Can ‘Game Sense’ make a difference? Australian pre-service primary school teachers’ responses to ‘Game Sense’ pedagogy in two teacher education programs.

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Abstract

This paper reports on studies of pre-service primary school teachers’ first experiences of a physical education unit using Game Sense pedagogy at two Australian universities. Taking into account the particular values, experiences and beliefs that pre-service teachers brought to the teacher preparation programs this paper examines the participants responses to issues related to Game Sense, the impact that the units had on them and the ways in which they shaped their attitudes to the teaching of Game Sense in the future. It suggested that, despite the lack of specific game knowledge and the limited time available for physical education in most programs, Game Sense pedagogy offers a useful means of developing the inclination and ability to teach physical education for primary school teachers.

Introduction

There is a growing body of literature confirming that traditional approaches to teaching games and sport are incapable of meeting worthwhile educational outcomes and continue to alienate and marginalize the less skilled and less confident students (for example see, Ennis, 1999). At the same time, and despite the public panic over child obesity levels and children’s low levels of physical activity, physical education is being increasingly marginalized in schools. Within a climate of increasing concern with standardised tests and benchmarking there is little in the ways in which games and sport have traditionally been taught that can address the conception of physical education as being non-academic and restricted to the physical dimensions of learning.

A marked growth in interest from physical educators in social constructivist approaches to learning over the past decade in particular has seen the development of exciting approaches to teaching and learning in games and sport and their increasing implementation across the globe. Among these is Game Sense, an Australian variation of the Teaching Games for Understanding (TGfU) model first developed by Bunker and Thorpe over two decades ago (Bunker & Thorpe, 1982). TGfU and its variations such as Game Sense have attracted considerable attention from researchers over the past decade and have made a significant impact upon teaching across a range of cultures and offers long overdue ways of reinvigorating the teaching of games and sport in schools. As with most innovations in schools, however, its implementation faces considerable barriers in
the ways in which it challenges established views of what good physical education teaching involves and the ways in which it repositions the teacher from instructor who transmits knowledge to a facilitator of learning.

Game Sense offers a pedagogy for generalist primary school teachers through which they can provide inclusive enjoyable and effective experiences of learning to play sport and games (Light 2002; Mitchell, 2005). However, most primary teachers, do not have the deep knowledge of game play that many researchers in the physical education field feel is needed to successfully teach using a Game Sense/TGfU approach (for example, Howarth, 2005; Mitchell, 2005). Adding to the challenge of helping generalist teachers develop Game Sense is the typically brief exposure they have to physical education in their teacher preparation programs. This paper reports on two separate studies of pre-service generalist primary school teachers’ responses to Game Sense in their teacher education programs. Both studies reported on in this paper sought to explore pre-service primary teachers experiences of a unit of study on Game Sense teaching and the impact it had upon their attitudes to, and confidence in teaching physical education. One study was conducted at a university in Melbourne and the other at a university in Sydney.

Physical Education in Australian Primary Schools

Generalist teachers undertake most teaching of physical education in Australian government primary schools. Along with the other Key Learning Areas that they must teach primary school teachers need to provide enjoyable, educationally valuable experiences of physical education for children if they are to encourage active lifestyles and integrate physical education into the school curriculum. Although club sport, family attitudes to sport and a range of other socio-cultural factors shape children’s attitudes to physical activity early experiences in primary school physical education form pivotal influences. Indeed for many children from low socio-economic backgrounds school can be the only place they are taught sport and other movement. Primary schools are clearly important sites for developing positive attachments to physical activity and fostering the valuable social and cultural learning that can emerge from it (Light & Fawns, 2001). Given the evidence of teacher resistance to Game Sense and the low status of physical education in schools newly graduating teachers seem to offer the best chance of initiating change.

A great number of pre-service primary school teachers entering teacher preparation programs, however, lack confidence in their ability to teach physical education and fail to see it’s educational value (for example see, Light, 2002). These problems are compounded by the often inadequate time devoted to physical education in many teacher education programs and the ways in which physical education is conceptualised as being separate from the rest of the primary school curriculum. Despite promising developments in physical education teaching still-dominant approaches emphasizing the mastery of technique before playing games marginalize and exclude girls and the less confident males (Ennis, 1999). This, of course, has serious implications for primary school teacher preparation programs where the overwhelming majority of pre-service teachers are female, so much so that federal and state education bodies are looking at means to attract
more males into the profession. These pre-service teachers bring with them values toward sport and physical education shaped by their own, often negative, experiences while at school (Light, 2002). Typically, they see little value in physical education in the curriculum, lack the confidence to teach it and are not inclined to devote significant time and effort to teaching it. Instead, they see it more as a distraction from the real work of teaching and as no more than a way for kids to ‘let off steam’. The inclusive nature of understanding approaches to teaching games and sport have the potential to address the ways in which traditional technical approaches have excluded the less able and the less confident (for example see, Griffin, Butler, Lombardo & Nastassi, 2004; Light, 2004a).

**What is Game Sense?**

Traditional approaches to teaching physical education using a skill-based approach have failed to motivate school students to continue with lifelong learning (Tinning & Fitzclarence, 1992). Traditional physical education, based on a predictable round of skills followed by teacher talk and then repetitive skills, is bound to lack appeal and interest from students. Physical education has been dumbed down by dominant teaching practices to obfuscate their inherent complexity and their intellectual dimensions. The idea that successful play in sport requires a mastery of discrete fundamental skills represents an impoverished conception of games learning that is out of step with contemporary approaches to learning across all subject areas. Games are far more intellectual than this approach implies. Learning to play any game involves a range of cognition including perception, problem solving, decision-making and responses to cues (Kirk & Mac Phail, 2002). Despite some promising developments in physical education, teaching dominant approaches emphasizing the mastery of technique before playing games marginalize and exclude less gifted or confident individuals (Ennis, 1999).

Game Sense is an Australian variation of Bunker and Thorpe’s (1983) Teaching Games for Understanding Model. Game Sense was developed in the 1990s and is a student centred, inquiry-based approach that contextualizes all learning within games modified to suit the abilities and inclinations of the students (Light, 2002; den Duyn. 1997). Game Sense offers a means through which teachers can highlight the intellectual dimensions of games and provide stimulating and satisfying learning experiences for their students. Underpinned by social constructivist learning theory Game Sense has attracted considerable research attention over the past decade to make an impact upon teaching in schools and clubs across a range of cultural settings. In Singapore, for example, the Singapore Ministry of Education mandated a variation of Game Sense known as the Games Concept Approach in 1999 (Tan, Wright, McNeill, Fry & Tan, 2002). Tan (2001) notes that in the Australian school setting the implementation of Game Sense has been confronted by resistance from established teachers and the difficulties faced by graduating teachers. Significantly the teaching of games and sport in the new 2005 New South Wales 7-10 Personal Development, Health and Physical Education (PDHPE) syllabus has mandated the Game Sense approach.

In Game Sense the teacher adopts a very different role to the teacher using a skill based approach. The teacher becomes a facilitator or learning rather than an instructor
transmitting a set of knowledge. Similar debates have characterized the development of constructivist approaches to teaching in other subject areas although physical educators have been slow to adopt student-centred, inquiry-based approaches. Units of study begin with modified games to reduce the skill demands enough to allow students to engage in play and focus on the tactical dimensions of the game. By doing this, students develop basic game appreciation and are immediately confronted with the basic problems that characterize play in the full version of the game. One of the distinguishing features of Game Sense is the reliance on teacher questioning to stimulate thinking in preference to direction instruction. In between periods of activity students reflect on ideas and concepts through group discussion drawing on existing student knowledge to inform play. Once students understand the modified games information is scaffolded and the games become more complex and closer to the real version of the game.

Methodology

This paper draws on studies conducted at two Australian universities; one in Sydney and the other in Melbourne. Both universities have long established and well-respected teacher training programs with reasonably high University Admission Index (UAI) scores required for entrance into both of them. Both studies were conducted with second year pre-service teachers enrolled in a general primary teaching program and for both groups it was their first exposure to Game Sense.

The research design was similar at both sites with the use of questionnaires prior to the unit used to develop an understanding of the beliefs brought into the unit and the attitudes that they had toward physical education teaching prior to the unit. The Melbourne study was conducted over two years from 2000-2001 as the unit of study was a year-long unit and the Sydney study was conducted over second semester in 2004. The two cohorts received the same learning experience and the units of study was similarly structured. The first part of the units were devoted to linking learning theories underpinning Game Sense with the social constructivism that the students had been exposed to in their other studies. These lectures encouraged students to see physical education as an integral part of the curriculum and encouraged students to reflect on their own experiences of physical education at school.

This was followed by a series of workshops in which students were taught to play cricket, soccer, volleyball and basketball using a Game Sense approach. Over this period of time students were organized into team teaching groups that would collaboratively plan and teach a lesson at a primary school towards the end of the unit using this pedagogy. The students were also reading the literature on Game Sense pedagogy required to complete a major essay based on an informed reflection upon their experiences in the workshops. The essay encouraged students to explore the impact that Game Sense might have to offer as pedagogy. At the conclusion of the unit of study students taught a lesson at a local primary school.

All the participants were in their second year of study as generalist primary school teachers where physical education was offered as a single compulsory unit of study. The
Game Sense unit of study was their first experience of physical education within their programs and comprised of both theoretical and practical classes. The students had been exposed to constructivist approaches to teaching in various foundations units of study and were familiar with much of the learning theory presented. The Sydney cohort consisted of 30 students, who were predominantly female with approximately 90% of students female. The Melbourne cohort was also predominantly female (82 per cent) and the majority of the students from both cohorts (85 percent) aged between 18 and 22. The first author lectured in the units of study. The second author conducted all interviews and distributed the questionnaires in the Sydney study.

**Data generation and analysis**

Initially a questionnaire was distributed to all students enrolled, to provide us with a broad overview of student backgrounds, values and attitudes toward physical education and sport. This data was used to support more detailed one-on-one semi structured interviews and observation data which provided the primary source of data for this particular study. Thus the triangulation between different sources is used to strengthen the study validity. The study was conducted according to the ethical principles of informed participation, anonymity and confidentiality. All names used in the study are pseudonyms.

Data was analysed by reading over the interview transcripts to identify common, recurring themes under which the data was organized. These are the themes discussed in the results section of this paper. After the completion of both units of study students completed a mixed response questionnaire. The first section had a series of Likert scales exploring students’ a). previous experiences of physical education b). pre and post attitudes to the unit of study and c). experience and attitude towards Game Sense pedagogy. The second part of the questionnaire gave the students opportunity to respond more openly to short open ended questions.

The first section of the questionnaire was entered into SPSS (Statistical Package for Social Sciences) for statistical analysis. The second section of the questionnaire, the open ended response questions and the interview transcripts were quantitatively analysed using a grounded-theory approach (Glaser and Strauss, 1997). Themes and ideas were identified; the following section identifies and discusses themes that emerged from the research.

**Results and Discussion:**

**Prior Experiences**

The overwhelming majority of students (almost 80 per cent) reported that they enjoyed involving, watching and when the opportunity arises taking part in sport. What is surprising and disturbing for us is that, despite this, approximately 75 per cent of the participants had negative experiences of physical education at high school and for the most part could not see its educational relevance:
(PE) involved sitting down being told how to play sport and then playing the sport for ten minutes before we had to get changed. There was great resistance from the majority of the girls to get involved, even in year 7, when you would expect the kids and teachers to be more motivated. It was not fun and most of the (PDHPE) staff were slack and unmotivated. They were bad role models (Interview Bronwyn, Sydney)

Participants also noted that physical education catered primarily to the elite or better skilled students and this was yet another reason why participation was limited. Students time and time again noted that it was far too elitist and competitive and that teachers would focus on the gifted and talented students. In many ways this also illustrates that school physical education has become a second rate version of competitive weekend sport, with far too much emphasis on winning:

I had real problems with it and in particular two teachers who I am now convinced, allowed students to sit out so they would not have to deal with them. … So we had this situation where half the class would be changed playing and involving themselves while the other half sat down, written lines which they were happy to do it, if it meant not taking part (Interview Melanie, Sydney).

These responses were similar from both cohorts and Anna from Melbourne brought with her negative memories of physical education:

I hated PE at school, I was never any good at sport and I was always last picked for teams and always humiliated by the PE teachers. I really tried to think of a way out of the sport classes (Interview Anna, Melbourne)

The students’ negative experiences of, and attitudes to, physical education and sporty presents a problem for teacher education programs because if these are carried through with them past their teacher training programs these pre-service teachers would consider physical education as an ‘other’ subject that had no real place in their teaching careers. One of the main reasons why students from both universities found Game Sense so valuable was of its inclusive nature and structure and that it encouraged far more group participation. In fact over 80 per cent of the students reported in questionnaires that this one of the strengths of Game Sense:

I thoroughly enjoyed cricket and basketball was also great. I initially had hesitations about playing cricket because my brothers played and I watched it on T.V., and because it was a gendered sport in school never had a chance. ….. The modified kanga cricket games were great and I could not believe by the end of the 2 hours we were all bowling. (Interview Vanessa, Sydney)

The data quite clearly demonstrates that the primary reason for the students’ positive responses to the unit of study was the inclusive nature of Game Sense as they experienced it in the practical workshops and the ways in which it encouraged far more participation and genuine engagement in the games than they had expected. Participants signaled that in their previous school group experiences there were two groups of students in particular who had low rates of involvement: girls and students with special needs. Game Sense
illustrated to the participants an effective way to get all students involved in physical education lessons.

The affective dimension of learning

Some research has been conducted on the affective dimensions of learning in and through physical education although the majority has focused on fun and enjoyment (O’Reilly, Tompkins & Gallant, 2001; Portman, 2001). There have also been a few studies that have looked at the significance of the affective dimensions of learning in a Game Sense variation Teaching Games for Understanding (Holt, Strean and Begoechea, 2002; Light, 2003; Pope, 2004). Heywood (2001) suggests that ‘joy’ is a deep emotion that is important for learning and can be transformative. The participants in this study from both universities reported similar deep affective experiences of the workshops. In some cases they reported on the ‘joy’ that Heywood (2001) sees as an important part of learning. The participants felt included and valued and enjoyed the social interaction stimulated by ‘Game Sense’. They were asked to reflect upon their own experiences in the workshops and consider the implications of this for their teaching. The sense of joy that many of the participants experienced in the study were also tied into the learning and sense of being able to participate in the modified games used and the collective development of understanding allowed for.

(I) have been a little anxious about participating in university PE courses. This is why I turned up to the first class late with no sporting gear. After the first 10 minutes the social interaction was so positive that I just bonded with the girls. (Interview Wendy, Sydney)

It was also linked to the sense of belonging, worth and self-esteem Game Sense seemed to provide for through its focus on collective problem solving. As the experiences of the participants in the study indicate, the modified games used to suit the learners and the de-emphasizing of skill that characterize this pedagogy can provide immediate engagement in games and opportunities for achievement and interaction. In fact, the ways in which the Game Sense approach encouraged meaningful interaction through discussion, collaborative problem solving and communication during games in the workshops was noted as a feature of the approach by many participants in the studies:

One of the great aspects of the workshops was that I finally got to know many of the students in the primary program. In fact in the first practical (workshop) I met four new students and we instantly hit it off. Up until this Game Sense workshop I would see them in our lectures but we didn’t really link up (Interview Sue, Sydney).

For one student in Melbourne who had ‘dreaded’ playing basketball her enjoyment of basketball taught using a Game Sense approach surprised her:

…… in the end I couldn’t believe how much I was enjoying it. Like I have never really liked playing sport but when the game finished I really wanted to keep going. We were going really well and I was just so into it and didn’t want it to finish. This is the best way to teach sport (Interview Amy, Melbourne)
The experiences of the participants in the two studies reported on here suggest that, perhaps tertiary physical educators should think about firstly justifying physical education by showing students how much of a valuable educational experience physical education can be. The aspect of social learning and ‘fun’ should be a very big part of this. From the responses of participants in this study and the links they have made, perhaps Game Sense should have preference in teacher training programs, over traditional outdated pedagogy.

Perceptions of the Educational value of Games and Sport

Although the unit focused on games and sport the participants reported seeing far more value in physical education as a subject area than they had before the unit. They attributed this change in their perceptions of physical education to the focus placed on learning in and through the movement and the treatment of physical education as another learning area and not something separate from the rest of the curriculum. Through the questionnaires and interviews the participants highlighted the educational value of physical education and this perhaps was attributed to the linking of the theory underpinning Game Sense to theories of learning they had been exposed to in other areas of the program. Perhaps this was also due to actually experiencing student-centred learning theories in action. Jane from Melbourne noted:

    .... for the first time ever I actually knew what we were trying to do instead of being completely lost and intimidated. I thought, yeah, I know what’s going on here and it made me feel more like getting involved (Interview Jane, Melbourne).

The responses of participants from both cohorts in this study show the way that Game Sense can engage students cognitively and provide for genuine increased understanding contributed to their enjoyment of games. This is particularly evident for those students who had a negative experience of physical education in school and for these students Game Sense provided intellectual stimulation and increased social interaction. This fits in well with the literature that noted the growing recognition of learning as a complex, multidimensional process that is socially and culturally situated (David & Sumara, 1997; Lave and Wegner, 1991). There is also increasing recognition of the possibilities for learning that can arise from movement when appropriate pedagogy is adopted (Kirk & Macdonald, 1998; Light & Fawns, 2001). This helped some of the participants get involved in the game:

    I really liked the little team meetings and team talks we had during the games. I felt like my opinion was valued and like I had something to contribute. It also gave me a bigger idea of what the game was actually about. It helped me understand what was going on and what I was suppose to do. I couldn’t always do it but at least I had something to do and it made me want to get into it more as the game went on (Interview Christine, Melbourne).
Confidence to Teach

Participants in both studies overwhelmingly indicated that their experiences of the respective Game Sense units they felt far more confident and inclined to teach physical education and games in particular. The confidence and enthusiasm to teach physical education at the end of each unit stood in stark contrast to that of most participants in the two studies. At the conclusion of their first unit of study in Game Sense all students reported an increased confidence in their ability to teach physical education. In the Sydney study Sarah had a ‘feeling’, an understanding of the value of sport and physical education in schools but had not been able to clearly articulate this. Nor did she have any idea on how she could possibly teach in a way that could realize this potential. Prior to the unit of study she had been intimidated by the prospect of teaching physical education, by the end of the unit, felt confident and motivated to teach physical education:

I am very committed to teaching it (sport and physical education) because you know the value of it, but (I) didn’t know the pedagogy. I now have a greater confidence and the same goes for my friends that did the unit. In fact this unit took away the scary factor of P.E. and I feel much more comfortable about teaching the subject. (Interview Sarah, Sydney)

Interview data suggests that that pedagogy is more important for games teaching than the content of the lesson. That is to say that knowing how to teach games is more valuable than being able to perform or demonstrate the various skills involved in the sport. This reflected their relative lack of experience in sport and their lack of specific content knowledge. They lacked the game knowledge that Mitchell (2005) suggests is necessary for primary teachers to teach using a tactical approach such as Game Sense but were confident they could rely on sound pedagogy to teach well. This was, in fact, a thrust of the units of study emphasized by the first author in lectures and during workshops at both sites. The experiences of lectures, reading, writing a reflective essay, doing work shops and team teaching a lesson in a primary school combined to provide the pre-service teachers in the study, such as Wendy, with confidence that a sound understanding of Game Sense pedagogy would prepare them to successfully teach games:

This will be the approach I use when I go out to teach I want all my students to have a positive experience… Teaching to 20 percent of a class would be worthless. I will endeavour to have 100% of students participating. I am hoping Game Sense will do this for me. Not being a sporty person should not stop people from participating or even teaching physical education (Interview Wendy, Sydney)

This very significant change in attitude and enthusiasm was also a common theme with the Melbourne study as is evident in this quote from a female participant who, prior to the unit, had indicated that, if possible, she dislike sport, saw little value in it within the curriculum and was unlikely to teach physical education:

You know, like I was thinking before we did the Game Sense that there was no way I would teach PE. For a start I hated PE when I was at school and had no idea that it could be
taught like this. This is just a great way to teach PE and this is the way I will be doing it when I go out to teach. (Interview Alice, Melbourne)

Conclusion

Almost 80% percent of the pre-service teachers in the two studies reported on in this paper reported negative experiences of physical education at school and negative attitudes toward physical education and sport prior to their Game Sense unit. A very significant number of them also reported not intending to teach physical education if they could avoid it and seeing little educational value in it. After only one unit of study, however, there was a remarkable change in attitude toward physical education as well as enthusiasm for teaching and confidence in their ability to teach games and sport. We recognize that whether or not this confidence and enthusiasm could be maintained over the remaining two years of their programs and into their initial years of teaching is questionable. Given continuing development during in their respective programs and some degree of support from fellow staff or elsewhere during their first years of teaching this is certainly possible. Light’s (2004) study of early career teachers suggests that, given the right support this is certainly possible. However, despite the relatively brief exposure to Game Sense and the negative attitudes toward physical education that so many of the participants brought into the respective units of study, the positive responses of the pre-service teachers in these two studies is very encouraging. It confirms recent research and writing that claims Game Sense can offer a means of assisting primary teachers teach physical education (Light 2002; Mitchell, 2005). By combining theoretical lectures with a reflective approach to practical workshops and teaching experiences in schools the approach taken in these two studies provided an effective means of developing students understanding of Game Sense over a short period of time and of developing enthusiasm to teach it.

These two studies also challenge recent claims that deep game knowledge is necessary for teaching using a tactical or understanding approach such as Game Sense (Howarth, 2005; Mitchell, 2005). In fact this is one of Launder’s (2001) criticisms of TGfU and something he has attempted to address in his Play Practice approach. Given the backgrounds of the pre-service teachers in this study and the typically inadequate time devoted to physical education in teacher preparation programs developing content knowledge is difficult, if not unachievable. For example, the primary teacher education program at the Sydney site devotes only 36 hours (6 credit points) to physical education even though it is one of the key learning areas. Given these limitations we suggest that a strong focus on pedagogy linked to that used in the classroom provides a viable alternative to the development of specific game knowledge. As Davis and Sumara (1997) suggest with the enactivist approach to teaching and learning, Game Sense involves the teacher as a guiding co-learner who joins in the learning process. This means that, although teachers may begin with little specific game knowledge, they can build on this knowledge over years of teaching using a Game Sense approach. They do not have to be anxious about not having all the specific knowledge to pass on because, although they well be an expert teacher they do not put themselves forward as an expert in specific knowledge of sport and games.
While the participants from both universities had yet to teach beyond brief team teaching episodes they expressed confidence and enthusiasm for the task. The significant change in attitude toward teaching games evident with the participants in this study and their increased inclination and confidence to teach physical education is more than promising. Their experiences of Game Sense as learners in the workshops and as teachers in their team teaching experiences provided them with a pedagogy that they felt was effective and which they felt confident they could use. This is not to say they will necessarily be successful in taking on a Game Sense approach as teachers or in their teaching practical. It does however indicate that despite the relatively brief experience of Game Sense in their teacher education programs and their negative experiences of physical education and sport at school they developed a positive attitude towards physical education. Indeed, it excited them and provided them with a vision of what good teaching could be. This alone represents a very positive start that, if further supported in teacher education programs can make a good contribution toward the development of informed primary school teachers who can integrate physical education into their classroom teaching and approach physical education teaching with the confidence and enthusiasm requires to make physical education a valuable part of the primary school curriculum.

References


