectives on formative peer assessment: an attempt to deepen learning? *Assessment and Evaluation in Higher Education*. Routledge.
- Wiggins, G. (1993). Assessment: Authenticity, context and validity. *Phi Delta Kappan*, 75 (3): 200-214
- Wiggins, G. (1998). *Educative Assessment. Designing Assessments to Inform and Improve student performance*. San Francisco, CA: Jossey- Bass Inc.
- Zariski, A. 1996. Student peer assessment in tertiary education: Promise, perils and practice. In Abbott, J. and Willcoxson, L. (Eds), *Teaching and Learning Within and Across Disciplines*, p189-200. Proceedings of the 5th Annual Teaching and Learning Forum, Murdoch University, February 1996. Perth: Murdoch University. <http://cleo.murdoch.edu.au/asu/pubs/tlf/tlf96/zaris189.html>

Twenty years of Game Sense sport coaching in Australia: 1993-2013 – where are we now?

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In twenty years, how has the Game Sense (GS) approach to coaching (Charlesworth, 1993; 1994; den Duyn, 1997) been reflected upon, refined and revised, and accepted in Australian sport coaching? Technical approaches to sport coaching have been regarded as the traditional method of teaching and coaching sport in Australia (Memmert & Harvey, 2008; Oslin, Mitchell & Griffin, 1998). Coaching pedagogies associated with the GS approach have challenged the traditional directive sport-as-techniques approach (Jones, 2006; Kidman, 2001; Pill, 2012). The GS approach to coaching in Australia can be traced back to 1993 when Charlesworth (1993) described the GS approach as the outcome of Designer Games that integrated technical, tactical and fitness training. Since then the concept of GS has been refined and further developed as a coaching approach. Despite the acceptance of GS in the literature, limited progress has been made in challenging traditional technical skill approaches in PE and sport coaching. In Australia, however, this acceptance of GS in the literature has significantly influenced how national governing bodies structure sport coaching programs. The inclusion of the GS approach as a preferred coaching pedagogy is evident in sport specific coaching manuals, documents and accreditations. The GS approach now appears as part of the curriculum in some sporting organisations (Australian Football League, 2011) as well as in some states' Physical Education (PE) curriculum frameworks. The GS approach is included as part of the Australian Sports Commission Beginning Coaching General Principles course (Online) (Australian Sports Commission, 2005;2012), the Active After Schools Communities Playing for Life Coaches Guide (Schembri, 2005), and the Australian Football League (AFL) Level 1 and 2 Coaching manuals (Australian Football League, 2011;2012). The inclusion of the GS approach in coaching documentation aimed at recreation, elite professional coaches, junior and youth development suggests that a GS approach to coaching is able to be implemented at all levels of sport development. GS has been the focus of several texts, book chapters, scholarly and research papers, establishing a ubiquitous status particularly in junior sport coaching through the Playing for Life philosophy of the Australian Sports Commission (ASC). This paper traces the growth and refinement of the GS approach and invites readers to reflect on the refinement and current state of this preferred (to a traditional directive and technical) coaching approach for Australian sport.

Keywords: game sense; coaching; sport; technical skills approach

Introduction

Game Sense (GS) was developed in the mid-1990s as a sport specific derivative of the Bunker-Thorpe model of Teaching Games for Understanding (TGfU) (Evans & Light, 2008; Evans, 2006; Harvey, 2009; Light, 2004a; Light & Georgakis, 2005, 2007; Pill, 2011b, 2012). Developed through collaboration between the Australian Sports Commission (ASC) and Rod Thorpe (Evans & Light, 2008; Evans, 2006; Harvey, 2009; Light 2004b; Light & Georgakis, 2005; Pill 2011, 2012), GS emphasises the use of modified games to develop decision making and tactical thinking, as well as sport-specific skills (Evans, 2006; Harvey, Cushion, Wegis & Massa-Gonzalez, 2010; Kirk, 2009; Light, 2004b; Light & Georgakis, 2005; Pill, 2012; Stolz & Pill, 2012). Despite the wide acceptance in the academic literature, GS and other game-based approaches have made limited progress in challenging the traditional technical skill approaches in

PE and sport coaching. However, in Australia, it seems to have a significant influence on the ways in which national governing bodies of major sports structure their coaching programs. The inclusion of GS as a preferred coaching pedagogy is evident in sport specific coaching manuals, documents and accreditations (Australian Football League [AFL], 2011, 2012a, 2012b; Australian Sports Commission [ASC], 2005; Pill, 2011a). This paper traces the growth and refinement of the GS approach and reflects on the refinement and current state of this alternative (compared to what has been described as a traditional technical skills approach) coaching approach for Australian sport.

Reflecting on the past – traditional sport coaching

Technical skills approaches (TSA) of sport coaching have been regarded as the traditional method of teaching and coaching sport in Australia (Light, 2013; Launder & Piltz, 2006; Pill, 2013). TSAs clearly contrast the development of the GS approach, particularly in terms of the way in which skills, knowledge and understanding are developed (Pill, Penney & Swabey, 2012). Traditional TSAs to coaching are based on the mastering of techniques and skills (Launder & Piltz, 2006; Stolz & Pill, 2012) prior to playing the game and developing tactical knowledge (Evans, 2006; Evans & Light, 2008; Light, 2004a). TSAs adopt the idea that (motor) skills and techniques are the fundamental components of successful participation in sports and games (Stolz & Pill, 2012). With TSAs, skills are generally broken down into small, manageable steps which follow a progression of increasing complexity (Pill, 2012, 2013; Stolz & Pill, 2012; Webb & Thompson, 2000). Additionally, this process does not typically take into consideration the added complexity of skills when performed in a game setting (Pill, 2012; Webb & Thompson, 2000). The instruction from the coach, as well as the coach/player relationship, also differs between TSAs and the GS approach. Traditionally and normatively, coaches are seen (and see themselves) as the instructors, primarily passing on their knowledge to players through direct instruction and demonstration (Evans, 2006; Evans & Light, 2008; Light & Georgakis, 2005). It has been suggested that TSAs to coaching often overemphasise the use of direct instruction in practice (Kirk, 2005; Metzler, 2011; Pill, 2012, 2013; Stolz & Pill, 2012; Wein, 2004, 2007) and as a result players rely too heavily on the coach in their skill decision-making. As such, TSAs are considered to be coach-centred, with players having a strong reliance on the coach for their development (Light, 2006; Light & Georgakis, 2005). In contrast, research has found that coaches utilising TSAs indicated that their players not only exhibited a poor transfer of skills between practice and matches (Harvey et al., 2010), but they also failed to recognise cues and to appropriately use technical skills to respond effectively to different situations (Evans, 2006; Light, 2004a). It has been argued that this situation is encouraged as TSAs are too (motor) skill-focused, and as a result players are taught a stylised or ideal movement response which can be inflexible to the momentary decision-making and tactical knowledge (Light, 2004a). There are, therefore, significant underlying differences between a TSA and the GS approach (Stolz & Pill, 2012), and as a result coaching pedagogies, such as the GS approach, have challenged the way coaches design and enact practice sessions (Jones, 2006; Kidman, 2001; Pill, 2012).

The conception of Game Sense

Since Charlesworth (1994) described GS as a player outcome and Designer Games as the method to combine technical and tactical teaching, the concept of GS has been refined and further developed into a coaching approach. As a part of the Designer Games process, Charlesworth (1993) discussed using a questioning approach, suggesting that “it is an interesting exercise to stop the game and question teams about what is going on” (Charlesworth, 1993 p. 5). The inclusion of the GS approach as a preferred coaching pedagogical approach is evident in sport specific coaching manuals, documents and accreditations, such as the Australian Sports Commission National Coaching Accreditation Scheme (NCAS) Beginning Coaching General Principles Curriculum (Online) (ASC, 2005a), the Active After-School Communities Playing for Life Coaches Guide (ASC, 2005b; Schembri, 2005) and the Australian Football League (AFL) Junior, Youth and Level 1 and 2 Coaching Manuals (AFL, 2011, 2012a 2012b). For example, the GS approach is now included as part of a module in the ASC NCAS Beginning Coaching General Principles Curriculum (ASC, 2005a). As a part of module 4, coaches must be able to structure a GS-based practice session and modify games to teach specific tactics and skills, whilst also developing skills (ASC, 2005a).

The GS approach has also been the focus of several texts, book chapters, scholarly and research papers, establishing a ubiquitous status particularly in junior sport coaching literature through the Active After-School Communities Playing for Life Coaches philosophy of the ASC (ASC, 2005b). Initially, GS was broadly described in Australian coaching literature (den Duyn, 1996, 1997; Thorpe, 1997) and promoted through a research project and series of associated workshops (ASC, 1999). What emerged was a small-sided thematic approach for fundamental sport skill teaching organised through game categories and foregrounding the shaping and focusing of game understanding and skill development through coach guided questions (ASC, 1999). This approach was further refined by The Playing for Life Community Coaching Program and Coaches Guide (ASC, 2005b; Schembri, 2005). The inclusion of the GS approach as a preferred coaching pedagogy is also evident in sport specific coaching manuals. The AFL makes specific reference to the GS approach in the Level 1 and 2 Coaching Manuals and in the AFL Youth Coaching Manual (AFL, 2011, 2012a, 2012b). Few studies have been conducted into the efficacy of this GS approach for junior sport skill development. Austin, Haynes and Miller (2004) found that a GS teaching approach increased the fundamental motor skill proficiency of kicking with primary school students.

The argument for a Game Sense coaching approach

GS coaching in Australia can be traced back to 1994 when Charlesworth (1994) described GS as the outcome of Designer Games that integrated technical, tactical and fitness training. Since then, research, scholarly and coaching literature has suggested that there are a number of factors involved in GS coaching, providing a pedagogical approach the relationship between technical skill development and tactical skill development, player development, coach and player relationships, questioning to prompt athlete thinking and problem solving, coach “in action”, training plans which are game-centred, a rich practice environment, and practice to match transfer (Evans, 2006; Evans & Light, 2008; Harvey, 2009; Light, 2006; Light & Georgakis, 2005; Pill, 2013; Watson, Connole & Kadushin, 2011). The GS approach focuses on developing

tactical awareness and strategic knowledge, suggesting that by doing so, technical skills will also develop (Evans, 2006; Evans & Light, 2008; Harvey et al., 2010). This is related to the definition of “skill” inherent in a GS approach; “skilful performance” requires a combination of technique, decision-making and tactical knowledge used in a way which is appropriate for the in-action context of the momentary configuration of play (Pill, 2013). The GS approach therefore adopts a player-centred and game-centred approach (Breed & Spittle, 2011; Pill, 2013), in which coaches act more as facilitators than directors of knowledge (Evans, 2006; Evans & Light, 2008). It is player-centred as players are given more control over their learning and development (Light & Georgakis, 2005; Watson et al., 2011) by the use of questions inviting players to problem solve and respond with directions for improvement. The GS approach is game-centred because practice is contexted to game-play through the use of tactical concepts that tie together the various activities of training into a coherently focussed whole. With the GS approach, coaches are therefore challenged to create an engaging environment through players participation in their critical thinking and problem solving development by the guided process of the coach asking questions, rather than solely directing or instructing them (Evans & Light, 2008; Harvey, 2009; Light, 2006; Light & Evans, 2010; Pill, 2013; Watson et al., 2011).

A feature of the GS approach with novice and beginner players is the sampling and representation of game forms via modification of games to limit the technical skill demands to match that of the players’ level of game development (Evans, 2006; Harvey et al., 2010; Kirk, 2009; Light, 2004b; Light & Georgakis, 2005; Pill, 2012; Stolz & Pill, 2012). As players’ development progresses, games are continually modified to keep in line with the development of players’ skill (Evans, 2006; Kirk, 2009). With the GS approach, at all levels of player development modified games are used to emphasise game-related decision making and sport-specific skill development through replicating match-like situations (Kirk, 2009; Pill, 2011a). While modified games are also utilised in a TSA, in the GS approach the coach designs and implements modified games as a means of teaching and developing specific tactical and decision-making skills which are then reinforced through open and closed skill practices, and play practices. Although GS uses modified games to teach players through match play, direct instruction of skill development is not disregarded (Kirk, 2009; Pill, 2011a). When implementing the GS approach teachers/coaches are encouraged to consider when it is appropriate to include skill-based technical drills in practice, instead of considering skill-based drills as the starting point for teaching skills (Kirk, 2009; Pill, 2011a). As such, GS should not act as a linear pedagogy but as a synergist pedagogy which incorporates both designer tactical games, technical skill-based drills and play practices. The emphasis on using questions to engage players and encourage them to participate in discussion about the tactical aspects of the game is to create an environment which is suited to learning and development (Evans & Light, 2008; Light, 2006; Light & Georgakis, 2007; Pill, 2013; Wright & Forrest, 2007) rather than rote repetition. The GS participatory environment may also be structured to allow players to have more opportunity to test out ideas and attempt to apply strategies they have developed through discussion (Evans & Light, 2008; Light & Evans, 2010).

20 years on - developments, limits, constraints and possibilities associated with Game Sense coaching

Developments in Game Sense coaching since 1993

Since first emerging as a pedagogical approach, there have been many refinements that have occurred to the GS approach. Particularly important to note is the differentiation of player development across different levels from beginner through to elite. After the initial explanation of GS as a sport teaching approach (den Duyn, 1996, 1997) the GS approach was elaborated as thematically grouped small sided games in game categories for the development of fundamental sport skills as the Game Sense Cards (ASC, 1999). Over time the GS approach has been refined to look different across various stages of players' development (Pill, 2012). Whilst junior players find simple games fun and challenging, players at the next developmental stage require more challenging games to further develop their sport-specific skills and tactical understanding (Pill, 2012). The GS approach has evolved since its conception and therefore finding new and engaging ways to effectively incorporate game-like situations in sport is becoming increasingly important, particularly in physical education (PE) where teaching games is now a focus of PE curriculum (Breed & Spittle, 2011). Since the development of TGfU (and the GS approach), a number of different variations to the approach have been developed including the Games Concept Approach (Fry, Wee Keat Tan, McNeill & Wright, 2010), Tactical-Decision Learning model (Grehaig, Wallian & Godbout, 2005) and the Tactical Games Approach (Griffin, Oslin & Mitchell, 1997).

With the development of the GS approach and the Playing for Life Coaches Guide (Schembri, 2005), a few major publications have emerged focussing on the GS approach. Breed and Spittle (2011), Light (2013) and Pill (2013) have released publications all of which encompass their take on the development of the GS approach and the variations to the approach that are present in coaching in the present day. There are particular differences in how Breed and Spittle (2011), Light (2013) and Pill (2013) define and describe the GS approach compared with how it was initially presented by den Duyn (1997). Where the GS approach was described as a way to develop thinking players and emphasise game-related decisions and sport specific skills performed in game context by den Duyn (1997), it is described by Light (2013) as an approach to coaching which focuses on the game as a whole, encouraging players to develop skills in a realistic game context. Further, there are differences in the way in which authors of more recent publications approach their views of the GS approach, with Light (2013) presenting a more rigid, unaltered and conceptualised view of the GS approach than Breed and Spittle (2011) and Pill (2013). As such, Pill (2013) has linked the GS approach to dynamic systems and the understanding about the nature of skill development and skilled performance as information-movement coupling, providing a theoretical grounding for GS coaching in constraints-led motor development theory. Further, as titled, Breed and Spittle (2011) have generated the focus of their publication toward being a resource for teachers and coaches, presenting a publication that clear, concise and practical particularly for those with limited knowledge and experience with the GS approach. The concept of Designer Games (Charlesworth, 1994), in which tactical, technical, physical and competitive skills are packaged into a game which replicates match conditions (Pill, 2012), has been refined and included in the GS approaches a part of match simulation.

Game Sense research - limits, constraints and possibilities

Although research has found that there are a number of possible benefits associated with implementing the GS approaching coaching (Pill, 2011b), from a junior to elite level, one of the factors limiting the adoption of GS coaching is that coaches struggle with the overriding perception of what constitutes good coaching (Evans, 2006; Evans & Light, 2008; Light, 2004a). It has been suggested that coaches may be hesitant to implement the GS approaches this steers away from the typical ideal of a coach, in which the coach holds power and authority over their players and team (Evans, 2006; Light, 2004a). Another challenge that coaches have reported was the time constraints involved when implementing the GS approach; namely they were concerned that implementing the GS approach required too much time to learn the approach, as it is thought to take extra time to undertake coaching courses in order to gain a sufficient understanding of the GS approach (Light, 2004a). Particularly at a junior development coaching level, coaches felt that implementing the GS approach was problematic, as using the GS approach was thought to take longer to develop players' technical skill. According to Light (2004a), players and parents tend to want to see immediate results of practice.

Despite these constraints, research has reported that coaches feel that although GS took longer to develop players initially, it has the potential to achieve more desirable long-term development (Light, 2004a). One of the possibilities of GS coaching suggested in the literature is a positive development in player-coach relationship. However, coach perception of what "good coaching is" limits the potential adoption of GS coaching towards more collaborative player-coach relationships with research reporting that coaches felt that this less authoritarian approach may be viewed by many as a contradiction to good coaching (Light, 2004a). Research and literature suggests that the GS approach has become more accepted in theory, particularly over the past decade, however it is yet to be widely implemented in teaching and coaching practice (Evans & Light, 2008). As such, there is a need to investigate the GS approach in practice, specifically how coaches implement the GS approach in a coaching setting. Further, by exploring coaches' views of the GS approach, including what they report as the strengths, weaknesses and limitations of the GS approach, may assist in further refining and developing the GS approach in the future.

Conclusion

Since its conception in the mid-1990s, coaching pedagogies such as the GS approach have challenged traditional TSAs of coaching and teaching sport, however this has been limited despite the wide acceptance of the GS approach in the literature. Over the past two decades, the concept of GS has been refined and further developed as a coaching approach and as such, is now included as a preferred coaching pedagogy in sport specific coaching manuals, documents and accreditations. The GS approach has clearly had an impact on coaching in Australia, aided by the endorsement of the ASC. The GS approach is included as part of the ASC Beginning Coaching General Principles course (Online) (ASC, 2005a, 2012), the Active After Schools Communities Playing for Life Coaches Guide (ASC, 2005b; Schembri, 2005), and the AFL Youth, Junior and Level 1 and 2 Coaching manuals (AFL, 2011, 2012a, 2012b). The inclusion of GS in coaching documentation aimed at recreation, elite professional coaches, junior and youth development suggests that a GS coaching approach is able to be implemented at all levels of sport development. As a result, it appears that the GS approach is becoming

increasingly a part of sport development programs and documentation. As the GS approach has been observed more consistently at an elite level (or initially at an elite level), the next step in this progression would involve the inclusion of the GS approach in more sub-elite, youth and junior programs. The GS approach provides opportunities to develop national sport coaching programs and documentation from an Australian perspective. This however may be challenging as despite the GS approach being around for more than 20 years, it is still considered to be an emerging pedagogy in teaching and sport coaching in Australia (Peters & Shuck, 2009). To understand why the GS approach is not more widely accepted as an alternative coaching pedagogy, research is needed into how the GS approach is used in coaching practice.

References

- Austin, B., Haynes, J., & Miller, J. (2004). *Using a game sense approach for improving fundamental motor skills*. Paper presented at the Australian Association for Research Conference, Melbourne.
- Australian Football League. (2011). *AFL youth coaching manual*. Melbourne: Australian Football League.
- Australian Football League. (2012a). *AFL junior coaching manual*. Melbourne: Australian Football League.
- Australian Football League. (2012b). *The coach: The official AFL level 1 coaching manual*. Melbourne: Australian Football League.
- Australian Sports Commission. (1999). *Game sense cards: 30 games to develop thinking players*. Belconnen: Australian Sports Commission.
- Australian Sports Commission. (2005a). *National coaching accreditation scheme: Beginning coaching general principles curriculum*. Canberra: Australian Sports Commission.
- Australian Sports Commission. (2005b). *The playing for life kit*. Belconnen: Australian Sports Commission.
- Australian Sports Commission. (2012). Education and Accreditation. Retrieved November 21, 2012 from <http://www.ausport.gov.au/participating/coaches/education>.
- Breed, R., & Spittle, M. (2011). *Developing games through practice: A resource for teachers and coaches*. Melbourne: Cambridge University Press.
- Charlesworth, R. (1993). *Level 3 NCAS Course: Designer games*. Canberra: Hockey Australia.
- Charlesworth, R. (1994). Designer games. *Sports Coach*, 17(4), 30-33.
- den Duyn, N. (1996). Game sense: Why it makes sense to play games. *Sports Coach*, 19(3), 6-9.
- den Duyn, N. (1997). Game sense: It's time to play!, *Sports Coach*, 19(4), 9-11.
- Evans, J.R., & Light, R.L. (2008). Coach development through collaborative action research: A rugby coach's implementation of game sense pedagogy. *Asian Journal of Exercise and Sport Science*, 5(1), 31-37.
- Evans, J.R. (2006). Elite level rugby coaches interpretation and use of game sense. *Asian Journal of Exercise and Sport Science*, 3(1), 17-24.
- Fry, J.M., Wee Keat Tan, K., McNeill, M., & Wright, S. (2010). Students' perspectives on conceptual games teaching: A value-adding experience. *Physical Education and Sport Pedagogy*, 15(2), 139-158.

- Grehaigue, J.F., Wallian, N., & Godbout, P. (2005). Tactical-decision learning model and students' practice. *Physical Education and Sport Pedagogy*, 10(3), 255-269.
- Griffin, L., Mitchell, S., & Oslin, J. (1997). *Teaching sport concepts and skills: A tactical games approach*. Champaign: Human Kinetics.
- Harvey, S. (2009). A study of interscholastic soccer players perceptions of learning with game sense. *Asian Journal of Exercise and Sport Science*, 6(1), 1-10.
- Harvey, S., Cushion, C.J., Wegis, H.M., & Massa-Gonzalez, A.N. (2010). Teaching games for understanding in American high-school soccer: A quantitative data analysis using the game performance assessment instrument. *Physical Education and Sport Pedagogy*, 15(1), 29-54.
- Jones, R. (2006). *The sports coach as educator*. New York: Routledge.
- Kidman, L. (2001). *Developing decision makers: An empowerment approach to coaching*. Christchurch: Innovative Print Communications.
- Kirk, D. (2005). Future prospects for teaching games for understanding. In L.Griffin & Butler, J. (Eds.), *Teaching games for understanding: Theory, research and practice* (pp.). Champaign: Human Kinetics.
- Kirk, D. (2009). *Physical Education Futures*. United Kingdom: Taylor and Francis.
- Launder, A., & Piltz, W. (2006). Beyond 'understanding' to skillful play in games, through play practice. *Journal of Physical Education New Zealand*, 39, 47-58.
- Light, R. (2004a). Coaches' experiences of game sense: Opportunities and challenges. *Physical Education and Sport Pedagogy*, 9(2), 115-131.
- Light, R. (2004b). Implementing a game sense approach in youth sport coaching: Challenges, change and resistance. *Waikato Journal of Education*, 10, 169-180.
- Light, R. (2006). Game sense: Innovation or just good coaching?. *Journal of Physical Education New Zealand*, 39, 8-20.
- Light, R. (2013). *Game sense: Pedagogy for performance, participation and enjoyment*. New York: Routledge.
- Light, R.L., & Evans, J.R. (2010). The impact of game sense pedagogy on Australian rugby coaches' practice: A question of pedagogy. *Physical Education and Sport Pedagogy*, 15(2), 103-115.
- Light, R., & Georgakis, S. (2005). Integrating theory and practice in teacher education: The impact of a game sense unit of female pre-service primary teachers. *Journal of Physical Education New Zealand*, 38, 67-80.
- Light R., & Georgakis, S. (2007). The effect of game sense pedagogy on primary school pre-service teachers' attitudes to teaching physical education. *ACHPER Australia Health Lifestyles Journal*, 54(1), 24-28.
- Memmert, D., & Harvey, S. (2008). The game performance assessment instrument (GPAI): Some concerns and solutions for further development. *Journal of Teaching in Physical Education*, 27, 220-240.
- Metzler, M. (2011). *Instructional models for physical education*. Scottsdale: Holcombe Hathaway.
- Oslin, J.L., Mitchell, S.A., & Griffin, L.L. (1998). The game performance assessment instrument (GPAI): Development and preliminary validation. *Journal of Teaching in Physical Education*, 17, 231-243.
- Peters, J., & Shuck, L. (2009). Breaking down the barriers: Insights into using a student centered games approach in Australian and Malaysian pre-service settings. *ACHPER Healthy Lifestyles Journal*, 56(3-4), 29-35.

- Pill, S. (2011a). Seizing the moment: Can game sense further inform sport teaching in Australian physical education. *PHENex Journal*, 3(1), 1-15.
- Pill, S. (2011b). Teacher engagement with teaching games for understanding – games sense in physical education. *Journal of Physical Education and Sport*, 11(2), 5-13.
- Pill, S. (2012). Teaching game sense in soccer. *Journal of Physical Education, Recreation & Dance*, 83(3), 42-52.
- Pill, S. (2013). *Play with purpose: Game sense to sport literacy* (3rd ed.). Hindmarsh: Australian Council for Health, Physical Education and Recreation (ACHPER).
- Pill, S., Penney, D., & Swabey, K. (2012). Rethinking sport teaching in physical education: A case study of research based innovation in teacher education. *Australian Journal of Teacher Education*, 37(8), 118-138.
- Schembri, G. (2005). *Playing for life: Coaches' guide*. Canberra: Australia Sports Commission.
- Stolz, S., & Pill, S. (2012). Making sense of game sense. *Active & Healthy Magazine*, 19(1), 5-8.
- Thorpe, R. (1997). We love games but when do we teach technique?, *Sports Coach*, 19(3), 4-5.
- Watson, J.C., Connole, I., & Kadushin, P. (2011). Developing young athletes: A sport psychology based approach to coaching youth sport. *Journal of Sport Psychology in Action*, 2, 113-122.
- Webb, P., & Thompson, C. (2000). *Developing thinking players: Game sense in coaching and teaching*. Belconnen: Australian Coaching Council.
- Wein, H. (2004). *Developing game intelligence in soccer*. Spain: Reedswnain.
- Wein, H. (2007). *Developing youth football players*. Champaign: Human Kinetics.
- Wright, J., & Forrest, G. (2007). A social semiotic analysis of knowledge construction and games centred approaches to teaching. *Physical Education and Sport Pedagogy*, 12(3), 273-287.