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Game centred approaches - development of understanding and meaning of game centred approaches in undergraduate physical education teacher educators

Gregory J. Forrest
University of Wollongong, gforrest@uow.edu.au

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Game Centred Approaches – Development of Understanding and Meaning of Game Centred Approaches in Undergraduate Physical Education Teacher Educators

Thesis submitted in fulfilment of the requirements for the award of the degree

Doctor of Philosophy

from

University of Wollongong

Gregory J. Forrest, Bed. (Human Movement)

FACULTY OF EDUCATION

2013

‘... let’s teach everyone to walk and then give special coaching to those who show the ability to run. This is different from the present system of coaching everyone to run and then neglecting those who are not good at running.’ (De Bono, 2001, p32)
Declaration

I, Gregory J. Forrest, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the Faculty of Education, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualification at any other academic institution.

Gregory J. Forrest
Bed. (Human Movement)
31st July 2013
Dedication

This dissertation is first and foremost dedicated to my family, my wife Angela and my three children, Indianna, Saxon and Xavier. When my first steps on this research journey began, you were all unconditional in your support and encouragement. Ange: while we wanted a new life in a place to raise our family, you gave up friends and community to move to Wollongong for me. Not a day passes without me thinking of the cost of such a move and, while I was able to immediately enjoy the support of a new community, you have had to discover and create a new network from scratch. You have been patient and incredibly supportive throughout the process and have always understood when I have been physically present but ‘off’ in a different headspace. Indi, Saxon and Xavier: you have been my constant ‘test pilots’, allowing me to put the ideas into practice and patiently accepting the challenges I presented to you, whether through coaching your teams or playing in the backyard, without ever uttering ‘Here we go again!’ or having any ‘Not now Dad’ moments. Irrespective of where this dissertation and career takes me, it will always be secondary to you. I love you all very much.

Secondly, I would like to thank my parents, Carl and Caretta. You always allowed me make my own decisions, choose the career I wanted, make my own mistakes and continued to support and guide me in whatever I did. Dad, you taught me to value of a strong work ethic and that doing the best you could regardless of the situation was something to strive for. Mum, you always encouraged me to challenge myself to be better than I thought I could be. You both taught me the immense value of giving to others to enrich the receiver’s and the giver’s lives. I would also like to thank my sisters Lisa and Jane and brother in law Jess for being sounding boards and critical friends through the process.
Acknowledgements

I would firstly like to express my immense gratitude to my supervisors. My primary supervisor, Professor Jan Wright began this research process in Auckland and then in Wollongong. Jan, you have always demonstrated a strong belief in my ideas and given focus to my sometimes random and scattered thoughts. Thanks for both giving me the freedom to work at my own pace and the knowledge and understanding to guide me in the development of my understanding of the research process. Your guidance, enthusiasm and friendship have been much appreciated and I hope you have learned from me the way I have from you.

My co-supervisor, Doctor Phil Pearson has been present throughout the whole project, initially as an initial contact at UOW when I first arrived and then as a collaborator in ideas and implementation and then as a friend. Pearso, your relaxed approach and guiding suggestions have allowed me to complete this research in a relaxed and enjoyable environment. Our formal and, more importantly, informal conversations demonstrated your broad knowledge and allowed me to keep the ever-present challenge of completion in perspective.

I would also like to thank my friends, colleagues and mentors who supported me during my doctoral journey. From the moment I arrived on secondment in 2006, the Physical and Health Education staff has made me feel like a part of the family. To Gregg Rowland, Paul Webb, Kim McKeen, Dana Perlman, Ros Westbrooke, Jenny Vatovec, Wendy Dowler, Doug Hearne and Jodi Andreshkou: thanks again for the professional discussions, the wonderful support, pleasure of your company, the trust you placed in the research and for the opportunity to have input into the games and sports and pedagogy programs of the degree and helping with a vision beyond this doctorate. I have indeed been blessed to work in such a great environment.

Finally, I would like to thank all of the students, players, teachers, parents and coaches who have been part of my teaching career, participated in the practical studies courses that were used for data collection, have been participants in these games and sports courses for the last five years, been in my teams or have been part of the ongoing discussions, dialogue and development of games and sports teaching. Your willingness to adopt new practices and your enthusiasm to be enthusiastic and open-minded participants have improved the quality of the study immensely. A special mention to mentors Chris Armstrong, Steve Pickering and Mark Carter for your ongoing support in my teaching career and providing and supporting opportunities for my own development.
Abstract

Game Centred Approaches (GCAs) have been promoted as the preferred method of teaching games and sports in New South Wales secondary schools due to perceived links with quality teaching and learning environments, as described in the NSW ‘Quality Teaching Framework’ (QTF DEC, 2003). All future Physical and Health Education teachers in NSW are expected to be both cognisant of, and competent in using GCAs to allow students to better achieve the outcomes of the syllabus and create teaching and learning environments that meet quality teaching and learning outcomes.

However, despite the development of GCAs such as Teaching Games for Understanding (1982) internationally and Game Sense (1997) in New South Wales, they are still seen as an innovative and relatively new approach to teaching. This may be for the following reasons. Using GCAs require the user to firstly be more familiar with a broader range of game play elements and secondly, as GCAs encourage the active involvement of students in the learning, to facilitate this involvement using student responses as a basis for this facilitation. This differs significantly to the more traditional model used to teach games and sports and the model experienced by most students and players involved in games and sports, which places a priority on gaining proficiency in movement skill prior to game play. As a result, what occurs when preparing future Physical Education Teacher Educators (PETE) to use a GCA, a model quite different to their own experiences, is unknown.

The purpose of the thesis is to investigate how PETE undergraduates understand GCAs through examining how they constructed understandings and meanings about games for themselves and for their peers using a GCA. It also examined how my own understandings and uses of a GCA impacted on undergraduate knowledge and understanding of GCA. Data for the study were collected over two 13-week semesters in three practical studies courses in games and sports with two cohorts (n =119) studying in the University’s undergraduate Physical and Health Education degree. The second year cohort (n=61) was studying using GCAs in the invasion sports of hockey and soccer and the third year cohort (n=58) were studying using GCAs in the net/wall court sports of volleyball, badminton, squash and tennis. The study described in this thesis is informed by an ethnomethodological approach and used three data collection tools. Firstly, all interactions in environments where meaning making in relation to GCA understanding was taking place were recorded using an iPod. This included interactions between the undergraduates and me and between themselves in tutorials, all informal and formal consultations between myself and the undergraduates and all undergraduate GCA presentations and my own observations of these
presentations. Secondly, all undergraduate GCA presentations were recorded using a digital video camera. Finally, all undergraduate self reflections based on the audio recordings of their presentations was collected at the conclusion of each course. All audio data was transcribed in 2007/2008 and extra data using the same process was collected over the next two years. While not used directly in this study, it assisted in the development of emerging themes in relation to the research questions.

The study found the following were a major influence in the development of undergraduate meaning and understanding in relation to the use of GCAs. Firstly, the expectations and beliefs of the undergraduates in relation to games and sports were very important. These beliefs and expectations about the courses and the use of a GCA in relation to their perceived role in teaching games and sports caused discomfort and in some cases personal confusion in what a GCA meant and how it was used in presentations. However, in general, the undergraduates approach to the challenges presented to them in relation to GCAs seemed to assist them in understanding why GCAs could be a valuable teaching approach in games and sports and in assisting students to learn in this area. The study also determined that undergraduate understanding of GCAs would benefit from a greater focus on developing skills in game observation and analysis, especially in relation to the role of and use of questions in in GCA presentations. Greater attention to these areas would assist in the improving undergraduate ability to develop appropriate questions and manage the ongoing dialogue in lessons using GCAs and also facilitate a more in depth understanding of the key elements of game play identified by GCAs: strategy and tactics, decision making and expanded elements of communication, concentration and cognition. The study also developed a Systematic Assessment Scaffold to assist in determining the quality of GCA use in relation to their connection with constructivist approaches. This scaffold was a beneficial tool for enhancing both my own understanding and undergraduate understanding of GCAs. Despite the intentions of the undergraduates, GCA presentations in practice were inconsistent and resulted in large variations in the quality of the learning experiences. The demonstrated use of the conceptual scaffold in practice gives and insight into how it’s use could provide valuable insights into various strengths and weaknesses of users and give users and observers of GCA the capacity to enhance understanding of GCAs. Finally, the study suggests the use of a traditional sports based approach may no longer be an appropriate approach to take in tertiary PETE undergraduate courses when developing undergraduate understanding of GCAs. It suggests the potential of a more conceptual approach to develop GCA understanding and recommends further research into such an approach as a positive step forward in GCA research.
Thesis Organisation

The thesis consists of both published and submitted papers and has been organised in the following manner to allow a sequential and logical flow. Chapter 1 has not been submitted for publication and describes the process that led to the development of the research project and the study itself. Chapter 2 gives further detail about the design and structure of the practical studies courses the undergraduates were involved in. While the course is not one used in the data collection, it demonstrates for the reader the process by which PETE undergraduates were exposed to and developed an understanding of GCAs in the game categories, in this case, invasion or field territory games. Chapter Three describes the process by which data was collected and the value of using a mobile device in tertiary education environments. Chapters Four, Five and Six provide detail on the main issues facing PETE undergraduates when trying to use and understand a GCA and go into further detail, especially in relation to questioning and making judgements about the quality of GCA use. The final chapter presents the findings of the study and provides a series of recommendations in relation to the research questions. The thesis concludes with a coda indicating some research projects emerging from the thesis in relation to games and sports.
Publications and Presentations

The following publications and presentations have been produced as a result of the research conducted for this thesis.

Publications in Refereed Journals


Forrest, G, Wright, J. & Pearson, P. PETE undergraduate perceptions of questions in GCA lessons.. Journal of Teaching Physical Education (submitted for review) (80%).

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Chapter 1

Game Centred Approaches – Questioning, Processes and Developing a Doctoral Thesis.

1.1. Introduction and Background

In 2002, I had the opportunity to take extended leave from my position as Head of Personal Development, Health and Physical Education (PDHPE) at a secondary high school on the north shore of Sydney. This period of time allowed me to reflect on the processes of teaching and learning that occurred in my classroom, especially in games and sports, an area of great interest for me. The approach I had been using with my classes in this area was consistent with my own schooling and sporting experiences and with that used in my own Physical Education (PE) undergraduate degree. This method has been the dominant teaching approach in games and sports for a number of decades and is often referred as the traditional or technical approach (Gréhaigne, Richard and Griffin, 2005). Structurally, lessons using this approach begin with warm up, followed by a series of drills that on individual skill development. These are then practised in a modified and then full game in what is described as a ‘part to whole’ method of teaching (Butler, 1997). The philosophy underpinning the approach is that the development of movement skill proficiency in the sport and the ability to execute the movement skills autonomously allows players or students to devote more attention to the cognitive elements of game play.

However, in my 21 years of teaching in games and sports in PE and sport settings, it had become apparent that despite the time spent on skill development, students in my classes, especially the inexperienced, were often able to develop some level of proficiency when executing movement skills in isolation, yet in the crucial ‘when, how, what and why’ moments in game play, they could not. In fact, students in my classes did not seem to improve in the games and sports we studied, despite participating in a four-year program from Years 7 -10. As this reflective process continued, I reached the following conclusions about my games and sports lessons, the assessments I used and the programs I was responsible for.

- I did not teach the cognitive elements of games and sports due to a ‘movement skill first’ focus.
• Many of the activities I used did not challenge students but often involved ‘mindless busy tasks’ to allow students to be physically active and easier to manage.
• The repetitious drills used to improve movement skills made small improvements to student’s ability to execute skills in isolation but this rarely translated into game play environments.
• Units in games and sports were based on individual sports and starting points for these units did not change, regardless of age or the year grouping of the students.
• I expected the ‘how to play’ to translate naturally into the sport from the movement skill drills I used, resulting in no observable improvement in game play from when they started games and sports units to when they completed them.
• Assessments were biased towards those with natural ability or prior experience (or both) in the sports involved and often were loaded toward the ability to execute movement skills.
• The educational environment I created encouraged students to become very dependent on me as the teacher to provide answers to any problems that occurred in game play.

As a result, I decided do some further research into both games and sports and combine this with an exploration of how to develop lessons that taught students how to think in a range of teaching contexts, including games and sports. I applied the ideas of authors such as Bloom (1956) and de Bono (2001) to a games and sports context and decided to prioritise my focus on the ability to ‘play the game or sport’ in my lessons, directing attention to the ‘when’, ‘how’, ‘what’ and ‘why’ elements of game play rather than focusing on developing movement skills when I returned to the ‘classroom’. As I was also challenging my own educational experiences and my own ‘teacher training’, I also decided to examine my own teaching practices rather than just focus on the students’ abilities or inaccuracies in relation to these elements. It was at this stage that I began to keep a personal journal, a habit that is a key foundation of this dissertation and one that remains an everyday practice for me to this day. This journal, reflecting on my own teaching practices and my thoughts and ideas associated with this, allowed me to examine the implementation of these ideas in practice and analyse issues associated with my endeavours in this area. It also allowed me to explore a range of solutions to issues that presented when using a games based approach in both my own teaching of games and sports and, from this, develop and clarify the process I used to develop my own and my student’s understanding of game play using this approach.

When I returned to school, I decided to implement these ideas in a Touch Football unit (an two dimensional invasion / field territory sport) with a Year 10 class (15/16 year olds). I used a range of
modified games and began by requiring students to keep possession, a key concept in invasion sports, rather than learning the ‘proper’ sport of Touch Football through focusing on movement skills of passing and catching associated with the sport. These modified games would be progressed in two ways: firstly by building on student responses to the game play; and secondly, by creating progressions using the primary rules of Touch Football (for example, the player in possession has to stop when tagged). The aim at this stage was still based on learning to play Touch Football, as this was the focus of the unit. Despite my teaching experience, I was quite nervous and I had a number of misgivings before I began teaching the class. The structure of the lessons was very different to how I had been taught to teach and to what the students in my class were expecting. There were also a number of areas of the lessons, such as the management of the questions and the game play that would evolve from the modified games that I could not plan for. If I wanted the students to think for themselves, I would have to deal with their responses ‘on the run’ and take these responses into account to progress the lesson rather than just telling students what to do next.

It was immediately noticeable that when comparing these lessons to what had been ‘normal’ lessons, there were a number of key differences. Firstly, by placing greater importance on achieving the aim of the games rather than the movement skill in the game, there was real improvement in game play and game understanding. While the execution of movement skills was not anywhere near perfect in relation to passing and catching, it was more than adequate to allow all students to be actively involved in play, both cognitively and physically. In addition, less importance seemed to be placed on what students could not do. It was also evident that by from moving a single focus on execution of skills as the main issue to a wider examination of other elements of game play, all students in the lesson had more opportunities to problem solve in relation to game play. As the students were became more involved in examining game play, they were more willing to experiment with more creative solutions to solve the problems that presented in game play and they placed less importance on being able to execute movement skill to achieve them. While I gave some suggestions that challenged their understanding of game play, these were not ‘set in stone’ and a wide variety of solutions were encouraged and analysed. The focus on solutions rather than movement allowed a greater number of students to practice and develop skills in observation, application, analysis and evaluation of their own play as well as that of the opposition. Interestingly, there was resistance from a small number of students, especially those I would describe as more skilled in game play but this was more than countered by the greater empowerment of a wider range of students, a number of whom had had very little ‘voice’ in previous lessons. Combined together, all indicators pointed to increased focus during lessons, greater engagement in the learning process, a greater sense of achievement for students, greater enthusiasm for the challenges presented in game
play and an increased understanding of the concepts of game play. While very pleased with the outcomes, I was also aware that these lessons placed significantly more pressure on me to observe and analyse and make judgements on the appropriateness of solutions than had been the case in previous lessons. In those, I could present the material, look for the correct answer and then direct students towards it. This approach was very different and I felt I needed to apply the approach in other sports and to further my research into the topic before I made further judgements on it’s capacity to deliver better outcomes.

I began to design and implement a number of units in different games and sports and found very similar results to those described above. At the same time, research into approaches centred on the use of game play led to the teaching model called ‘Game Sense’ (Webb and Thompson, 1998). This model evolved from another games based approach, the ‘Games for Understanding’ model, which was designed with the desire to move to a more cognitive based approach in games and sports and improve players and student development (Bunker and Thorpe, 1982, Webb and Thompson, 1998). These games based approaches to games and sports, referred to from now on in this thesis as Game Centred Approaches (GCAs), are an alternative teaching method to the more traditional approach to games and sports teaching and reasons for use by those advocating the use of these approaches were very similar to those I had encountered: improving game play understanding; and engagement and self-efficacy for all students in games and sports classes (Oslin and Mitchell, 2006). The discovery of others who had used and conducted research into GCAs both reinforced my beliefs and further fuelled my enthusiasm for the approach. What had so far had been anecdotal evidence from practice now had support from research studies and there was evidence of a community of teachers and researchers who also were searching for alternative methods of teaching games and sports.

This process of developing and implementing lessons using a GCA, reflecting and evaluating their successes and limitations and researching the approach continued over the next two years. By the end of 2004, I had gathered a large amount of anecdotal evidence of improved quality of game play, improved student learning outcomes and more consistent assessment practices. There was still some resistance from a small number of students and from some members of staff but there were plans in place to expand the process through Professional Development with other PHE teachers at neighbouring schools. At this stage, I had been Head Teacher in my school’s Physical and Health Education (PHE) Faculty for ten years and had decided not to proceed further up the hierarchical ladder. I was encouraged to further explore my role in promoting the use of GCAs and was employed by the New South Wales Department of Education and Communities (NSW DEC) to ‘Teach the Teachers’ to use GCAs as part of the professional development associated with the
implementation of a new PDHPE syllabus (BOS, 2003) that encouraged the use of the GCA, Game Sense, as the key method for the teaching and learning of games. I presented a range of seminars on how to use the GCA, ‘Game Sense’, but also expanded on the brief by demonstrating the possibilities the GCA I had been using in my school had in developing what Gréhaigne, Richard and Griffin (2005) note as game sense or game play understanding. The outcomes of these professional development sessions were not always encouraging and there was an undercurrent of resistance even after number of professional development seminars into the approach. For example, in journal notes from one seminar, I wrote this comment, made by one of the teacher participants about implementing GCAs into their program. It represented a common view amongst practicing PHE teachers at these workshops and in a range of professional development workshops and seminars conducted since this time.

*Greg, I understand what you are trying to do here and I see its value but, in the end, it is just too hard! I have tried it for a couple of lessons but the kids get bored and keep complaining and want to play. It is just easier to agree with them and do what we always have done! (Journal, July 12th 2005)*

The comment revealed a number of issues that still seem to hold true in relation to GCA use and its implementation in practice. It is a difficult method as it seems to challenge users on a range of levels: their beliefs on the purpose of games and sports lessons; their own training in games and sports; their own experiences and their present practice; and the impact the use of a GCA will have on their role in a class. These issues were a real challenge and caused me to again examine my own beliefs and enthusiasm in relation to GCAs. As I returned to the teaching environment, I rediscovered my enthusiasm to further develop my own skills in using GCAs and promote their value in a teaching environment but questioned whether the forum I was using was the most effective way of achieving what seemed to be a significant cultural change in the teaching of games and sports.

The professional development seminars proved invaluable in enhancing my own understanding of GCAs and the issues with implementation but more importantly for this thesis, my involvement resulted in my secondment to the PHE Faculty at a regional university, where two of the leading experts on Game Sense and its implementation in schools, Dr Paul Webb and Dr Phil Pearson, were based. Both academics had been responsible for the delivery of similar professional development on Game Sense to Heads of Faculty and practicing teachers across New South Wales and for the promotion of this GCA as part of the roll out of the new PDHPE syllabus. As part of the
secondment, I was to lecture in a number of practical studies courses in the games and sports area. My desire to promote GCA use to improve the outcomes for teachers and students in games and sports now had more exciting area to explore: the provision of teaching and learning in games and sports to our future teachers.

1.2 The Beginning of the Secondment

The secondment commenced at the beginning of 2006 and I was responsible for the games and sports component of one of the practical studies courses, ‘EDUP 323 - Advanced Skill Analysis’ (see Appendix 1). The practical studies courses in the undergraduate degree were structurally very similar across all years. They reflected the aims of Physical Education in the later part of the 20th Century: a broad experience in a wide variety of different movement contexts in a PE curriculum and for sports, a range of experiences in competitive versions of sports (for examples of courses, see Appendix 2). One of my initial challenges was related to the methodology to follow when teaching the course. Discussions with lecturers in the program revealed no clearly articulated philosophy on whether to encourage the use of a GCA or not, with both ‘Game Sense’ and a more traditional approach evident in the subject outlines of other courses. This combination demonstrated that, despite no clear restrictions on how to manage the courses and indications that using the GCA ‘Game Sense’ should be encouraged, the traditional approach played an important role in setting the structure, assessment and the progression of the courses (see Appendix 1). While the use of Game Sense was consistently encouraged and used in the teaching of the games and sports components of the courses, the undergraduates were not really challenged in relation to their beliefs about games and sports and how it was taught.

This created a number of challenges for me when considering how to prepare our future Physical Education Teacher Educators (PETE) in a tertiary environment as opposed to developing student understanding in a school environment. Firstly, should I follow a more skills based approach, develop the movement skills of the undergraduates and then show them the possibilities that a GCA could have for their students, and through this, demonstrate the potential of examining games and sports in this manner? Or should I use a GCA from the beginning and challenge their beliefs on learning to play the sports in the courses and through this, their ability to teach the sport? Should I combine learning to play with observation and analysis skills, playing the role of the teacher at various times through the courses, as suggested by Oslin, Collier and Mitchell (2001)? Should I include more theoretical elements of learning theory in a practically structured course where I had limited time? As I was entrusted to develop quality teachers through the structure of the course and
my teaching of the content, these decisions weighed heavily on me. I noted one of the Program Director’s key concerns for the future of PE and the teaching of practical studies in my journal and it resonated strongly with me as I made my decision. He noted:

_The great problem with Physical Education (PE) classes in schools is the lack of opportunity for students to engage in any of the intellectual quality dimension of the Quality Teaching Model. They do the same tasks from Year 7 to Year 10 and it is something that is just not addressed by PE teachers in secondary schools. The other worry is that for many PE teachers, their interpretation of Game Sense reinforces the idea of just playing the sport, which threatens the integrity of the subject and the approach to an even greater degree._  

(Journal, February 16th 2006)

In a gesture of great trust, the department allowed me to teach the course the way I felt was best for the undergraduates. I was required to examine volleyball, badminton, squash and tennis but as I had full responsibility for examining these sports in any manner I wished I decided to use the GCA I had used in secondary schools and expand upon it. The students initially examined the different elements identified by GCAs (strategy and tactics, decision making and movement skill) through game play in modified games and these were then shaped towards the specific sports of the subject. The aim was to allow the students to apply this knowledge to the sports in the categories while experiencing what it was like to be a student in a GCA class. I also asked them to take on the role of the teacher by observing and analysing play and developing their own progressions to the games used based on play. To help them in this role, the undergraduates were also required to engage with a series of readings associated with different GCAs and the elements of game play associated with GCA use. These included Bunker, Thorpe and Werner (1996), Hopper (1998), Hopper and Bell (2002), Gréhaigne, Godbout and Bouthier (1999), Piltz (2004) and Light and Georgakis (2005). I believed that this would assist them in building a sound foundation in elements of game play to support their analysis of these elements in practice and broaden their understanding of a range of different approaches to teaching games and sports. In this way, I attempted to combine a ‘Living the Curriculum’ approach (Oslin, Collier and Mitchell, 2001) with and an understanding of both learning theory and game play as suggested by Light (2013). I deliberately, but understandably, placed greater demands on my undergraduates than I had placed on my students in school. After all, they were tertiary students. To assist determining their understanding of GCAs in practice, assessment in the course required undergraduates to complete a 20-minute lesson on a topic in their chosen sport to their peers using a GCA.
As the first class approached, I was nervous but excited in regard to teaching these undergraduates, a very similar feeling to my first lessons using the GCA in my school. As the university played a leading role in teacher professional development using the Game Sense model, I felt comfortable that the undergraduates would be familiar with GCAs and their intent. I was also very positive about the third year cohort, assuming that my changes would build on their previous exposure to GCAs and allow a more advanced examination of elements such as strategy and tactics and decision making as well as exploring the more in depth development of movement skill than had been possible at school. I also decided to extend my use of a journal that had begun while teaching in High School to record my observations of the ‘state of play’ in the games and sports courses, using GCAs and PETE undergraduate responses to the course as well as my own observations.

1.3 The Classes Begin

Classes began in late February 2006 and it was not an auspicious beginning to my university career. There were two prominent issues. Firstly, there was a significant gap between my expectations of the undergraduates in relation to game play and the analysis of game play and their actual capacity in these areas. Secondly, I was surprised and disappointed with their reluctance to initially engage in anything beyond just play. I wrote:

*The Third Year courses are called ‘Advanced Skill Analysis’ but after the first week of tutorials, I am sure it should be called ‘Elementary Skill and Basic Play Understanding’. There are major issues relating to game analysis here; just executing anything in the game is a serious struggle for some of the students, let alone demonstrating advanced understanding of game play. And these are the future PDHPE teachers?? There is lots of work to do here! At least they seem keen to play but my Year 8 students could cope with much more challenging work than this.*  
(Journal, March 1st 2006)

In hindsight, it should have been obvious to me that their level of experience and prior exposure in these games and sports would vary significantly, reflecting a typical high school class. However, as they were future teachers in games and sports, I was hoping to at least see a significant difference in ability level and game play observation and understanding between my first cohort of third year students and the students in my classes from secondary school, especially as these undergraduates had elected to do the degree. Nevertheless, despite my initial disappointment, game play and observational skills began to develop quickly over the next few weeks as the undergraduates began
to become comfortable with my expectations and those of the course. This was reflected in the following journal entry when I wrote:

*I ran a tutorial that required similar game play as that of a lesson for my Year 9’s (14 year olds) at school but with more challenging questions in relation to observation and analysis of play. I provided lots of examples of the types of questions to ask, of the game play elements to focus on and the different ways to progress the games to develop game play understanding via the integration of questions and discussions into game play. They (the undergraduates) all nodded knowingly, were actively involved in the play and I am expecting good things in the first GCA presentations.\'*

(Journal, March 14th, 2006)

As the first of the presentations approached, there were some mild misgivings about the undergraduates’ understanding of GCAs, their ability to use it in practice and whether they actually saw potential in GCAs and recognised the value of the different models. There were some interesting reactions from students in certain tutorials and I began observe a replication of a range of behaviours in relation to GCAs that I first noticed in my classes in the secondary school, often repeated in tutorials, as is noted in Chapter 4. These undergraduate behaviours manifested themselves in different ways but all were in response to the same issue: a sense of discomfort with the environment created by GCA use. The responses ranged from expressions of mild disinterest and withdrawal to overt hostility, outright rejection, ridicule and dismissal of any suggestion made in relation to game play. Of interest was the reaction from a number of undergraduates, who I observed as talented sportspeople, especially when they were not allowed to play the actual ‘sport’ in tutorials. Some particular members became increasingly aggressive in tutorials, not necessarily helped by my sometimes-obvious disappointment in their inability to meet my perhaps overly high expectations in game play and observation. This situation was often exacerbated for these students when other members of the cohort who, in my observations, did not display the same movement ability as some of the more talented performers, demonstrated a clearer understanding of game play and gained more of a ‘voice, as had happened in school classes. This seemed to challenge the established status quo of the cohort and resulted in some individuals in the ‘talented group’ frequently indulging in what could only be described as childish tantrums. One particular group of undergraduates even tried to sabotage tutorials. As I wrote in my diary:
Students K, H, J and W arrived just after we started today. As expected, they tried to interrupt the flow of the tutorial by working against the intent of the games in the tutorials to prove they could not work. They also frequently tried to interrupt the learning of other undergraduates in the tutorial by challenging me with questions on specific rules or sport specific terminology. They just seem to repeat ‘I don’t get it’ or ‘this does not work, it’s stupid’. It was very trying!

(Journal, April 28th 2006)

This behaviour could only be seen as an overt challenge to my knowledge and capabilities in the area of games and sports and an attempt to shift the tutorials back to the familiar ground of specific sports. As a teacher and coach, I had dealt with similar behaviours over the three years I had been implementing a GCA in a secondary school environment but, from a purely analytical point of view, I was surprised to see such behaviours replicated in an ‘adult’ environment. It was alarming to see this attitude in those charged with trying to prepare themselves to be able to deliver develop quality learning experiences for all future students in their classes. While this made me uncomfortable, I felt they were reacting this way for two reasons: the shift in their ‘skilfulness’ from unconsciously skilled to consciously unskilled; and a sudden change in method that challenged what they believed to be correct and appropriate for teaching games.

However, despite these episodes of resistance, most of the students seemed positive about GCA usage and seemed willing to try to use a GCA in a lesson (even though they had no choice as the lesson presentation was an assessment). Consultations with undergraduates were, in general similar to this entry in my journal, when I wrote:

In chatting with Student M today, she said ‘I think I learnt more in that hour than I did in my whole high school PE program. If we used those games and used that approach, I would have definitely learnt more about volleyball. I knew nothing before this. I hope I do an ok job.

(Journal, April 4th, 2006)

While pleased at their enthusiasm, I also recognised, from this notation, a frailty in their game play understanding when it was only based on the short exposure they had in tutorials. I had a range of uncertainties: whether this understanding would actually translate into quality GCA lessons; and whether the understanding of GCAs and game play being developed in tutorials would be enough to sustain them through the challenging years of early career teaching, especially if confronted with
the ‘it’s easier’ attitudes of experienced teachers demonstrated earlier in the chapter. I was also uncertain about whether they really valued GCAs as a teaching method or whether they just loved to play the games in the tutorial, using a GCA to fulfil assessment requirements (in what Graber, 1991, notes as studentship) and then teach in a way that had been used in their schooling and coaching. The answers to these issues would be clearer in their GCA lessons.

1.4 The GCA Presentations Begin

There is a frustrating sameness about the presentations. While there are suggestions of a GCA, undergraduates are still basing their presentations on a traditional mode of teaching. Their presentations are quite ‘routine’, one warm up, one modified game, a whole game. Their questions are very closed and they use the approach like a recipe: game, a question or two then progressions, without really basing these on the answers received. Questions used and answers accepted are very simplistic. They are trying hard but it is not really happening. There seems to be a very limited understanding of the elements of game play such as strategy and tactics or decision making and their planning on the whole is very traditional, almost as if to avoid these elements. This is resulting in very limited opportunities to learn for those in the presentation.

(Journal, May 28th 2006)

‘For the fourth student taught lesson in a row, the question answer exchange goes as follows.

Teacher: Where should you hit the ball to win a point?
Student: To space
Teacher: Excellent. Ok, the next game will be..
Or they ask
Teacher: Should you hit the ball to open court to win a point?
Student: Yes
Teacher: Good

What is the purpose of these questions? Why can’t they see the answers are inadequate? Surely the next question then drills down into why and recognises when space can be left to allow the player to think it is open to then set up the next play?
Where is the learning demonstrated in the accepted answers or for the students from those answers?'

(Journal, May 21st 2006)

At last, a lesson I would classify as a GCA with thoughtful questions allowing deeper analysis of game play by the group. There are problems with structure, but that’s OK, easily fixed. I must make sure I stay to the criteria when marking and not get too excited.

(Journal, May 28th 2006)

The group presenting today were the more progressive thinkers in the group. Unfortunately, in the GCA presentation, they played it safe. The review at the end is all too familiar.

Greg: Why did you do the skills first in the game?
Student K: ‘If they can’t hit a ball, how can they play?’
Greg: Modify the equipment, bigger ball, bigger racquet, no racquet, modified games, modified rules’
Student H: But then it’s not tennis!!
Greg: Why does it have to be exactly like tennis to learn how to play the game of tennis?
Silence (from undergraduates)

(Journal, June 3rd 2006)

The majority of GCA presentations left me quite disillusioned. I was quite deflated in the main with the undergraduates’ inability to create meaningful lessons through use of a GCA. I even began to doubt if they even understood or engaged with the tutorials in a meaningful way and had no confidence that they would GCAs in a games and sports context. I was passionate about my role in tertiary education and still firmly believed I could enhance the ability of present and future PHE teachers to create meaningful lessons for all students in their classes in games and sports. However, after my first practical studies course with future teachers in the area, my state of mind was reflected via the following entry in my journal.

My passion in relation to the content area games and sports seems to have made no difference at all. It has resulted in no more than a seemingly cursory interest in what I thought was a cornerstone for any teacher to use to create meaningful lesson. I don’t think I even taught them how to play let alone teach.
Upon later reflection, this was quite unfair on the undergraduates in the cohort. The courses, while focussing on GCA use, were still firmly embedded in a traditional approach, as evident by the titles and content. This particular cohort of undergraduates had also demonstrated little or no awareness of GCAs as a teaching method in class and had little or no exposure to a GCA in their PE experiences as students or as players when surveyed when beginning the degree (Pearson, Webb and McKeen, 2007). However, this situation was seemingly quite common in PE in relation to GCAs in practice, despite the hours related to professional development in the areas of GCAs. Gore, Ladwig, Amosa and Griffiths (2008) found a similar lack of knowledge or understanding of GCAs in practicing PHE teachers after five years of professional development, while in an international context, Butler, Oslin, Mitchell and Griffin (2008) noted similar issues. Thus, despite my assumptions that the professional development associated with the new syllabus had led to widespread awareness of GCAs, there seemed little evidence they had been adopted in practice. As a result, undergraduates entering PHE degrees had little experience or awareness of GCAs nor would they consider it any more than an alternative, if interesting addition to the ‘correct’ method to teach games and sports.

As a result, my expectations in relation to undergraduate knowledge, abilities and understandings of GCA were unrealistic. It was also obvious that personal belief, passion and intent were not enough to enhance these undergraduates’ capacity to use GCAs. There needed to be a better process to develop the skill to use GCAs. These approaches were not the issue: firstly there was ample evidence from the tutorials that the undergraduates engaged with the games and progression and some presentations demonstrated all of the features and benefits outlined in the research; and secondly, undergraduates were required to learn how to use GCAs to achieve the outcomes of the syllabus. The key issue was determining how to teach the undergraduates to understand and use GCAs by firstly identifying and then addressing the elements that impacted on their understanding.

1.5 The Development of the Research Idea

*I think currently we tend to have PETE undergraduates play, perhaps look at an activity, develop questions on it, maybe plan around it but we probably don’t challenge them or extend them enough to be able to integrate or look within categories, let alone be able to think laterally across all four.*
In my first year of lecturing, as part of my own professional development I also began postgraduate study in the Masters of Education program. When I discussed my ideas with the Associate Dean Research and now supervisor, I was invited to continue my study in the postgraduate doctoral program. This was a perfect opportunity to further explore GCA understanding in PETE undergraduates. In the process of developing a research proposal, I noted the following questions in relation to my preliminary findings associated with the development of undergraduate understanding of GCAs in my journal.

Firstly, do the processes, problem-solving games and questioning techniques I use tutorials provide more opportunities for increased engagement, increased observation and analysis skills, improved game and decision-making skills and improved understanding of the GCAs? Secondly, can I use a GCA to provide in depth understanding of the advanced skills of tactics and strategies, decision making, communication and concentration in attack and defence and in ‘reading the game’ for advanced students?

Further discussion and research into GCAs revealed an interesting gap in the research associated with GCA use, noted by Charles and Metzler (2002) as vital when considering establishing a research project. While there were a variety of studies on benefits of GCA, comparisons between GCAs and the traditional approach and literature on what to do when using GCAs, there was the lack of research on the processes used to develop understanding of the skills needed to teach using a GCA and into what actually occurs for those using GCAs to teach games and sports. This then became the basis for this thesis. As tertiary educators, Light and Georgakis (2005) suggest, we need to address the ‘contradiction between the approaches we are asking the teachers to adopt and the ways in which we are teaching them’ (p. 72). This statement resonated strongly with me and became one of the cornerstones for my research and this thesis. I was attempting to develop an understanding of GCAs in my courses by attempting to address this contradiction but it was the undergraduates themselves who were a contradiction. They demonstrated an enthusiasm for teaching and using a GCA and noted so in their evaluations of the subject but struggled to use the approach in their presentations. I noted in my journal that:

... they wrote that they really enjoyed playing the games and the questions and challenges increased their enjoyment and activity and provided them with many
opportunities to learn but did not implement them nearly as well. Therefore, the challenge here is WHY? Why did they struggled to come up with questions, come up with games, analyse play and progress when they taught using a GCA? Why did they use or fall back on using the traditional model when they were clearly engaged and recognised the value of in their own learning of games and sports?

(Journal, June 22nd 2006)

These questions provided the foundations this dissertation. It was only by examining what was happening in these courses in relation to GCAs and my role in this, a process already being used through my use of a journal, could I begin to understand this contradiction. From this exploration, I begin to develop the process needed to assist these undergraduates and those that followed in understanding GCAs. I needed to do more than simply teach using a GCA in tutorials to develop undergraduate abilities to use a GCA. My purpose now was to make a contribution to development of the understanding of GCAs by researching the use of a Game Centred Approaches (GCAs) with Physical Education Teacher Educators (PETE) undergraduates by examining the following research question.

How do PETE undergraduates develop their understanding of Game Centred Approaches?

This was then investigated through the following sub questions:

1. How do the students construct understandings and meanings about games for themselves and for their peers using a GCA?
2. How do the researcher’s own understandings and uses of a GCA impact on students’ knowledge and understanding of GCA?

Through the examination of GCAs from the student’s perspective and my own perspective, the thesis aims to contribute to the development of pedagogical processes that allow our future PETE teachers to effectively understand GCAs and enhance their own capacity to implement these practices in their present and future lessons in a sustainable way.

1.6 Overview of Thesis

This thesis, in submission for a Doctor of Philosophy, is presented as a thesis by publication. It explores what occurred when PETE undergraduates attempted to construct meanings and understanding related to using a GCA and the role I, as the researcher, played in developing this
understanding. It consists of seven chapters, which include three papers submitted to or published in international journals, one published as a book chapter and one published as a peer reviewed conference proceeding. The articles submitted for publication are based on data collected in 2007 and are arranged to present continuity in relation to the research questions. Chapter One was not submitted for publication as it provides a narrative overview of the period leading up to the development of the thesis and the research questions, setting the stage for the chapters to come while Chapter Two describes the structure of one of the two courses used to explore an understand GCAs. Chapter Three describe the data collection while Chapters Four and Five demonstrate a range of findings in relation to the development of GCA understanding in PETE undergraduates, initially from an overall perspective and then in more detail. Chapter 6 presents an assessment scaffold to allow judgements to be made in relation to the quality of GCAs in practice. The last chapter, Chapter 7 presents a summary of the findings and recommendations in relation to the research questions. The thesis concludes with a coda outlining the current research projects that have emerged from the recommendations of the thesis.

The research papers used in the thesis are as follows.

1.6.1 Research Paper One
The first research paper of the thesis, Chapter 3 examined the use of iPods in relation to developing understanding of GCAs and explored how a mobile audio device, in this case, an iPod that captured the happenings of a GCA lesson, could assist with the PETE undergraduates use a GCA. It found that the use of an audio device assisted them to analyse and evaluate their use of a GCA in a more effective manner when compared to a simple recall. The chapter notes that this seemed to have occurred on a number of levels. The mobile device provided opportunities for undergraduates to examine their use of questions and the capture of responses to the questions from those involved with the presentation gave undergraduates the opportunity to explore the relationship between the questions they used and emerging understanding of the concepts they examined in the lesson. This was of value, especially in games and sports where movement responses and physical activity are often used and were seen by students as key indicators of both student understanding and value in PE lessons. It also gave the PETE undergraduates the capacity to reflect on the nature of the questions and discussion developed and the value and productiveness of the dialogue in relation to the purpose of the lesson. Such reflection then played a role in allowing them to reflect more deeply on what GCAs meant to them and how their own understanding of GCAs and games and sports could impact on their use of a GCA. The use of the mobile device, through its ability to capture interactions with undergraduates as they occurred in a GCA environment also provided me with the
opportunity to reflect on how my own understandings were impacting on the undergraduate’s knowledge of GCAs. I also had the data at hand to explore the how the approach I was using to develop undergraduate skills in GCA and use this information to further develop the courses to better suit the needs of the undergraduates.

1.6.2 Research Paper 2
The second research paper of the thesis, Chapter 4, examined the links between quality teaching and GCA usage for those who are those who will be responsible for its future implementation, PETE undergraduates. Using a social semiotic analysis, it presents three exchanges to establish key points of resistance to the understanding, implementation and execution of a GCA in these undergraduates. There were three key points of resistance established from the study. Firstly, that the examination of the content associated with using a GCA and the requirements of courses designed to assist with this ran contrary with the beliefs and expectations of the students themselves. In this case, it shifted many from being unconsciously skilled to consciously unskilled, resulting in discomfort, disengagement and hostility in relation to both the course and myself as the tutor and lecturer. Secondly, the use of questions within a GCA lesson often moved the discussion and dialogue to an area that was unknown by the user, despite attempts to control the outcomes. This lead to a struggle to maintain the quality outcomes for those involved. Finally, when a quality GCA lesson was developed, it often created teaching and learning environments that were at odds with what the user expected and caused discomfort and distress. Yet despite such outcomes, the PETE undergraduates seemed to value a GCA approach. This ‘valuing’ suggests that if tertiary educators are to encourage and expect future graduates to use quality teaching components, an area of GCAs they may wish to examine in their own preparation of PETE undergraduates is reflecting on ‘how we do what we do’ to assist undergraduates in understanding the keys to the processes we use to successfully implement the approach. This may demonstrate to them why we continue to advocate and promote GCAs to enhance learning opportunities for student sand players and how we maintain our enthusiasm in the face of persistent resistance in relation to GCAs.

1.6.3 Research Paper 3
The third research paper of the dissertation, Chapter 5, examined PETE undergraduates views related to one of the key elements in understanding and using GCAs: the use of questions in a GCA presentation. This paper expands on this key theme that emerged when undergraduates discussed their use of mobile learning devices in Chapter 3. The process of understanding questioning, question structures and the elements of GCA lessons that impact on their ability to use questioning in a GCA environment is important in relation to undergraduate understanding of GCAs for two
reasons. Firstly, understanding and using effective questioning is often noted as a point of difference between GCAs and other games and sports approaches. Secondly, understanding why we question and the types and timing of questions is a key element in the successfully maintaining the constructivist intent of the lessons. This paper demonstrates how the undergraduates in the study found that questioning and the use of a range of questions valuable in their lessons, both as tools to recognise understanding and as a method to enhance learning. Many recognised the importance of a range of questions within the lesson context and used questions for a range of purposes. These ranged from simplistic questions to maintain strict control of the direction of the lesson and the learning that was occurring to elements that allowed exploration of a range of responses and made learning both expansive but unpredictable. The variety of responses led to challenges in the following areas for the undergraduates: preparation for presentations, maintaining student involvement in the questioning cycle and issues related to their own observational and questioning skills. This seemed especially evident when the undergraduates were faced with examining the range of elements that are considered key to GCA lessons, especially the relationships of these elements and their own observations and analysis of games and sports. The undergraduates responses in relation to their understanding of these elements in this study ranged from an embracing the challenge to a restricting and closing of knowledge and understanding opportunities for those involved to create a more teacher centred and controlled environment.

1.6.4 Research Paper 4
The fourth research paper for this thesis, Chapter 6, builds from Chapter 5 and presents the first stage of developing a systematic observation scaffold to make judgements on the quality of GCA lessons. While some research implies that using a GCA lesson will often result in quality outcomes for students in classes, there are a number of factors relating to undergraduate understanding that may or may not cause this to happen, as noted in Chapters 4 and 5. This conceptual tool, combining key elements of a GCA lesson with the key components of a constructivist-learning environments, provides a set of descriptors for each of the GCA elements that relate to quality teaching with a GCA: purpose or focus of the lesson, use of games and progressions and use of questions and answers. This conceptual framework described in the chapter aims to provide those teaching and observing GCA a scaffold to make observations of a GCA lesson and provide feedback (self or external) and provide the user with the capacity to develop further in their use of GCA. The elements may also be used by the observer, both independently and in consultation with others, as a basis for professional discussions on the quality of the GCA lessons on a micro level but also on a program levels to allow identification of areas of support required to assist in developing undergraduate understanding of GCAs. To demonstrate the scaffold in action, the chapter places
exchanges from two different undergraduate GCA presentations side by side and analyses the interactions that occur in relation to the key descriptors. This aims to demonstrate how the judgements are being in relation to quality GCA use and why they are being made. The chapter concludes with a suggestion that this scaffold becomes a starting point for future discussion in relation to assessment and judgements about GCA use in the future.

1.7 Methodology

The study described in this thesis was qualitative in nature and informed by an ethnomethodological approach. Ethnomethodological approaches aim to make clear the everyday activities of a member group by paying attention to that which seems normal and then report on such activities in a visible and rational manner (Rawls, 2000). This is based on the notion that there is some sense of ‘local’ ordering existing within these activities, which are both observable and can be detailed and enacted upon (Rawls, 2000). An ethnomethodological perspective allows the empirical study of what may be seen as ‘common sense’, everyday activities in actual practice and examines the methods the group uses to achieve this common sense to allow competent participation in the group. Consequently, this study examines how undergraduates make sense and meaning of GCAs in the ‘local order’ of games and sports by examining the moment-to-moment interactions between undergraduates when involved in GCAs themselves and with myself in the environments where this sense making is taking place. From such an examination, this study then aims to comment on and create new ideas to support the development of GCA understanding and use with PETE undergraduates.

One of the features (and perhaps difficulties) of ethnomethodological approaches is the lack of a ‘formal’ methodology of data collection and use (Rawls, 2000). Using an ethnomethodological approach is, in a sense, a study of others’ methodology in which they make sense of their social order, in this case interactions between undergraduate students and between undergraduates and myself in GCA contexts. The methodology of the approach centres on paying attention to how activities in the group are done through the interactions of the members and then how it is made visible through their interactions. Despite this lack of ‘formal’ methodology, ten Have (2004) suggests ethnomethodological approaches generally can follow four main strategies in relation to the collection of data. The first is a close study of sense making activities of the particular social order. In this particular study, this was conducted through recording PETE undergraduates and myself (the members) in the environment that sense making relating GCAs occurred (tutorials, consultations and GCA presentations). These interactions between undergraduates and
undergraduates and me in tutorials, consultations, (both formal and informal) were recorded on iPods and video and formed the basis of the data collected for this study. This allowed me, as the researcher, to have an accurate record of what actually occurred and not simply a set of data based only on my recollections. Undergraduates in the course also produced self-reflections based on their own sense making activities, allowing them to be observers of their own sense making and thereby providing them with the means to examine their own development of understanding and meaning in relation to GCAs. The second strategy is a study of the researcher’s own sense making work. In this study, my own observations were initially based on my own personal diary (as noted earlier in this Chapter). My own iPod was then used as an audio diary and as the basis for my examination of how I made sense of both undergraduate understanding but also my own role in this member group. The third strategy is the observation of the situated activities in their own settings. This was accomplished by using the iPod to record both the responses of the PETE undergraduates to my use of GCA and their own responses and actions in GCA presentations conducted by their peers. This audio data was also supported by digital video to clarify data that was unclear or ambiguous. Finally the fourth strategy is the observation of ordinary practice by recording some of the products of use (ten Have, 2004). The ‘products of use’ here were the GCA presentations by the PETE undergraduates. These were taken to reflect both undergraduates’ own understanding of GCAs developed from the course in actual practice. However, while each of these strategies have been described individually here, as with most ethnomethodological approaches, this study used a combination of these four to explore the main research question and sub questions.

1.8 The Participants and the Courses

The two sets of participants in the study were firstly PETE undergraduate students in the university’s undergraduate Physical Education and Health degree, and secondly, myself as their lecturer and tutor in practical studies (games and sports). The PETE undergraduates involved in the study were in either in their second or third year of study in the practical studies courses of their degree. There were 119 students involved in the study, all of whom were enrolled in one of two subjects, a second year six credit point subject, ‘Skills Analysis and Performance’, and third year six credit point subject, ‘Advanced Skills Analysis and Performance’. The first subject drew mainly from second year students (n=61), most of whom had only one semester’s exposure to GCAs while the third year subject consisted mainly of third year students (n=58), most of whom had three semesters exposure to GCAs. Most students (though not all) demonstrated the typical characteristics of PETE undergraduates: successful at sports; enjoyment through play; and skilful in a single sport or all of the sports that were part of the courses. Observed ability and experience
levels in the games and sport components ranged from beginners with little or no experience in the particular sports to elite representative athletes in a variety of sports in the courses. As a compulsory part of their four-year degree, they were required to complete five practical studies courses program. These still reflected the requirement to learn certain recognisable sports traditional in Physical Education programs in Australia.

1.9 GCA Method used in the courses

As previously mentioned in this Chapter, PETE undergraduate understanding was developed based on the GCA method I had developed and used in my school setting. Practical studies courses in the degree were structured to cover three content areas of PE, often unrelated. In second year, the invasion sports of soccer and hockey were combined with social dance and gymnastics while in third year, the net wall court sports of volleyball, tennis, badminton and a squash were combined with Swimming and Target sport using a Sport Education focus (See Appendix 2 for detail). A typical tutorial session related to the content of this study one hour practical session, delivered weekly for the duration of the 13-week semester. Each of the practical tutorials were supported by weekly readings and journal articles related to the content examined and the development of undergraduate understanding in relation to GCAs and learning theories associated with GCAs (see Appendix 3 for details of Subject Outlines). The aim was to provide the students with the opportunity to gain a strong grounding in the structure and interplay of the different elements of game play and associate these elements with the pedagogies of games through theory and practice.

The GCA method used in the practical sessions had much in common with the ideas of Hopper (1998), Howarth (2005), (Slade (2005) and The Ball School Model (Memmert and Roth, 2007). This GCA was based on using simplified games to understand the foundational principles of play or action for each game category, allowing the exploration of, what Gréhaigne, Richard and Griffin (2005) note, as the action rules. The courses did not require students to be experts in the specific movement skills associated with certain sports nor did were they required to have a deep understanding of the myriad of rules associated with certain sports to develop an understanding of play. Once there was demonstrated understanding of the simplified rules used in the game was observed, students then began to explore and develop their own understanding of strategies and tactics, decision-making and movement skill as the key elements of games, play space, primary rules and action rules, as described by Gréhaigne, Richard and Griffin (2005), were manipulated. Key elements of the NSW QTF were also aligned with this play action with the aim of enhancing the intellectual quality of the movement experiences, establishing high expectations and explicit
learning criteria, encouraging student self direction and engagement and making specific connections with their past experiences and knowledge in games and sports.

However, by using the GCA method described and challenging the undergraduates in relation to their understandings and meanings of games and sports and how they would learn them (in relation to previous practical studies courses), I was aiming to develop, in a sense, a modified version of Garfinkel’s breaching experiments (Garfinkel 1967, cited in ten Have, 2004). By doing so, I aimed for a more visible examination of knowledge development and meanings and understandings undergraduates had in relation to GCAs through the violation of accepted norms of games and sports. For those undergraduates involved in this study, the accepted norms related to practical studies courses (based on past subject outlines) seemed to be centred on notions of participation using the traditional approach with a high emphasis based on playing certain sports see Appendix 2). By changing the content of the courses and reorientating expectations through placing greater demands than previously expected, challenging their content knowledge in relation to the areas of study and their own beliefs on games and sports and recording and observing their responses to this, I aimed to gain a greater insight into how they developed understanding of GCAs. From this collected data and the ongoing analysis, I could attempt to determine the meanings the undergraduates developed as a result of their involvement and immersion in the courses and, as a result, gain a greater understanding of how to improve knowledge and understanding of GCAs from my own and the undergraduates’ perspective.
Fig 1: Data Collection and Methodology

- GCA Presentations
- Observations of GCA use and of games and sports
- Knowledge Construction and Understanding of GCA by PETE undergraduates
- PETE Undergraduate Self Reflections
- GCA in Personal Use
- Practical Studies Tutorials
- Formal / Informal Consultations with PETE Undergraduates
- Informal Consultations with PETE Undergraduates
1.10 Data Collection

1.10.1 Ethical approval and Participant Consent
Ethical approval was granted prior to the commencement of the autumn Semester 2007 (approval number HE07/51). Permission was sought from undergraduates in Week One for both subjects where the project was explained, outlined the purpose of the study, what it involved, and what would be expected of students who chose to be participants. At this time a consent form was also distributed to undergraduates explaining potential risks while informing them that they could refuse to take part in the study at any time and that all information and data obtained within the study would have no impact on their relationship with the researcher or the University of Wollongong.

1.10.2 Data Collection Tool: Audio Recordings
In this study, all interactions between the undergraduates and between the undergraduates and myself were recorded on 32-gigabyte iPods. In tutorials, one iPod was with me at all times recording any informal or formal dialogue that occurred between the undergraduates and myself and between the undergraduates themselves before or after the tutorials. Two extra iPods were placed strategically in the tutorial space to allow me to capture informal verbal interactions between undergraduates as they involved themselves in game play. From Week two onwards, an iPod was also set up in my office to capture any formal consultations or informal discussions related to upcoming GCA presentations while I carried another with me at all times to note any observations related to planning, thoughts prior to tutorials and reflections post tutorials. All captured audio files were then downloaded and stored on two hard drives for later transcription. Audio recording of undergraduate GCA presentations began in weeks 5 and 6 and weeks 11, 12 and 13 (second year) and in weeks 3 and 4, 7 and 8, week 10 and weeks 12 and 13 (third year). Each undergraduate presenter had an individual iPod to record their own interactions with their co-presenters in the presentations and their interactions with their peers who acted as the ‘students’ during the presentation. I also recorded my observations on the structure and use of GCA by the undergraduates to support my own notes. During this time, I also used the iPod to record informal consultations and undergraduate inquiries relating to upcoming presentations or to collect their own perceptions of completed presentations. All audio files were transcribed in 2007/2008. Data collection continued in the same manner with appropriate ethical approval for the next three years. While the data collected during this time was not specifically used for this thesis, it assisted in further confirming observation points and themes emerging from the main data of the study.
1.10.3 Data Collection tool: Videos of GCA presentations

In order to reinforce data collection via the audio recordings, all undergraduate presentations were recorded using a digital video camera. Three cameras were strategically located in the tutorial space to allow all elements of the presentations to be captured. The cameras were also able to provide a secondary source of data in the event that there was malfunction with the data. All captured video was downloaded and stored on two external hard drives while copies of presentations were also made available to undergraduates upon request. The digital video also assisted in providing a secondary source of data if there was ambiguity in relation to GCA presentations or a review was needed to confirm notations or audio notes made by me in the presentations themselves. Digital video data was also used when triangulating data to support themes emerging from data analysis.

1.10.4 Data Collection tool: Self Reflection Papers

As part of the data collection process, undergraduate assessment for the courses also required them to analyse their use of a GCA and note areas of strength and areas to develop. These reflections were based on key elements of GCAs including lesson purpose, games progressions that aligned with the purpose and questions and discussions emanating from the different games played. Undergraduates used their own audio files and the files of their co-presenters as the basis for their self-reflections. All reflections were both submitted electronically and as hard copy one week after their scheduled GCA presentation.

All data collected for the study plus the additional data from the classes in 2008 and 2009, including audio files, self reflections and digital video files were secured in my office in a locked cabinet and also stored on a password protected external hard drive for the duration of the project.

A summary of data collection is presented in Figure 1 and Table 1.
<table>
<thead>
<tr>
<th>Researcher</th>
<th>Second Year - EDUP223 Hockey and Soccer</th>
<th>Third Year – EDUP323 Net Court Games</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recorded dialogue of GCA reflections and observations</td>
<td>Recorded dialogue of GCA lessons</td>
<td>Recorded dialogue of GCA lessons</td>
</tr>
<tr>
<td>Field notes transcribed from recorded dialogue from tutorials</td>
<td>Recorded dialogue of individuals in group presentations</td>
<td>Recorded dialogue of individuals in group presentations</td>
</tr>
<tr>
<td>Informal consultations</td>
<td>Recorded dialogue of tutorials including student to student and student to lecturer dialogue in hockey and soccer GCA lessons</td>
<td>Recorded dialogue of tutorials including student to student and student to lecturer dialogue in net / wall court GCA presentations</td>
</tr>
<tr>
<td>Formal consultations</td>
<td>Self Reflections on GCA lessons</td>
<td>Self Reflections on GCA lessons</td>
</tr>
<tr>
<td>Field and transcribed audio notes on presentations (video support)</td>
<td>Formal Consultations (group and individual)</td>
<td>Formal Consultations (group and individual)</td>
</tr>
<tr>
<td>Self Reflections</td>
<td>Informal Consultations (group and individual)</td>
<td>Informal Consultations (group and individual)</td>
</tr>
</tbody>
</table>

Table 1: Data Collection for Study

1.11 Data Analysis

An ethnomethodological approach requires a close examination of the settings in which meaning making occurred and the interaction between members within these settings (Rawls, 2000). This examination reveals the ‘methodology’ of the group to both make sense of what they are doing and the ways in which they proceed in making sense of the activities. In this study, the ‘understandings’ related to GCAs in games and sports in general, the ‘settings’ were the tutorials in which GCAs were being examined, while the ‘members’ were the undergraduates and me as their tutor. As noted previously, data were collected using iPods to both record audio of tutorials, consultations, GCA presentations and in the form of an audio diary of my own observations on undergraduate understanding and my role in this. A key element to the examination of members and settings is transcribing and observing of these recorded events. This process allows the researcher to study particular kinds of events within the settings that may not normally be obvious or are hard to see in normal observation (ten Have, 2004). In the case of this study, the audio data collected on the iPod
in the various elements of the second and third year courses were the primary source of data for analysis. Data collected as personal observation, the digital video data and data from student self-reflections were also used to support the recordings and transcription. In this thesis, the events associated with undergraduate understanding of GCAs and my impact on this are represented in the study in Chapters 3, 4, 5 and 6. These chapters demonstrate the emerging themes in relation to the key research question and sub questions. These transcripts of exchanges and reflections also serve the following purposes in data analysis. Firstly they allowed sharing of access to the detail of the tutorials and presentations as a check on subjective perception of the events and confirm themes and provide grounds for my analysis. Secondly, the transcripts take the reader almost into the scenario, to, as ten Have (2004) notes, overhear the events as they unfold. While it would be impossible to present all of the data collected in the study, the exchanges used have been selected to best represent the activities of the members and support the findings and aim to provide clear evidence of the elements and themes emerging in relation to the research questions.

As noted in the methodology section, ethnomethodology has no formalised method of research but an observation and examination of a group’s methods (in this case PETE undergraduates with me as their lecturer in GCA). This is used to discover what group members do and the methods they use to create meaning of what they do and how to do it. However, despite the lack of a formal data analysis tool per se, this study draws upon a consistent theoretical framework, Lemke’s (1990) theory of social semiotics, as a basis for analysing interactions and exchanges relating to how people ‘make meaning’ and how these meanings are constructed in social settings or communities. Lemke argues that it is misleading to assume that something (in this case undergraduate understanding and use of GCAs) simply has meaning. In essence, a meaning is made for GCAs and, by examining the differing resources we use to discover and make meaning, such as language in the context of this study, we can make sense of the meaning that is ascribed to certain things (Lemke, 1990). While Lemke was interested in how students understand science, the principles can be applied to GCAs in the study described in this thesis. This study aims to provide an in depth analysis of how, through examination of the data collected, the undergraduates developed their understanding of using a GCA in games and sport, particularly when challenged with different meanings from those with which they were familiar, and how this translated into their GCA practice. By analysing both the exchanges that presented in the data and the responses of the undergraduates to the exchanges, both in their interactions with myself and their peers and in their interpretation of GCA in practice, the study aimed to draw out what GCAs meant to the undergraduates and how this translated to their understanding of GCAs. This analysis was done through what Lemke (1990) describes as the key components of social semiotic analysis. Firstly,
the interactions are examined as action, the events in which the meanings are used, and secondly, interactions are examined in context, the meanings demonstrated when connected to an event. In the case of this study, the ‘actions’ of meaning making were represented by the undergraduates’ exchanges with me and between themselves, while the social semiotic ‘context’ was represented by the tutorials, consultations and the GCA presentations. Analysis of these areas in isolation and through triangulating findings with the digital video and self-reflection data collected in the study, determinations could be made in relation to the key research question and sub questions in the study described on p18.

1.12 Significance of Thesis

GCAs have gained much greater prominence as alternative teaching approach to PE due to the opportunity they provide to engage a broader number of students in a broader range of components of games and sports. This has been suggested by GCA advocates a key reason for linking GCAs with the descriptors associated with the characteristics of quality teaching and learning environments, especially through connections with constructivist and situated learning environments. The potential for GCAs (initially reborn by the initial Games for Understanding model in the eighties) to provide quality teaching and learning in games and sports has developed an international movement promoting and advocating the use these approaches in teaching and coaching environments. GCA models have developed in a variety of countries and include: Teaching Games for Understanding (TGfU; Bunker & Thorpe, 1982); The Tactical Games Model (TGM; Mitchell, Oslin & Griffin, 2006); Play Practice (PP; Launder, 2001); Game Sense (GS; Light, 2004); the Tactical-Decision Learning Model (TDLM; Gréhaigne, Wallian, & Godbout, 2005); the Ball School (BS) model (Memmert & Roth, 2007); the Games Concept Approach (GConA; McNeill, Fry, Wright, Tan, & Rossi, 2009); and the Invasion Games Competence Model (IGCM; Tallir, Lenior, Valcke, Musch, 2007) (Light, 2013) and methods of assessing their use such as system of observing game in PE (SOTG-PE) (Roberts & Fairclough, 2012). As a part of this movement, a number of states and territories in Australia have encouraged the adoption models such as Play Practice, Game Sense and TGfU as the preferred modes of practice in both the teaching of games and sports teaching and the preparation of future PETE to prepare these undergraduates to achieve both syllabus and quality teaching and learning outcomes (Wright and Forrest, 2007).

However, adoption of GCAs in PE and has been sporadic at best both at a local and international level, indicating a gap between research and practice for those advocating the positive benefits of
GCAs and promoting its role in games and sports education (Gore, Ladwig, Amosa and Griffin, 2008, Oslin, Butler, Mitchell and Griffin, 2008). In both teaching and coaching environments and in tertiary education environments, using a GCA challenges both the dominant discourses associated with teaching games and sports and the method of teaching that they had been exposed to in their own educational and sporting experiences, resulting in strong resistance from a range of stakeholders in games and sports, including fellow teachers, parents and students themselves. When combined, these factors create significant challenges for both future users of GCAs and those charged with enhancing the teaching in games and sports in relation to providing future users with the skills to use GCAs and allow these approaches to achieve both syllabus and quality teaching outcomes.

Therefore, this thesis demonstrates the scope of these challenges, through exploring how future PETE undergraduates gain meaning and understanding of GCAs and, as part of this, the role that I, as the researcher, play in developing this understanding. By doing so, this study aims to contribute to the growing body of evidence promoting better outcomes for games and sports in PE and coaching environments through enhanced understanding and teaching and learning of GCA use.
### 1.13 Definition of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipation</td>
<td>Action in play based on a read of play</td>
</tr>
<tr>
<td>Action Rules</td>
<td>Unwritten rules that help players understand HOW to play</td>
</tr>
<tr>
<td>Conservation</td>
<td>Designation of play when individual / team that does not have possession</td>
</tr>
<tr>
<td>Constructivist Approach</td>
<td>Approaches that see students as active in the learning process</td>
</tr>
<tr>
<td>Decision Making</td>
<td>Ability to make sense of unfolding play action and act upon it. Operates at a team and /or individual level</td>
</tr>
<tr>
<td>Games</td>
<td>A series of play actions combined together to achieve a set purpose</td>
</tr>
<tr>
<td>Game Centred Approach</td>
<td>Pedagogies that use games as a central learning tool</td>
</tr>
<tr>
<td>Game Sense</td>
<td>Game Centred Approach to teaching games and sport using small sided, full sided games or games of outcomes as tools of teaching. Focus of games is on technique, strategy and tactics and rules</td>
</tr>
<tr>
<td>Game sense</td>
<td>Often referred to as game play intelligence, refers to the ability of players to understand the unfolding permeations in play at the time they occur and prior to action</td>
</tr>
<tr>
<td>Invasion / Field Territory</td>
<td>Team game or sport where the purpose is to enter the opposition’s territory to score while limiting their opportunities for the opponents to do so in a set time frame</td>
</tr>
<tr>
<td>Net / Wall Court Game / Sport</td>
<td>Individual or team games or sports with the aim of manipulating an object within the boundaries so it cannot be returned by the opposition</td>
</tr>
<tr>
<td>Non-Verbal Communication</td>
<td>Non verbal cues given by players in play</td>
</tr>
<tr>
<td>Offence</td>
<td>Designates of play when individual / team in possession</td>
</tr>
<tr>
<td>Primary Rules</td>
<td>Formal rules that set the parameters in which play operates</td>
</tr>
<tr>
<td>Principles of Play</td>
<td>Fundamental principles that are the form the commonalities of sports in game categories</td>
</tr>
<tr>
<td>Read of Play</td>
<td>An educated prediction of play action to come, based on a combination of a range of game play factors</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
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<td>-------------------------------</td>
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</tr>
<tr>
<td>Striking / Fielding Game /</td>
<td>Team game or sport where each team has one or more opportunities to field and minimise the opposition’s score and bat to maximise their own score</td>
</tr>
<tr>
<td>Sport</td>
<td></td>
</tr>
<tr>
<td>Sports</td>
<td>Specialised examples of game play with specialised rules and specialised methods of object manipulation</td>
</tr>
<tr>
<td>Strategy</td>
<td>Plans made prior to play</td>
</tr>
<tr>
<td>Tactics</td>
<td>Voluntary and involuntary changes to strategies</td>
</tr>
<tr>
<td>Target Game / Sport</td>
<td>Individual or team games or sports that requires the manipulation of an object /s and place it / them as close as possible to a designated target</td>
</tr>
<tr>
<td>Three Dimensional</td>
<td>Invasion / Field territory games whose rules allow the object to be manipulated in all directions when in possession</td>
</tr>
<tr>
<td>Traditional Approach</td>
<td>Pedagogy that focuses on movement skill development associated with games and sports as a pre requisite to game play</td>
</tr>
<tr>
<td>Triadic Dialogue</td>
<td>Three way exchange between teacher and students</td>
</tr>
<tr>
<td>Two-dimensional</td>
<td>Invasion / Field territory games whose rules do not allow the object to be passed forward when in possession</td>
</tr>
<tr>
<td>Verbal Communication</td>
<td>Verbal cues given in relation to play, often predictive and prior to the event of play</td>
</tr>
</tbody>
</table>
1.14 List of Acronyms and Abbreviations

GCA Game Centred Approach
NSW New South Wales, Australia
NSW DET Department of Education and Training and Communities
NSW BOS New South Wales Board of Studies
NSW QTF New South Wales Quality Teaching Framework
PE Physical Education
PETE Physical Education Teacher Educators
PHE Physical and Health Education
PD Professional Development
QTF Quality Teaching Framework
TGfU Teaching Games for Understanding

1.15 References


Chapter 2

Game Centred Approaches - A ‘Game for Outcome’ Approach in Tertiary Courses

Publication Details


2.1 Introduction

Game Centred Approaches (GCA) such as Teaching Games for Understanding (TGfU) and ‘Game Sense’ are games based pedagogical models aimed at generating greater understanding of all aspects of games, while increasing physical activity levels, motivation and enjoyment in physical education lessons. Bunker and Thorpe (1982) developed the original ‘Games for Understanding’ model as an alternative to the traditional approach predominantly used in coaching and teaching in physical education (Werner, Thorpe and Bunker 1996). GCAs such as TGfU, if used appropriately, can give students the opportunity to engage productively in games education (Pearson, Webb, McKeen, 2007b) as well as allowing them to examine the variety of socio-cultural meanings of games, meeting many of the needs of effective pedagogical practices (Chandler, 1996). However, awareness of its value as a pedagogical model and as a pedagogical alternative in games and sports lessons has been very slow in PE school programs and the wider coaching community in Australia, despite over 15 years exposure via Professional Development and a focus on GCAs. (Pearson, Webb, McKeen, 2007a).

This paper will firstly summarise the theoretical underpinnings of the model, secondly examine impediments to its effective use and lastly expand on an interpretation of the approach where the practitioner applies a combination of primary rule and game progressions to an initial game for outcome to allow students to develop an elementary understanding of the principles, techniques, strategies and rules required to play that game. The approach has the capacity to allow all practitioners and students, irrespective of ability, to apply, analyse and evaluate all games concepts within a consistent framework.
2.2 GCAs, TGfU, Game Sense and Traditional Games Teaching

The traditional or technique based approach has been the dominant method used to teach games and sports in New South Wales over the last forty years (DET, 1965, BOS, 1980, BOS 1991). The framework of the traditional approach follows a set format: a warm up is followed by a series of drills practicing technique and game patterns, ranging from simple to more complex. This is then followed by the actual ‘adult version ‘of the ‘game’ (Werner, Bunker, Thorpe, 1996, Hopper 2001). The teacher provides directed feedback based aspects of game play and technique and it is expected that there will be a positive transfer or application of the technique practices to the game being played, allowing students to understand the game, (Werner, Bunker, Thorpe, 1996). Those critical of this approach suggest that the approach allows little student involvement, decontextualises skill techniques from the game itself, can develop technically adept players who have poor game understanding and encourages the belief that if students do not have the appropriate technical skills they will not be able to play the game (Werner, Bunker, Thorpe, 1996, Lauder, 2001, Hopper and Bell, 2001). The teacher centred nature of the approach can also leave students with little game knowledge or dependent on the teacher to make decisions for them in play (Werner, Bunker, Thorpe, 1996).

In response to using the traditional approach, Game Centred Approaches (GCAs) were developed as an alternative pedagogy to use in this area. The New South Wales version, ‘Game Sense’, was developed through a series of workshops in the mid nineties as an evolution of the TGfU model (Webb, Thompson, 1998). It takes a more conceptual and constructivist approach to games and sports and Game Sense focuses on using a series of , small sided, full sided or games for outcomes, to develop an appreciation and understanding of the game itself. As with other GCAs, questions are asked of the participants and scenarios are created by the teacher that require players to think of and apply, through movement, possible solutions to the questions about game situations. These solutions are continually examined and re examined in different game contexts and strategies (pre game plans) and tactics (adaptations to strategy during the game) can be developed and implemented by the students before and during game play at a team, sub team and individual level, all of which enhance the learning experience of the students (Gréhaigne, Richard and Griffin, 2005). GCAs are more student-centred and allow students to apply their own understanding of games to the learning tasks while constantly developing their understanding of games. Technique should never be ignored but examined and developed when the students see the relevance and the need for it within the overall game context. Thus the approach is more holistic in intent and practice than the traditional method.
A key component of GCAs such as Game Sense and TGfU is the division of games into categories, based on similar underlying principles. These groupings allow the practitioner to develop common themes around which games, questions and progressions related to key areas of GCAs, such as strategy, tactics and decision-making could be based. It is important to note these common principles for each of the games, listed in the Table 2. These give the students and teacher a sound base from which to develop understanding of game categories and provide a focus to begin their initial development of questions. Mitchell (2005) also suggests users can develop a framework in which to operate in relation to the categories, through which students can try to achieve the principles of play, irrespective of which in category game they are playing, allowing lessons to have a greater relevance and connectedness for those involved.

While there has been research into the effectiveness of the GCAs compared with the technical approach, the evidence into the superiority of one approach over the other in regard to game performance has been inconclusive (Gréhaigne, Richard and Griffin, 2005). A series of studies comparing the two models (French Werner et al 1996a, French, Werner et al 1996b, Turner and Martinek 1999, Harrison, Blakemore et al 2004,) based mainly on skill development and cognitive ability, found no significant difference in the areas measured between the groups using either method. However, research conducted by Thomas (1997, sighted in Pearson, Webb and McKeen 2005a), Light (2003) and Light and Georgakis (2005) consistently found that the TGfU approach engendered greater enjoyment and empowerment, increased engagement and increased physical activity levels in participants. Gréhaigne, Richard and Griffin (2005) also site an unpublished study comparing game performance between two groups using the tactical and the technical approach over a 12 week period in basketball, which found that game performance was maintained or improved in the tactical group while the technical group’s declined slightly while also determining that after six months of no activity or instruction in the game, the tactical groups performance decline was less than the technical in the particular game.

2.3 Limitations of GCA such as TGfU and Game Sense

The ability to use GCA such as TGfU and Game Sense requires considerable pedagogical skill because those using the approach need to have a broad perspective and deep understanding of games and game play, an ability to develop and ask appropriate questions at the appropriate learning moment, the ability to determine and select appropriate game forms that truly parallel the actual game to develop game understanding (Chandler, 1996, Howarth, 2005, Turner, 2005).
Linked with these factors is the development of observational and questioning skills to initiate and manage dialogue between students and the teacher and between the students themselves, which advocates for the TGfU approach see as a fundamental strength of the tactical approach and ‘a key pedagogical tool for the TGfU practitioner’ (Turner, 2005, p.82). Forrest, Webb and Pearson (2006) suggest that if pre service teacher education programs and professional development programs promoting the use of GCA in school and coaching environments do not develop games programs that allow those involved to develop these skills, the approach may be misinterpreted as simply playing games and runs the risk of being devalued as a pedagogical method. Piltz (2004) also suggests that teachers new to games education often lack the observational skills needed to develop questions. Thus they may develop a questioning protocol for the lesson that does not lead to an in depth discussion or a ‘debate of ideas’, so essential to GCA lessons. This can lead to questioning that is closed and shallow and may result in students leaving the TGfU or Game Sense lesson with no greater understanding of the game than when they entered (Forrest, Webb, Pearson, 2006, Gréhaigne and Godbout, cited in Gréhaigne, Richard and Griffin, 2005). Similar issues will also exist if the practitioner simply follows the questions produced in various resources related to GCA. Without the appropriate observational skills to understand where the questions were derived from an expectation that there is only one answer, will result in GCA users creating a very teacher centred environment, the very thing that those proposing the use of models such as TGfU and Game Sense are trying to move away from.

2.4 A ‘Game for Outcome’ Approach for Games Education in Tertiary Courses

The use of a Game for Outcomes as the basis of a games unit has the ability to apply a GCA philosophy to the teaching and earning of games and sports and can address many of the limitations novice and pre service teachers may confront when trying to implement a GCA such as TGfU and Games Sense. It alleviates the need for the practitioner to use a large variety of modified games or feel the need to invent a large amount of new games but, more importantly, gives both the practitioner and the students involved a common base for both play and observation. It acts like a template or a learning framework which students can become familiar with, just like an exercise book in class or a canvas for an artist. This removes the need to for students to constantly learn new modified games, which may impact on their opportunities to firstly understand and respond to questions and secondly develop a deeper understanding of the games themselves. It also allows practitioners, especially those new to the approach or those unfamiliar with games within the category, to develop a consistent ‘observation template’ on which to develop their questions for discourse with their students, a feature often needing attention in inexperienced teachers (Piltz
2004). The game can then be ‘progressed’ towards a specific sport in an empirically constructivist manner, by the manipulation of the primary rules of the sport, those rules that supply the actual game with its essential character (Gréhaigne, Richard, Griffin, 2005). A variety of challenges can be set for all players, regardless of ability in the game context, through methods such as manipulation of team numbers or the changing of conditions, allowing a constantly engaging and challenging environment for the students. Using this approach, students can not only gain an understanding of all of the different components identified by GCA, including strategies and tactics, decision-making and movement skill but also develop observation and analytical skills in these areas as well without having to develop expertise in a variety of sports.

2.5 Games for Outcomes and Game Observation and Analysis in Practice

The ‘Game for Outcomes’ approach was used with Second year students in the pre-service Physical Education and Health teacher education program at the University of Wollongong in a practical studies unit on Basketball/Netball. These two sports classified as a small focus target invasion game (Gréhaigne, Richard and Griffin, 2005) and have a number of areas in which to draw comparisons and contrasts in relation to game play. In the initial game, the team in possession had to complete ten passes without interruption from the team without possession. The game was conducted within the third of a netball court and initial rules were established for safety through questioning, such as those in relation to physical contact and boundaries. Once the group established these, the game began. Students were also able to focus on the performance of both the team with possession (with and without the ball) and the team without possession, through observation from the sidelines. The purpose of this was to allow them to begin developing sound game observation practices from which they could, as practitioners, develop their questioning skills and protocols as well as to enhance their understanding of Netball and Basketball. Special focus for players and observers was initially on whether there were common principles for the team in possession and the team without possession to achieve the game outcome. Students were able to repeat the game easily, allowing them to focus on trying to find solutions or create ‘action plans’ or strategies in a familiar environment (Gréhaigne, Richard and Griffin, 2005) to achieve the game outcome. Through the use of questioning and debate, it was established that to achieve its goal of ten passes, the team in possession must do the following:

1. Use and appropriate pass
2. Move to create or receive a pass
3. Advance to score to score
while the team without possession had to:

1. Track a player and the ball
2. Pressure the ball and receivers
3. Use player to player or area to area defence

Through continued dialogue and observation, other elements of play were noted as particularly important in game play, especially the notion of change or transition, the ability to switch from team possession mode (which was now to be called ‘offence’) to team non-possession mode (which was now to be called ‘conservation’). These areas, noted by Gréhaigne, Richard and Griffin (2005) as ‘action rules, helped student understand how to play rather than just what to do.

Students then were to develop, through play and observation, a variety of strategies (plans developed before the game play) to achieve the game’s outcome, based on their more complete observations and the strategical and tactical responses of the opposition. Other areas such as communication (both verbal and non verbal such as reading movement cues), player roles within a team, decision-making could also be examined in the game context by the students (both as players and observers), further aiding their understanding of the complexity of observation of both playing and observing and analysing play and, from this, develop an understanding of game play areas that would be the source of questions and discussions.

Progression began toward the actual sports through the introduction of the fundamental primary rules associated with basketball and netball sports, movement when in possession of the ball. Indeed, the generic game revealed many assumptions by the players regarding movement (or lack of), especially when in possession, allowing the students to examine what meanings they were bringing to the game and when, where and how these meanings were constructed. Through examination and student debate in this area, the primary rules for movement both netball and basketball were developed and implemented into the initial game. The students now had two more aspects to consider when developing strategic and tactical response as players, their observational skills and their questioning protocol as practitioners. In essence, two separate but similar games were established, one with dribbling, one without, but still based in the same initial principles. This allowed students as players and observers to examine the impact these rules had on a range of areas: the application and cognition of the essential principles of offence and conservation in the game for both variations, their decision-making in relation to these strategies and on other areas previously mentioned such as technique and verbal and non verbal communication.
There were a variety of progressions and directions that can be taken from this initial variation of the game. These included changing the mode of scoring and manipulating the size and height of the target to score in, such as using a hoop placed on the ground. Offence and conservation principles could then be re-examined in light of the impact a small target goal has on scoring and preventing scoring and on the strategies and tactics associated with this. This process was then expanded upon by the use of two goals for each team, one in each corner, still within the same initial structure. This allowed the development of the common action rule of switching the point of the offence, a common feature in all invasion sports, allowing again for the refinement of previous strategies and increased opportunity of observation opportunities. This also gave students a wide range of opportunities to further improve their game and observational skills, broaden their view of the complexities of game play and giving further depth to their questioning protocol. Further additions to the now more complex game, such as a third primary rule of netball, that of obstruction, can allow further contrasts to be drawn between netball and basketball such as examining how the ability to dribble, combined with no specific ‘obstruction’ rules created differing scenarios for both players and observers in relation to the impact on all aspects of playing the game. However, the structure and foundations of the initial game still remain intact, preserving the fundamental conditions and understandings. The process can be continued until all primary rules are included examining the impact they have on all areas observed previously to determine the effect they have on the implementation of these aspects. Both players and observers are able to construct a large data bank of applied knowledge to have a number of areas to develop their question protocols on. This gave them a sound basis from which to develop a games based approach to the teaching of basketball and netball and incorporate the principles of TGfU and Game Sense in their lessons. Feedback from students who participated in the unit and used the method in practical teaching was very positive but further research will be needed to determine the strengths and weaknesses of the approach in its effectiveness as a method for pre service teachers in developing game understanding and questioning skills, especially around the quality of the dialogue between teacher and students and the students themselves.

2.6 Conclusion

The use of GCA such as Game Sense and TGfU has a variety of advantages for both the practitioner and the students. However, limitations of the skill of a practitioner in developing appropriate games and asking insightful questions to develop in depth discourse between students and teachers and the students themselves can actually negate the positives of the method. The use of a generic game for outcome as a basis, with progressions based on primary rules and the principles of play is a variation to TGfU and Game Sense approach, using a constant template for both the
players and observers to enhance learning. While further research is needed into the use of this approach and the development of questioning protocols and dialogues through observation, it has potential to be used in a large variety of games both within and across categories, allowing integration of sports and games within categories, and improving play and pedagogical practice in TGfU.

2.8 References


Chapter 3

Using iPods to Enhance the Teaching of Games in Physical Education

Publication Details


3.1 Introduction

Game Centred Approaches (GCAs) have been present in the Australian sporting community for the last ten years and more recently as the focus of physical education lessons in some Australian schools’ curriculum, especially in NSW. However, the effectiveness of GCA as a teaching method is limited by the skill of its practitioners, especially in developing the questions to generate dialogue based on game play to generate learning opportunities for students in classes. This chapter will outline how the use of mobile audio devices were used by pre service Physical Education and Health Teachers at a New South Wales university to enhance their understanding of questioning methods, the development of dialogue and the pedagogical use of GCA in Physical Education lessons.

3.2 Pedagogies of Games in Physical Education in Australia

The dominant discourses in physical education and coaching in Australia over the last century have been based around two main themes, the playing of ‘sport’ and the development of confidence in playing sport due to its relationship to our national identity and the relationship of physically active students with improved national health outcomes (Tinning, MacDonald, Wright & Hickey, 2001). The dominant pedagogical method (to be referred to as the traditional model from now on in this chapter) to achieve these aims has changed very little and is based on the format of warm up, drills for technical skill development, modified game and then the actual sport. The underpinning philosophy of the model has, at its foundation, the belief that students need to master the technical skill aspects associated with a particular sport as a pre requisite for playing the actual sport. Lessons in the technical model are for the most teacher centred and tend to follow a part-whole-part
approach with students being told what to do and how to do it and then applying this knowledge to an adult version of a sport, with adult rules and conditions (Hopper & Bell, 2001, Light, 2003).

3.3 Issues with the Traditional Model

Research on use of the traditional model revealed key issues relating to its pedagogical success, especially in relation to school Physical Education. Oslin and Mitchell (2006) have summarised these findings and linked the use of the approach to reduced student engagement, self-confidence and self-perception based on their perceived ability to perform the technical skills. They argue that this leads to reduced student enjoyment in physical education lessons. Other studies suggest that the approach cannot sustain and even reduces levels of student motivation, has a negative impact on overall levels of participation in physical activity, can decrease the meaning and relevance of the subject and can impact on physical activity levels of students in post school years, especially for those who are less skilled (Mandigo & Holt, 2000, Light, 2003). In addition, Launder and Piltz (2006) suggest the traditional approach can result in students leaving lessons lacking even a basic understanding of the fundamental nature of the sports they are being taught or even an understanding of the primary rules required to play. Thus, the outcomes of using the traditional approach seem to be at odds with claims that participation in Physical Education lessons will lead to improved participation in sports and improved student attitudes relating to engagement in physical activity for life through, in part, involvement and exposure to a wide variety of games and sports (Board of Studies, 2003).

3.4 Game Centred Approaches

The term Game Centred Approaches (GCA) is a collective name for pedagogical approaches that have the use of games as its central learning context (Oslin & Mitchell, 2006). They use games as the core learning tool lessons, focusing on decision making, tactics and strategy and technical aspects as the essential skills of playing. There are many variations of the original Games for Understanding model developed in 1982 by Bunker and Thorpe, including Teaching Games for Understanding (Werner, Thorpe & Bunker, 1996), ‘Games Sense’ (ASC, 1991, cited in Light, 2003), ‘Play Practice’ (Launder 2001), ‘The Games Concept’ (Wright, Fry, McNeill et al., cited in Light, 2003) the Tactical Decision-Learning Module (Gréhagne, Wallian & Godbout) and ‘Playing for Life’ (ASC 2005). The key theme of all models is the importance of placing students in game situations that allow tactics, decision-making and problem solving to be examined (Webb &
Pearson, 2004). The models all tend to follow a whole part whole approach to learning, providing opportunities for the students to develop greater understanding of all aspects of the game through play, answering the age old question that all students ask at the start of the lesson, ‘Can we play a game?’ GCA are by intent are more student centred than the traditional approach and have strong links with constructivist perspectives of learning as students are assumed to be active in the construction of knowledge for learning to take place (Kirk & McPhail, 2002, Rovegno, 2006). The teacher’s role as facilitator is central to the use of GCA as the learning and understanding that is taking place and the meanings that are being created by students occur through the selection of games and the dialogue that develops in the lesson. The use of questions related to this play is the foundation of student understanding and by using these in an appropriate and timely fashion, teachers can set games as problem-solving opportunities, providing students with a variety of opportunities to demonstrate their understanding of the concepts. Technical skill development and execution still play an important role in lessons, but only after the students / players recognises the requirement for competency in these skills to complete their objectives or achieve their aims (Werner, Thorpe & Bunker, 1996).

### 3.5 The Pedagogy of GCA - The Issues

Many advocates of the approach such as Turner (2005) acknowledge that using GCA’s such as TGfU, are both difficult and challenging for teachers to use. Chandler (1996) links the effective use of GCAs with teachers ‘deep knowledge of games, the development of appropriate game forms, transfer of games skills within categories and the development of appropriate procedures to do this’. He also suggests the effectiveness of the GCA in developing learning outcomes for students seems significantly more dependent on the pedagogical and game skills of the practitioners than the technical model. According to Piltz (2004), the ability to observe and develop appropriate question to provide meaningful feedback are fundamental elements for those wishing to use a GCA and are essential to the success of those using the approach. Gréhaigne, Wallian and Godbout (2005) argue that it is essential for students, pre service teachers and teachers to develop a deep understanding of what they term action – debate – action cycles, where the dialogue developed in response to questioning is used to enhance student learning and understanding of the games and sports they are playing. Therefore, a key element to the successful use of GCA is the dialogue that develops in between the teacher and students and between the students themselves in the lesson in response to teacher questions relating to play. The way meanings are constructed by students in the lessons and the learning and understanding that develops from this are derived the questions and games used by the teacher. Wright and Forrest (2007) suggest that many GCA lessons may be no more
constructivist in nature nor more liberating for students than the traditional method due to the simple ‘Initiate – Response – Evaluate’ structure used by teachers in their questioning and dialogue management. If this is the only form of questioning structure used, the teacher still remains the holder of the knowledge and questions used may not allow any meaningful construction of knowledge by the students themselves. They also argue that as there is very little literature to model the ongoing dialogue that evolves from dynamic game situations, it is difficult for practitioners to develop the appropriate questioning and communication skills to manage the learning in a constructivist manner. Those new to the approach or trying to implement as a pedagogical method may simply copy games and imitate questions shown or demonstrated to them, assuming the questions used and answers given are the only correct solutions. In this sense and if used this way, the development of dialogue in the GCA remains very teacher centred, radically reducing the student’s ability to be involved in decision making, problem solving or student engagement so valued by its advocates.

3.6 The Challenge

As part of the undergraduate degree, pre service teachers in the Physical and Health Education degree at a New South Wales University participate in a number of practical studies games subjects which aim at developing a deep understanding of games and sports and pedagogical content knowledge in relation to this. GCA pedagogy is the focal point of the games and sport component of the courses. In previous years, assessment on competency and development in teaching a games lesson and using a GCA was based on a student presentation of elements of Physical Education lesson and self-reflection post presentation based on their perceptions of the positives and negative of the lesson. However, to allow students in the course to gain a more in depth of understanding of the requirements of using a GCA across different sport contexts, students had to be more active in their development of knowledge and understanding about GCA and base this understanding on more than a one of recollection of the lesson. They needed to be able to analyse what had occurred when they attempted to use a GCA and be active in the analysis of the questions they used, the answers they received, the manner in which they created meaning for those in the presentation and the areas that needed improvement.

These issues then defined the challenge for mobile learning in relation to GCA, to create or enhance a task to allow pre service teachers to examine the practice beyond the theory, by investigating the claims made by proponents of GCA relating to the constructivist nature of the pedagogy and the issues that arose in relation to its use in the actual field that teachers will be working in during
games lessons, the practical lesson. The task also had to fit within the broader framework of the brief for the project, to develop innovative methods of teaching and learning through the use of a mobile device. To fulfil the teaching and learning brief, the content of workshops and tutorials, consultations, presentation observations and general observations on tutorials and understanding of GCA were also recorded. This became an interactive audio diary to be used as part of the analysis process for the study.

3.7 Teaching and Learning Activity

The task was for the project was in two parts. Firstly, students (in groups of three or four) were assessed on their use of a GCA when teaching a ‘lesson’ in one of the sport contexts for either net court or invasion/territory game. As part of the task, students were be expected to:

(i) Develop appropriate games for the purpose of the presentation
(ii) Manage the group effectively during the presentation
(iii) Develop appropriate dialogue and questions based on observations of game play in the lesson and student responses

Secondly, presenters were required to complete an individual two-page reflection and analysis of the presentation based their use of a GCA in the particular sporting context selected. The reflection included an evaluation of the positives and negatives of the session and an evaluation of the questioning methods used to establish and determine learning and meaning within the lesson. The data for the reflection was collected in two ways, firstly via digital video camera and more importantly for the project, through the use of a mobile audio device, in this case, an iPod with an attached microphone. Students were instructed to allow the iPod to record the entire presentation to ensure both their dialogue and the intended and unintended dialogue of the participants in the presentation was recorded. This was then stored for the presenters to use when developing their reflection and analysis of their presentation.

3.8 Technology

Students involved in the course used a 32gb iPod as their mobile audio device. A portable microphone was attached to the base of the iPod. The attachment of the microphone initiated an automatic ‘Record Now’ menu and two settings related to the quality of recording. For this task,
considering the amount of interference that may have occurred in a lesson outside a classroom, the recording quality was set at the highest quality to allow capture as much of the dialogue that occurred in the presentation as was physically possible. Students presenting held the iPod during their presentation, allowing the true mobility of the device to be utilised. If the recording ceased at any time, the iPod had a ‘stop and save’ function, which saved the lesson up to the point where recording had paused. It then reverted to the ‘Record Now’ menu option and the students repeated the initial process to record by pressing ‘enter’. Recordings were saved on the device and once all presentations for the tutorials in that week were completed, the dialogue was saved. As there were not sufficient iPods to allow the students to have their own for the duration of the semester, their audio from the presentation was burnt onto a CD for student presenters to use as the basis of their reflection and then to keep as a permanent record.

3.9 Participants

Data for the study was collected in autumn session practical studies classes in 2007 at the University. Ethical approval was granted prior to the commencement of the autumn semester and permission was sought and gained from the students in both cohorts in Week One of the course for both subjects.

The participants in the study were all students in the University’s Undergraduate Physical Education and Health degree. There were 119 students involved in the research, all of whom were enrolled in one of two subjects, a second year two credit point component of Skills Analysis and Performance subject and third year two credit point component of an Advanced Skills Analysis and Performance subject.

The second year subject focused on the game category of Invasion / Territory games (where one team enters the other team’s territory to score points) with the sports of Hockey and Soccer as the context. The structure of the course allowed for four weeks of instruction using Hockey as the context for understanding GCA pedagogy followed by two weeks of presentations where students were assessed on their demonstrated competency in using a GCA in Hockey. This was repeated for the second half of the semester with soccer as the context followed. Each presentation lasted for 20 minutes.

Students in the third year subject had four sport contexts to examine net court games (where one team / player attempts to manipulate an object over a net so it cannot be returned by the
opponent/s), Volleyball, Badminton, Squash and Tennis. They had two weeks of instruction in GCA relating to Volleyball, followed by two weeks of presentations where students were assessed on their demonstrated their competency using GCA in a Volleyball context. This was repeated for Badminton, Squash and Tennis. All presentations were again for 20 minutes.

3.10 Findings

For this particular project, data was categorised according to themes emerging from the analysis of the individual two-page evaluation of the lesson. These emerged specifically in relation to the criteria for the reflections and were; how the use of the device allowed students to examine the positives and negatives of their presentation, how the use of the device assisted the students analyse their use of questioning and how the device assisted students to analyse the development of dialogue in their lesson. The analysis was based on a constructivist and situated framework in which students were active in the construction of their knowledge in a context that was authentic to Physical Education teachers using a GCA, the games lessons. The themes emerging were then compared with the audio diary data from tutorials and consultations and then with others in the Physical Education community to ensure trustworthiness and credibility.

3.10.1 Positives and Negatives of the Presentation

I noticed that I need to project my voice more. I speak very quietly and believe I need to show more enthusiasm in my voice when I am teaching. (Student B)

Students used the audio to reflect on the positives and negatives of the presentations through features evident in their dialogue at a variety of levels. Most tended focus on clarity of instructions, pace of speaking, tone of voice and appropriate vocabulary as key notions relating to positive of negative aspects of the lesson.

Our questioning during the lesson allowed the students to think strategically about the game and allowed the students to focus on key concepts that make up volleyball (Student E).

Students also demonstrated their understanding of GCA by reflecting on the use of questions within the lesson, especially the link between the questions and the activities and linked this with a positive or negative element. However, others noted that this questioning was the source of issues with their lessons.

It was very evident when listening to my lessons that we did not create an optimal learning environment due to the nature of our questioning, which was regularly without purpose or related specifically to the games used (Student C).
3.10.2 Nature and Purpose of Questions

Students recognised the need to use questioning to probe for understanding and noted this as a key component in their successful use of a GCA. Some students made note of role of the answers to questions in learning.

*Each of the players gave the answers I was looking for and if I received a blank look, I usually reworded the question and a great response or the response I wanted to hear was then given (Student Me).*

This indicates the students were cognisant of the fact that the type of questions they asked would enhance the learning but in turn were not necessarily reflecting on the role of students in the class being active in knowledge construction as opposed to telling the teacher the answer they wanted to hear. However, other students focussed on this area and analysed this in a different manner. *A number of times I used closed questioning and gave away the answers while waiting for the class to respond (Student A).* Others wrote *I also found that when asking a question, I tended to answer the question for them or lead them so much that the only answer required was yes (Student C).* This response was common in the reflections, suggesting that the use of the dialogue gave students the ability to recognise not only the importance of the type and nature of question they ask nature of the question but more importantly, their response to the answer or indeed lack of answer. Another student further expanded on this theme. *One aspect of questioning absent that could have improved the learning was to use further probing questions. Generally there was only one question asked to students and when answered, that was it (Student L).* This was supported by another reflection, where the author, Student A, noted *When a student gives me what I feel is the correct answer, I simply say yes and move on as opposed to investigating this further through other questions or other student responses.* These students are recognising the need for a variety of answers to the questions they are asking and perhaps the relationship between the learning that is occurring for all students and the constructivist nature of the approach rather than accepting learning has occurred through single responses. They are also noting that if an answer is not given, it may require further exploration as opposed to those in the class not knowing. Other analyses of questions expand even further and noted the role that personalising the questions could play increased effectiveness in learning. *I believed that I could have further supplemented the questions asked to the class as a whole by asking more questions personally...it adds to the educational value as it is concurrent in the game and gives them (students an opportunity to implement (their answers) in the game (Student Jea).* This is of particular interest as the ability of the student to listen to the dialogue has allowed them to move beyond the GCA structure of game, questions, and progression of game and examine how questions can identify and enhance learning at different levels of learning and understanding in the class.
3.10.3 Use of Dialogue to Establish and Determine Understanding

Students used the dialogue recorded in the lesson to reflect on the level of learning through the answers received. While most simply indicated that the answers they received indicated understanding, some went further in their analysis. When students asked if the cones made it easier or harder from an attacking point of view, they responded with 'It made it harder but made us realise ways to create space and promote awareness of where other players were'. The defensive players agreed and included that they had used the background knowledge of the player’s use of the cones to prepare for their approach (Student E). The ability to have the dialogue from the lesson allowed the student to evaluate both the questions and the answers received and compare the responses from both teams in relation to their own observations. Others noted that Answers given such as “running to the ball” did indicate that students did make mistakes and could articulate this, seeing why it was a mistake but this was not always reflected in play (Student T) and also I did receive a good response when she talked about how positioning yourself between the player and the ball was successful. I then asked how that particular method helped you defend (Student T). Here, Student T is not only acknowledging his ability to recognise appropriate responses in relation to the question he had asked but also to begin to develop a dialogue and interact with the students based on their responses.

At its best, the link between the discussion and the play and teacher practices was very in depth. For example, Student C suggests in relation to implementation of strategy in a game and it relationship to the dialogue and his own construction of the reasons for player response. At first I just decided that these players weren’t skilful as their opponents however, the fact that I did not encourage them further to describe their strategy (and its requirements) … meant that their defensive structure broke down in certain circumstances. Here the ability to reflect and analyse on feedback and questions allows Student C to recognise his role in the learning and understanding of students in relation to the problems he is setting. He recognises that it is task complexity and an interpretation of the response in relation to the question he has asked that needs exploration rather than a simple judgement on skill that is leading to poor play.

3.10.4 Issues impacting on Questioning and Dialogue

The ability to access and analyse of the dialogue allowed students to not only reflect on the questions they were using but the reasons they were keeping the dialogue open or closing it. Student T recorded that I received a good answer but then I went on with a speech about space and stuff to get through the lesson. Student J noted that I feel that while I was receiving answers that indicated understanding, I did not have the depth of knowledge to investigate some of the
implications of these answers further and simply moved on to avoid this. The ability to capture the dialogue allowed the students to recognise that limits in game knowledge and worries about efficiency were keys in the closing of the dialogue. Students also acknowledged the difficulty of using the approach due to their ability to use the dialogue and its role in GCA approaches. Student A notes *I feel that I need more knowledge in GCA, which would include more theory, but in particular questioning practice would enable me to give the questions more purpose.* Student M, who notes *Listening to the dialogue indicates I need more practice and knowledge at using a GCA, especially when it comes to questioning* also supports this statement, demonstrating very active participation in the construction of knowledge.

3.10.5 Use of the Device as a Learning Tool
While not a component of the reflection, nearly all of the students made comment on the value of the device to enhance their analysis, despite some initial reservations. *At first I was nervous being taped but soon forget I actually had it.* (Student A). Others noted the difficulty completing the reflection adequately without the device. *(The analysis) would have been a whole lot easier for me if I had remembered to turn the microphone (I pod) on but at least I had the other group members dialogue (Student K).* Students also made note of the value of the device in improving their teaching and pedagogical skill. *I hope to listen to myself again as I learn a lot by listening and would like to see if I have taken the comments I have made on board* (Student A). Student M also noted *While I was a little intimidated at first with hearing myself, it was actually something I would like to do again as I was able to critique my teaching style and find ways to improve my teaching.* The device here is giving students the capacity to enhance their pedagogical skills and allowing them to be active in ways to improve their pedagogical skills in a manner that is non intrusive and easy to use.

3.11 Discussion
Wright and Forrest (2007), Prain and Hickey (1997) and Chen and Rovegno (2001) argue for the value of examining what is actually occurring in the dialogue of lessons (in relation to both discourse and use of constructivist methods), as both deeply affect the thought processes and the nature of what is learnt in the subject. The use of device and its ability to capture the actual dialogue from practice and store it for repeated use by the students in analysis allowed students to actually hear what they were saying in the class and to evaluate the questions they used, the strengths and weaknesses of their development of dialogue and use of GCA as a pedagogical method at a variety of levels rather than simply attempt to recall what had occurred. The device allowed students to analyse the lesson at a variety of levels, some students only analysed the lesson at a simpler level,
based on the asking of questions, voice clarity and instruction while others used the dialogue to provide a more in depth analysis based on the learning that was occurring as a result of the nature of the questions being asked, the responses to the question and at its deepest, the relationship of this dialogue to the movement responses of the students in the games being used and its indication of student understanding. Of real interest was the ability of the dialogue to allow students to determine the nature of the questions they asked, the type of dialogue they were creating in the class and their own requirements in relation to both GCA pedagogy, creating a positive correlation between the nature of the question and the learning occurring and its importance in student’s constructing knowledge in GCA lessons.

The implications of the research project have also had a positive impact on the structure and requirements of the games and sport component of the practical studies course. Pre service teachers in the course now

• are required to complete compulsory readings and related quizzes to enhance theoretical knowledge for GCA, other pedagogical approaches and the role of dialogue and questioning in learning
• have more observational time for students to develop the skills needed to formulate questions
• have been given greater scaffolding of question structure and observational focus points in games to enhance learning for students
• are required to develop the video and the dialogue together as part of the analysis process

The use of the mobile digital audio device was a real positive for this task. While there were some initial reservations from students the ability of the audio was actually well received and perceived as a valuable tool. There were some initial teething problems with recording issues, microphone attachment and the logistics of charging and recharging but these were not significant. The device was able to capture the dialogues and allow students to evaluate and reflect on what actually occurred in the lesson, and what learning and understanding was occurring. While many students still made assumptions about the approach, for example the use of questions in a lesson equating to the use of GCA, others were able to extend their analysis beyond this and examine their role in questioning and knowledge construction and the role of the dialogue developed in lessons and its relationship to learning and understanding for those in the lesson. The role the device played in allowing students to do this is important for two reasons. Firstly because the link between questioning and verbal responses and cognition relating to movement is often overlooked when determining learning and successful outcomes of Physical Education classes where movement, participation and high activity levels, even in GCA lessons are seen as the benchmark of success.
Secondly, the dialogue provided the opportunity for students to conceptualise through practice the issues associated with using a GCA and requirements to use it successfully based on the dialogue developing and occurring in the lesson. This device allowed further development in the examination of movement pedagogy in a meaningful way for the students due to their active participation in the process.

GCA approaches are a valuable pedagogical tool and can greatly enhance student learning in Physical Education and Sport if used appropriately. The use of a device as a cognitive tool in this field has the capacity to enhance the pre service teachers understanding of GCA in a meaningful and valuable manner in a way that has applications in other pedagogical practices beyond Physical Education.

3.12 References


Chapter 4

The Development of Quality Teaching in PETE undergraduates using a GCA

Publication Details


4.1 Introduction

The move for educational reform to improve student outcomes and quality learning has been the object of ongoing debate over the last fifteen years in Australia and internationally. This has lead to the development of a set of key characteristics by advocates of educational reform, assumed to be common to quality teaching and learning. In Australia, Game Centred Approaches (GCA) such as Game Sense have been positioned by advocates as having the capacity to achieve the characteristics of quality teaching and learning in Physical Education, thereby allowing PE to make a greater contribution to the learning experience of students in schools (BOS, 2003). However, despite some 15 years of exposure to, and professional development in, GCA in Australia, there has been very little change in teaching practices in games and sports. The traditional model still persists as the accepted pedagogical method for teaching and learning to be used in games and sports.

This paper will draw upon data collected from a range of sources over a three-year period to make observations about Physical Education Teacher Education (PETE) students, as one of the key groups who will be responsible for the delivery of quality outcomes in Physical Education. Using a series of exchanges, the paper will examine their attitudes to games and sports, their knowledge about teaching games and sports and the impact these may have on their capacity to use a GCA to create the elements associated with quality learning environments in games and sports. From these observations, we will argue that there are three important interrelated elements influencing PETE undergraduates’ capacity and desire to use a GCA to produce quality-learning outcomes. Firstly, the influence of traditional approaches to games and sports in their Physical Education and sporting background is a very powerful force in determining what teaching games and sports means to them. Secondly, students’ capacity to productively and consistently use a GCA to create these learning environments is contingent on the depth of their content knowledge and pedagogical knowledge.
Thirdly, there is a considerable emotional cost to students of challenging their embodied investments in a traditional sports model and this contributes to their resistance to using a GCA.

4.2 The Context

Over the last twenty years, educational reform has been focussed on developing and implementing more coherent ways for schools and teachers to improve the quality of practice and, as a result, teacher education institutions to improve the quality of teaching practices (Gore, Griffiths and Ladwig, 2004). Based on the work of Newmann and Associates (1996, cited in Gore, Griffiths and Ladwig, 2004), the emerging consensus in this area has been related to the characteristics of classroom teaching needed to deliver these outcomes (Gore, Griffiths and Ladwig, 2004). In Australia, these key characteristics have been developed and organised into analytical frameworks, firstly as Productive Pedagogies (PP), developed as part of the New Basic Scheme in Queensland and then in subsequent adaptations, such as the New South Wales ‘Quality Teaching Framework’ (QTF) (NSW DET, 2003). These frameworks include a series of descriptors relating to quality classroom practice that, it was argued if adopted, would lead to the effective learning for all students in the class, regardless of social, economic or academic backgrounds (Killen, 2005). These descriptors provide teachers with the means to evaluate their own practices. In NSW’s QTF, the descriptors are classified into three dimensions: the quality of the learning environment; the significance or relevance of the learning; and the intellectual quality of the learning. The last dimension is regarded as the fundamental component of these educational reforms and includes the key elements of deep knowledge and understanding, problematic knowledge, higher order thinking, substantive communication and metalanguage (Gore, Griffiths and Ladwig, 2004). By developing lessons using these descriptors, the intention is for teachers to be able to enhance all areas of learning for the students, irrespective of the subject area taught (Gore, Griffiths and Ladwig, 2004).

For Physical Education (PE) in Australia, the advent of this reform provided an opportunity to reflect on current practices in relation to quality teaching and to reaffirm its place as a key learning area. However, for PE to be able to argue for its place in the school curriculum, it needed to be able to demonstrate its ability to meet the quality teaching criteria and learning outcomes. Historically, the principal pedagogical model used to teach and coach games and sports in Australia is called the traditional or technical approach (Pearson, Webb and McKeen, 2005) and has remained largely unchallenged for the last 50 years as the modus operandi for teaching in the subject. This approach concentrates on the learning and refinement of movement skills and the associated links between these skills and the sports in which they occur. The students practice movements skills in repetitive drills to refine the execution and these skills are often followed by playing the associated sport, that
is, putting the movement skill into practice. The sports in various State syllabuses were selected for a range of reasons, but mainly due to national and traditional contexts (NSW Secondary Schools Board, 1980).

As has been well documented, mastery of movement skills is rarely achieved in this context in the time allocated for physical education. Students may leave lessons with no greater understanding of the sport than when they began and are often treated as ‘perpetual beginners’ (Gréhaigne, Richard and Griffin, 2005, p 141). They have limited opportunities to be involved in the learning process, especially if they have limited experience in the sport selected. Research into the traditional approach, summarised by Oslin and Mitchell (2006), found that students, especially inexperienced students, leave these lessons with low self-efficacy, have low self-perception of their movement abilities and have disengaged with the physical education and see little value in movement. The nature of the approach and its instructional elements means that of the key components for quality teaching and learning, especially in relation to intellectual quality, are difficult to meet and as such, it is difficult to map the QTF descriptors to the lesson outcomes.

One of the key ways proposed to meet the characteristics of quality teaching frameworks in Australia in the content area of games and sports was through Game Centred Approaches and in NSW, ‘Game Sense’ (Webb and Thompson, 1998). GCAs originated in models such as Games for Understanding (Bunker and Thorpe, 1982), which developed internationally into Teaching Games for Understanding (TGfU). Rod Thorpe first introduced ‘Game Sense’ in NSW in 1996 as part of an Australian Sports Commission initiative and over the next five years, the approach was the focus of concerted coaching and teaching workshops in NSW and Australia (Thompson and Webb, 1998).

GCA, such as ‘Game Sense’, are based on the theory that learning occurs best in game like situations and that students in the class bring their own understandings to games and are active participants in both the learning process and construction of games and sport knowledge. These assumptions about student involvement in learning align GCAs closely with constructivist and situated learning perspectives (Kirk and MacPhail, 2002). Proponents claim that by addressing the teaching of games and sports in a more holistic manner, these approaches have the capacity to develop greater enjoyment, engagement, relevance for students and a deeper understanding of the game or sport itself (Werner, Bunker and Thorpe, 1996). By combining these elements with an examination of more detailed game play components such as strategy and tactics and decision making in a GCA lesson, it became much easier to map quality teaching components and indicators in lessons. On the basis of the research cited above, the NSW Year 7-10 PDHPE syllabus indicated that ‘Game Sense’ was the preferred pedagogy to use when teaching games and sports in Physical
Education (BOS, 2003). In NSW, PETE degrees at University of Wollongong and other institutions adopted GCA as the major pedagogical approach for teaching games, while in countries such as Singapore, the GCA model known as the Games Concept Approach has been mandated as best practice for the teaching of games and sports due to its possibilities in relation to quality teaching (Rossi et al, 2007).

Despite the demonstrated positive outcomes possible using the model and its positive correlation to the analytical frameworks associated with quality teaching, there is little evidence of the adoption of a GCA such as Game Sense in teaching practice (Webb, Pearson and McKeen, 2005). There are numerous explanations for this. The strength of the traditional approach in schools and teacher education institutions is one explanation. Authors investigating this area have found key stakeholders in Physical Education are a major obstacle to the adoption of GCA as a major alternative to teaching games and sports. Those attempting to use GCAs given little support, facing ridicule and even hostility in physical education settings from PE practitioners, coaches, parents and the students themselves (Brooker et al. 2000, Light and Georgakis, 2005). Light (2004) reports that even those who see value in the approach and wish to use it often fall back into the traditional approach, despite their convictions and preferences. In addition, teacher education has not had a solid content basis from which students might learn how to teach using a GCA, with practical studies courses reflecting a traditional approach or managed through adopting coaching accreditation courses in certain sports. Perhaps, most importantly and, an idea developed in this paper, is the strength of teachers’, preservice students’ and school pupils’ investments in teaching and playing sport and games in ways with which they are most familiar, and from which they derive considerable pleasure because of their own success. Placek et al (1995), Tsangaridou (2006) and O’Sullivan (2005, cited in Tsangaridou, 2006) have all noted that a skill and coaching orientated approach was the dominant view of new PETE recruits and that this was derived from their schooling experiences and the practices of their Physical Education teachers. Tinning, McDonald, Wright and Hickey (2001) support this, arguing that many PETE undergraduates value and choose to be involved in a Physical Education career because of positive experiences in their schooling life. The elements are not isolated to Physical Education and bear a striking similarity to issues associated with the implementation of quality practices in other subject areas and in teaching in general. Gore, Griffith and Ladwig (2004) suggest that similar issues are central to the resistance to changes in practice and sustained reform in teaching. Heinecke and Drier (1998) also note if great demands are placed on teachers to change or adopt new practices that run contrary to their teaching beliefs, they are not prepared to assume the burden and simply teach as they always have. Gore,
Griffith and Ladwig (2004) suggest that investigation into whether teachers can change their own practices to adopt productive and quality pedagogies on a consistent basis is vital.

4.3 The Research and Participants

As a response to Gore and Ladwig’s suggestion, the study reported in this paper investigates key points of resistance for PETE undergraduates as they are encouraged to adopt a ‘Games Centred Approach’ to teaching games and sport in PE. It examines those factors that may determine whether our future PETE undergraduate students can understand and demonstrate quality teaching practices in games and sports in ways that will enhance their pupils’ learning. It does this through the analysis of a series of exchanges between the students and myself and each other in their tutorials, GCA presentations, analysis of presentations and consultations.

The data used for this paper was collected as part of a larger, ongoing ethnomethodological study into the use of GCA by PETE undergraduate in their practical studies courses at UOW. The larger study examines how PETE students make sense of GCA and how this is evident in their talk about GCA in oral and written reflections, in consultations with myself and with each other and in practice when teaching their peers. The exchanges used in this paper were collected by recording these consultations, the interactions in tutorials and in assessment presentations using iPods. These exchanges were supported by my own observations on students’ understandings of the GCA during and following tutorials through the use of the iPod as an audio diary. In this paper, the focus will be on three exchanges between the key players, which have been selected for the ways in which they demonstrate three themes. These examples have been drawn from the total data bank and are typical of the exchanges that occurred, reflecting firstly, the impact my approach had on the student’s beliefs about games and sports and secondly, the impact that gaining a deeper understanding of games and sports and attempting to use a GCA had on their ideas and beliefs about what it means to teach games and sports.

The participants in the research were PETE undergraduate students and me as their lecturer and tutor in practical studies (games and sports). I had joined the University after a career of 21 years as a Physical and Health Education (PDHPE) teacher in NSW High Schools and was an experienced Physical Educator committed and passionate about improving student outcomes in games and sports. The PETE undergraduates described below in the exchanges were involved in semester one of second year and semester one of the third year practical studies subject. Most (though not all) demonstrated the typical characteristics of PETE undergraduates: successful at sports; enjoyment
through play; and skilful in a single sport or all of the sports that were part of the courses. There were approximately 60 students in each cohort and the ability and experience levels in the games and sport components ranged from beginners with little or no experience in the particular sports to elite representative athletes in a variety of sports in the courses. As a compulsory part of their four-year degree, they were required to complete five practical studies courses program. These still reflected the requirement to learn certain recognisable sports traditional in Physical Education programs in Australia.

The first year course introduced students to Game Sense but rarely challenged their understandings and expectations in relation to learning games and sports. Over their next two years, these students were exposed, through my teaching, to the methodology I had developed and used at school. A typical session ran for one hour a week for a 13 week semester with required readings and journal articles supporting tutorial content, The aim was to provide the students with the opportunity to gain a strong grounding in the structure and interplay of the different elements of game play and associate these elements with the pedagogies of games through theory and practice. The GCA method used by me had much in common with the ideas of Hopper (1998), Howarth (2005) and Slade (2005). It was based on using simplified games to understand the foundational principles of play or action for each game category, allowing the exploration of, what Gréhaigne, Richard and Griffin (2005) note, as the action rules. Students did not need to be proficient in the specific movement skills associated with certain sports nor did they need a deep understanding of the myriad of rules associated with certain sports to develop an understanding of play. Once the simplified rules used in the game were understood through both play and observation, students could explore and develop their own understanding of strategies and tactics, decision-making and movement skill as the key elements of games, play space, primary rules and action rules (Gréhaigne, Richard and Griffin, 2005) were manipulated. Key elements of the QTF were aligned with this play action, enhancing the intellectual quality of the experiences, setting high expectations and explicit learning criteria, requiring student self direction and engagement and connecting with their past experiences and knowledge in games and sports.

4.4 Data Analysis

The theoretical framework used to analyse the data was based on Lemke’s (1990) theory of social semiotics, a theory of how people ‘make meaning’ and how these meanings are constructed in social settings or communities (p.186). He argues that it is misleading to assume that something simply has meaning; in essence, a meaning is made for it and that from examining the differing
resources we use, such as language, we can make sense of the meaning that is ascribed to certain things (Lemke, 1990). While Lemke was interested in how students understand science, the study described in this paper was interested in how, through examination of the resource of language, students understood games and sports and GCA, particularly when challenged with different meanings from those with which they were familiar. By analysing the exchanges that presented in the data, it was important to draw out what students understood about games and sports in, what Lemke (1990) describes, as action (the events in which the meanings are used) and in context (the meaning demonstrated when connected to an event). In the case of this study, the actions of meaning making were represented by the students’ exchanges with [first author] and between themselves while the context was represented by the tutorials and the presentations. By analysing these areas, determinations could be made about their meaning making processes in relation to games and sports and from this, how these impacted on their use of GCA in relation to the characteristics of quality teaching.

The following exchanges demonstrate three interrelated themes that relate to the use of GCA and the development of quality teaching and learning environments and to the challenges this poses to the meanings that the students attribute to games and sports teaching. The first theme relates to the student’s content knowledge of key elements of game play as a result of their sole exposure to the traditional approach. The second relates to their ability to create meaningful learning experiences for all students through GCA. The third theme relates to the emotional cost that adopting approaches that run contrary to one’s own understanding and meaning has on the practitioner.

4.4.1 Exchange 1  ‘What are you talking about, it’s boring, let’s just play?’

The first exchange was chosen because it exemplifies the attitudes and ideas the PETE students held in relation to how games and sports should be taught and how they expected to learn games and sports in their tertiary course. It was recorded in a tutorial in the third week of semester in the second year students’ first session with me. The PETE students had been placed into groups of four and given the task of brainstorming the basic elements needed to play the invasion sports of soccer and hockey. The elements identified by the students related exclusively to the execution of sport specific movement skills: passing, dribbling, trapping, kicking, hitting and tackling. Based on these responses, I resolved to challenge these ideas and prompted the students to explore other requirements of play. The following exchange between the group and myself ensued. Student N and Student L were the dominant voices and presented the views of the group most forcefully in the exchange. Both had a wide range of experience in and outside school in both sports. Student L was
a representative soccer player and Student N was very competent in a wide range of sports. This exchange stretched for 12 minutes as the students begrudgingly engaged in the task and their resentment at the time taken spilled over into their answers.

Greg ‘OK, would we consider ‘anticipation’ a basic of (playing) a game (of hockey)?’
Students (responses from the group) Sure... Yes... Of course...
Greg So, what is anticipation?
Student What?
Greg Anticipation, what is it?
Student Well, it’s reading the game!
Greg What do you mean?
Student Well to anticipate, you simply read the game and then can anticipate the next play.
Greg So it’s a form of advanced decision making?
Students (answers from the group) Yeah... That’s right...?
Greg And as you mentioned, quite simple. So how do you anticipate?
Student What do you mean?
Greg Well if it is so simple, how do you do it?
Student L I don’t know, you just do!
Greg This is what I am interested in knowing, how do you make this advanced decision ahead of play?

(Continued silence, students waiting for answer to be given, I wait)

Student L Greg, this is boring, can we just play? We are here to learn soccer, not this stuff!!

General agreement from the group, I wait for group to settle.

Greg Now, lets get back to anticipation
Students Groans... ‘Again’... ‘Come on’... ‘We only have an hour’...
Greg No, lets finish this train of thought. We agreed that it was a basic and that many of you can anticipate, but what if you can’t (anticipate), can it be taught? Decision making is a key part of the TGfU model, no?
Students (long silence again)
Greg What about at school or at training, was it taught?
Student N No, you just did it!
Greg What about those who could not anticipate, how did they learn (to anticipate)?
Student N  Well we just played and if they did not know, I suppose it was just dumb luck or the teacher hoped they got it.  
(General laughter and agreement) 
Greg  So why are you needed (then) as a PE teacher?  
(Continued silence again, restlessness in the group) 
Student L  Greg, at this point I don’t know what you are talking about, can we just play? 
Greg  Well then, ok. We will start with a hockey focus. 
Student L  (to another student) Well that’s no good, I play soccer, I can’t play hockey!

Analysis of this exchange revealed three clear elements in relation to the understandings these PETE undergraduates had in relation to teaching and learning of games and sports. Firstly, they had a very narrow and set view on what it means to teach or learn games and sports, that is, from their perspective it is about learning movement skills and practising these in a game. Their frustration at the lesson’s divergence from this model is evident in their responses in the exchange. While they are willing to acknowledge the fundamental nature of anticipation, decision making and reading the play, they do not feel the need to explore this, firstly because it is evident that they want to play but secondly, because they can not articulate what ‘anticipation’ means, how it can be taught or how to do this apart from an embodied sense as players. Their experiences have left them with no frame of reference to develop meaning in relation to these elements. Secondly, as they have no frame of reference for learning these elements, they have no way of translating this into pedagogy. Irrespective of their experience levels, the students struggle to articulate what they have agreed to be a basic to play hockey. This struggle shifts them from the position of expert in the field, that is, believing they have the content knowledge, to the position of possible beginners. To re-exert their sense of understanding and meaning, they adopt a belligerent approach, dismissing the method and the examination of the areas as irrelevant and ‘boring’. The students probably genuinely did not know what I was talking about, nor it seems did they want to know.

When they finally get to play, it is not in Student L’s area of expertise, simply adding insult to injury. Student L’s response underscores the lack of content knowledge: it is limited to one type of approach; it is unable to be articulated in at least one area of GCA; and it is limited to a narrow range of sporting experiences. In the exchange above the costs of working with a GCA with students who are heavily invested in their embodied capacity as expert sport players are also evident. The students are frustrated, they don’t want to be part of this type of approach and they want to simply play. Their resistance also takes other forms. Building content knowledge in a GCA requires reading in the area. Again, this was not an expectation they brought to a ‘practical’ class.
Without the reading they did not have the resources to respond knowledgeably, further reinforcing their disenchantment with the approach taken in the tutorial. The consequences of this limited content knowledge, years of experience as players; and of being taught and coached in sport using a traditional model are even more evident when the students begin teaching their peers with the instructions to use a GCA, as is demonstrated in the next exchange.

4.4.2 Exchange 2  ‘Well, it depends’

The following exchange represents an extension of the theme discussed above and looks forward to the third theme – that is, the impact of implementing a GCA lesson with, in this case, willing learners. The recording is of an exchange between third year students in week 8 of semester one in the badminton component of net court games. The presenters had divided the tutorial group into three after the introduction to their presentation and ran identical presentations with each small group. The initial exchange took place with a group of 18 students while the second took place with six students. The students in the presentation made every effort to do their best for the presenters, in both play and their attempt to answer questions.

This exchange begins with M initiating the beginning of the presentation with the whole group before asking questions of her smaller group.

**Presenter M**  Ok. Today guys we are obviously doing badminton again and we will be concentrating on three different types of shots, the smash, the high clear and the drop shot. The smash is an overhead powerful shot and is aimed at the floor. Would you like to demonstrate A?

**Student A**  Yep, Can someone hit it to me please?

**M**  (gestures to A) So, you fire the bird directly at the ground or your opponent (A struggles to demonstrate; over 1 minute to get one correct demonstration)

**M**  So that’s the smash. OK, the second shot we are practicing today is the high clear shot, that’s the shot that goes into your opponent’s backcourt, that is a shot used generally to have more time to rearrange your positioning (Demonstration from A). The third shot is a drop shot and the bird just gets dropped over the net into the opponent forecourt, like that (Demonstration from A).

**M**  The first game we are going to play is on this side (one side of the net) of the court, the white line is the middle, just hitting the bird, just
underhand shots to win a point. We are not using any of those shots yet; we are just using underhand shots to win a point. Get into pairs and let’s play.

The game was played across half of a badminton court with the service line as the ‘net’. Students used forehand and backhand shots with a number of small rallies taking place. The bird began to travel higher in some game play as the better skilled players extended themselves. Play continued for three minutes; the group was then called together for questions.

M So after that game, do you reckon its better to hit the bird to a space or a person?
Student A To a space
M To a space, how come?
Student A Because its harder for her to get
M Yes, very good (about to move on). Or? (responds to hand up)
Student K Well it depends what position you are in; if you are in trouble then its better to put the ball (bird) up high so you can get it back into position. General Agreement from other students.
Student C And sometimes due to the length of the racquet, it is often better to hit the bird directly to the person so they have trouble returning it. Also would you get more points if you were using the different types of shots that you were using before.
Students Definitely… Yes
Student C Yeah
M Yep?
Student C Yep
M (And) do you think the space you had affected you? How did that affect you?
Student C Yep? …. Because you could not get out of the way?
M Good. Ok, the second game we are going to play is singles, one on each side of the net, you can use the high clear, the one that goes to the back of the court, or the drop shot. You can’t use the smash yet. Ok?
So what is happening in this exchange? Firstly, M uses a basic GCA game, questions, progression format as the structure of her presentation. However, the presentation begins in a very traditional way with M informing the class that they will learn the three required shots to play badminton, which are then demonstrated, however poorly, as a precursor to practice. Rather than practicing the shots as would be the case in a traditional lesson, this exchange is followed by instructions to play an ‘exploration’ game. The game is followed by questions designed to establish where best to direct the ‘bird’. These seem to have little relationship to the beginning component of the lesson, but follow the GCA structure of questions following game. She starts her questioning with a prepared either/or opening and when she gets the correct response follows with a request for elaboration, 'How come', to which she receives her ‘correct’ response. However, when she responds to another student, an alternative is presented and the students begin a discussion that explores decision making and tactical changes based on context (‘it depends’) and elements associated with the space and relationship between the racquet and the person. The group then actively engages and exchanges develop between each other, in the process demonstrating key features of a quality learning environment. M, however, is not quite sure what to do or where to go; the discussion has moved beyond her prepared answers and into an unknown area. This substantive communication, a feature of ‘successful’ GCA lessons, is beyond her comfort zone and the discussion moves on without her and she begins to feel lost, noted by her uncertain 'yep’. She has no framework to determine whether the discussion is on track and no content knowledge to further the discussion. As a result of her discomfort, she understandably closes the exchange, with a closed question on 'space' related to court size to get a response related to her area of content knowledge. This is also in keeping with her intent for the game, which was to limit court size to produce one shot, confusing the ‘responder’. In doing so, M removes the exploration and the elements of quality in the presentation so desired by GCA advocates.

4.4.3 Exchange 3 ‘I don’t want to teach, this is horrible!’

The last exchange occurred during Week 11 of the third year course and represents the emotional impact on a student who ran a GCA lesson with all of the features of a quality-teaching environment. Student H had three semesters exposure to my approach to games and sports. On the basis of my observations of her play, I concluded that she was a very competent athlete who could read and anticipate play action in an embodied fashion in a variety of sports from different categories. She was a keen participant in class but became frustrated and uncomfortable when the games used in the course required her to apply her understandings in a range of scenarios and did not allow her to demonstrate her sport specific embodied expertise. This was expressed through
minor tantrums, belligerence to classmates and me and self doubt. She complained at times that the games were ‘stupid’; the rules were 'stupid' and blamed the court, the players and the rules whenever she struggled to resolve the challenges. However, in her presentation, where she and her group focused on ‘Factors influencing decision making on shot selection’, I observed a number of key components reflecting a quality GCA lesson: substantive communication; higher order thinking and deep understanding in relation to the focus area; strong student self direction, high levels of inclusivity and connectedness and high levels of engagement and high quality of movement from those involved. The discussions between presenter and students and between the students themselves were often thoughtful and explored a range of complex ideas, all related to the topic. Despite this, she was not enthused. The following exchange occurred immediately after her presentation when the other students had left.

**Student H**  
*You make me not want to do this!*

**Greg**  
*I’m sorry H, not do what?*

**Student H**  
*Teach, any more! (Tears)*

[pause]

**Greg**  
*Why is that, it was a quality GCA presentation?*

**Student H**  
*Yeah, but I run these games but I don’t see what is happening, I ask the questions and it’s really hard as they (the students in the presentation) come up with heaps of different answers!*

[pause]

*I feel really out of control!*

**Greg**  
*But you are getting great answers and interactions from the questions?*

**Student H**  
*Yeah, but I can’t control the responses I am getting, I feel lost and it makes me feel horrible!*

What becomes evident from this exchange is the cost curriculum reform can have on the teacher when they have no framework to work with beyond their own meanings of what a games and sport lesson should be like. The interaction went beyond Student H’s expectations or content knowledge; she felt unable to deal with the responses because she did not know what to observe; and, from her perspective, the students were no longer answering and acting within in her range of predicted behaviours. While the presentation displayed all of the key features of a quality learning environment in a games lesson, for her, these became irrelevant because the lesson contained none of the features of what she considered a games and sports lesson: activity; set answers; and a progression to the next game she had prepared. She had to rely on her ability to analyse both play
and the answers that she was receiving but her content knowledge and experiences in the area were from the perspective of a player. Her shift from player to observer and game analyst was profoundly unsettling; it challenged what teaching in this area meant to her and shifted her from consciously skilled to consciously unskilled, despite the quality of the presentation. H was willing to try, but the result was that she felt ‘lost’ and ‘horrible’, demonstrating the burden that is placed on those responsible for adopting and delivering educational reform (Heinecke and Drier, 1998). This makes her want to question whether it is worth teaching if to teach makes her feel this way.

4.5 Conclusion

The investigation into the development of quality teaching practices using a GCA has revealed a number key issues related to sustainability of practice. From the three examples discussed in this paper, it is clear that simply exposing students to these pedagogies or teaching the students how to play the sport using a GCA does not provide the students with the capacity to use the approach or maintain more than a fragile resilience to the challenges they may face in the teaching community. The demands placed upon them to develop both the content knowledge and pedagogical knowledge associated with using the approach to achieve quality teaching created real discomfort for the students. It moved them from unconsciously skilled to a consciously unskilled position in what it means to teach games and sports, the methods of teaching games and sports and the capacity they had to teach games and sports. They were required to both articulate what was previously embodied understanding in relation to elements so prized by GCA advocates; in essence to determine ‘how they did what they did’ and then place it in a pedagogical framework that they had been unaware of and from this, develop learning opportunities for their ‘pupils’. Yet, despite their discomfort and their belligerent resistance at times, they displayed a willingness to both develop an understanding of GCA in both theory and practice, despite, what at times, was an obvious emotional cost to them. Oslin and Mitchell (2006) suggest that GCAs can develop traction in the Physical Education community due to their perceived ability to enhance a wider range of characteristics that align with quality teaching and learning. However, we would argue that perception does not necessarily lead to adoption of these characteristics and that the key elements listed above must be recognised if we are to develop our PETE undergraduate’s capacity to adopt these pedagogies. In part this paper examines these elements, but it is not simply about demonstrating students’ resistance to a GCA, rather it points to the points of resistance, analyses possible causes and aims at providing reasons for both the lack of traction and the reasons for poor uptake. On one hand it could be argued that because GCA has not ‘caught on’, proponents should perhaps move on. We argue is that if physical education is to retain its position in the curriculum as an embodied practice, where quality teaching
and learning outcomes can be both demonstrated to take place, and are inclusive of those who come into PE with less capacity to play, plus face the challenges associated with Physical Education being simply about having students physically active, then we need teachers who practice a pedagogy that enhances student learning. At the moment GCAs, if used appropriately, seem to be one of the better candidates to allow this to happen. However, if we firmly believe that if the students are to achieve these qualities using GCAs, we must, as Gore, Griffiths and Ladwig (2004) argue, challenge the ‘conventional understandings of what is valued and offered in our courses’ (p.385). The challenge for GCA advocates is the same as we set for our students: how do we do? What processes have we and do we use to develop our content knowledge of the elements of GCA, our pedagogical knowledge in GCA?; and most importantly, how have we maintained our belief in the ability of the model to achieve quality educational outcomes in face of resistance. If we can translate this, what Shulman (1987) has described as our pedagogical content knowledge, into our courses and scaffold this for our students, then we can prepare our undergraduates more appropriately to take forward the reforms we argue are needed and that we ask our students to take into schools.

4.6 References


Chapter 5

PETE undergraduates and their perceptions of questions in GCA lessons.

Publication Details


5.1 Introduction

Over the last twenty years, there has been considerable enthusiasm for the use of Game Centred Approaches (GCA) to enhance the teaching of games and sports in Physical Education and coaching settings. GCA is an umbrella term for pedagogical approaches and models that situate games as central to the learning process (Oslin and Mitchell, 2006). There has been such so much interest in these approaches that they have become an international movement under the banner of Teaching Games for Understanding (TGfU) and this has resulted in a number of national and local models evolving from or parallel with TGfU. These models include Game Sense and Play Practice (Australia and New Zealand), the Tactical Decision Learning Model (Europe), the Tactical Games Approach (USA), Invasion Games Approach (Europe) and the Games Concept Approach (Singapore) (Butler, Oslin, Mitchell and Griffin, 2008). These approaches differ from more traditional method games and sports teaching where the teaching and learning of movement skills associated with a game or sport is seen as a priority before the learning of other elements of game play. In contrast, students in a GCA class examine the whole game first, then look at elements of game play including the development of movement skill and then explore these areas through games and in class discussion of play. This discussion is developed through the teacher acting as a facilitator, using questions and guiding discussions to engage students in thinking about problems in play. As a result, questions, questioning practices and the perception of the teachers related to using questions play a vital role in GCAs achieving the outcomes so prized by advocates.

While GCA research has focused on perceptions of use (see Light 2004), comparisons between GCA and traditional models of instruction in games (Turner and Martinek, 1999) and more recently, the complexity of systems make up of games and game play (Chow et al, 2007, Storey and Butler, 2012), there has been little research into questioning and the various elements associated with questioning, However, the small amount of research has been focused on the use of questions
and the type of questions asked by those using GCA, especially pre service teachers (see for example, McNeill et al, 2008), in line with research in other areas using constructivist approaches, notably math and science. However, questions in essence are inert: the effectiveness of their use is dependent on the user, the teacher, through their choice of question type, their reasons for using questions and their timing. This focus on the user is especially relevant in the case of GCA, which, despite many years of international recognition as a quality teaching method in games and sports, still lacks traction in the wider teaching community (Oslin, Butler, Mitchell and Griffin, 2008). Thus those charged with the implementation of GCA in the future, that is, PETE undergraduates, may have experienced a more traditional form of questioning in their ‘teaching apprenticeships’ and may have a different view of questions than those who advocate their use in the context of GCAs. This qualitative study then examines what PETE undergraduates, those charged with teaching from GCAs in the future, think about questions and their purpose as they plan and reflect on their lessons in a GCA context. Using the elements of their written self-reflections that focused on their use of questions in relation to game progression and student understanding, this paper will demonstrate how questions are used, implemented and valued in a GCA environment.

5.2 The Role of Questions in Teaching and Learning

The role of questions has always been a prominent theme in discussions of effective teaching and learning environments. Teachers and students spend a large amount of class time either asking or responding to questions as a way of learning and understanding the content presented to them and as a method of making judgments about student learning (Almeida 2010). Oliveira (2010) suggests that teachers use questions for both cognitive and social purposes: for motivation; preparation for future work; review and summary of previous work; stimulation of thinking; assessing understanding; and developing both critical thinking skills and the capacity for independent learning. Questions can also be used to scaffold and advance student thinking (Chin, 2007), to practice communication skills and to model good practice. This typology of questions and their use has been summarised in Table 1.

However, despite the wide range of types and styles of questions and various reasons for using them, the most dominant form of questioning used in a teaching and learning environment is a three-way exchange structure that Lemke (1990) describes as a ‘triadic dialogue’, often referred to as an IRE or IRF exchange (Initiate – Response - Evaluation / Follow up or Feedback). It involves a three-way move between the teacher (as questioner) and the students (as responders). The teacher initiates the exchange via a question, the student/s then respond and the teacher evaluates the
<table>
<thead>
<tr>
<th>Question Type</th>
<th>Definition and Reason for Question Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>Questions designed to generate thinking in a range of areas from the students themselves</td>
</tr>
<tr>
<td>Closed</td>
<td>Question structured where answer is in the question requires a simple yes or no</td>
</tr>
<tr>
<td>Divergent</td>
<td>Questions designed to reflect exploration of different avenues with solutions falling in a wide range of acceptability</td>
</tr>
<tr>
<td>Convergent</td>
<td>Questions designed to elicit responses in a finite range of accuracy, requiring students to make inference from the information available</td>
</tr>
<tr>
<td>Hypothetical / Predicative</td>
<td>Questions designed to use present information to examine possibilities arising from this information</td>
</tr>
<tr>
<td>Epistemic / Reactive</td>
<td>Based on or following up previous student answers on a topic, maintain flow of present discussion</td>
</tr>
<tr>
<td>Display</td>
<td>Oral tests allowing students to publically display their knowledge</td>
</tr>
<tr>
<td>Referential</td>
<td>Requests that seek information that the students need to know</td>
</tr>
<tr>
<td>Echoic / Initiative</td>
<td>Echo previous discussions and initiate or start classroom discussions on a new topic</td>
</tr>
<tr>
<td>Comprehensive Check</td>
<td>Oral questions to confirm hearing and understanding of previous student utterances by the teacher</td>
</tr>
<tr>
<td>Confirmation Check / Revoicing</td>
<td>Oral questions used to confirm whether the students’ answers have been comprehended by the teacher and to make explicit what may have been implicit in the answers</td>
</tr>
<tr>
<td>Clarification requests</td>
<td>Oral questions to allow elaboration of stated information or previous student utterances</td>
</tr>
</tbody>
</table>

Table 2: Typology of Questions (summarised from Killen, 2013 and Oliveira, 2010)

validity of the response and/or gives feedback on the validity, accuracy and often correctness of the response. The IRE/F exchange places the teacher in the position of the sole holder of knowledge and reduces the student to providing lower order or recall responses to set pieces of knowledge. The structure of question can reduce student responses to simple confirmations of what the teacher wanted to know and allow little room for meaningful dialogue between the teacher and the students or the students themselves (Oliveira, 2010). At other times the IRE/F may lack sincerity and encourage students to engage in a ‘guess what is in my head’ scenario or be used as a display
session where the Initiator (the teacher) already has the answer and is requesting the responder to display whether they know what it is (Oliveira, 2010).

As a result, the IRE/F structure may result in students leaving a lesson understanding little more than they did when they entered or actually close down discussion when it moves beyond either the teacher’s range of knowledge or comfort level. It does not align well with more constructivist-orientated modes of teaching and learning in student centred lessons, such as GCA (Wright and Forrest, 2007). Students in these lessons are seen to be more than receivers and transmitters and, as a result, this traditional exchange is poorly suited to such approaches. Authors such as van Zee and Mistrell (1997a) point to a different kind of exchange or to the further development of an exchange that achieves a more active involvement in the lesson. For example, they suggest the first part of the IRE/F exchange (Initiate) should be much broader in order to initiate a wider conceptualisation of the topic and allow for a range of responses. This then requires the third part of the exchange (evaluation/feedback) to be more than just an evaluation. It would need to allow further exploration of the ideas developed from the first responses. Such a move, referred to by van Zee and Minstrell (1997a) as a ‘reflective toss’, throws the responsibility of the thinking back to the students and creates an environment for the examination of a range of issues associated and related to the initial question. This allows the teacher to facilitate, encourage and guide students to articulate their own thoughts and ideas. This ‘reflexive discourse’ provides greater flexibility than the IRE/F structure allows. This is because the questions allow students to further investigate the topic and be active in their learning, rather than just simple receivers and transmitters of information. As a result, teachers’ questioning skills and their ability to evaluate answers become as important in the question answer cycle in a constructivist lesson.

In the area of teaching and learning games and sports using a GCA, authors consistently reiterate the importance of questioning to create the student centred and engaging environments so valued by those who advocate the use of the approach. Metzler (2000) notes that questioning is a pivotal instruction process to stimulate higher levels of thinking. Pill (2009) suggests key questions are a foundation of game centred pedagogies. Thus, in TGfU, a teacher contextualizes the learning through focus questions and uses questions as a pedagogical tool and to develop the problems that students must solve in game play (Pill, 2009). In Game Sense, the teacher sets the game and asks questions on technique, rules and tactics (Light, 2012). In the Tactical Games Approach, teachers manage a question and answer session on an initial game then move on to a contextually appropriate next stage of the lesson (Mitchell, Oslin and Griffin, 2006). As a result of the prominent role that questions play in GCA, authors such as Power (2000), Meltzer (2000), and Bailey (2001)
suggest that the structure of questions and the ability to ask higher order and probing questions are key elements to success in creating GCA environments.

On the basis of the literature cited above, one would assume that the use of questions in GCA environments would be a source of much interest in games and sports research. However, surprisingly this is not the case. Most research into questions and questioning has occurred in other curriculum areas ranging from investigating the use of questions in the general classroom environment (see Wells, van Zee, and Minstrell, 1997a, 1997b) or in science and math specifically (for example, Chin, 2007), the role of professional development in developing questioning skills in science (Almeida, Pedrose de Jesus and Watts, 2008, Oliviera, 2010) and how students understood their own use of questions and their teachers use in their development of understanding in a topic area (see Loy, Gelular and Vontver, 2004, Tran and Lawson, 2007). In the GCA area, while there are excellent resources that scaffold what questions to ask (see for example Mitchell, Oslin and Griffin, 2006 and Pill, 2007) or suggest scaffolding methods to ask questions (Turner, 2005), there have been few studies either examining questioning in GCA or more importantly, examining exploring the qualities or attitudes needed to implement and manage the question answer process, especially in practice. Those few, which have examined these issues, suggest that even when questions were used in teaching a GCA, they did not conform with to the prerequisites of a constructivist approach. For example, (Wright and Forrest, 2007) found that while questions were used consistently in GCA by PETE undergraduates, they were not necessarily student centred nor did they actively involve the students constructing knowledge or aim to do so. McNeill and his colleagues (McNeill et al 2004, 2008), examining the challenges facing PETE undergraduates implementing constructivist approaches using questions in GCA classes, found that that questioning and managing questioning time impacted negatively on the development of questioning skills. They also found that the questions the PETE undergraduates used aligned with a more traditional teaching method and often focused on skill and affective outcomes. The questions also regularly used an IRE/F structure and were associated with fact seeking rather than exploration. These PETE undergraduates often followed pre set plans and did not take into account either unfolding play or the answers received from those in the class, again reflecting a more traditional approach to teaching games and sports. Thus it seems that a number of teacher factors impact on the use and effectiveness of questioning, beyond the types of questions themselves. These factors also seem to relate to the user of the questions, the teacher themselves.

From their two studies, McNeill et al (2008) recommended that the engagement of PETE undergraduates in ‘reflection on action’ process was key tool in developing questioning and
improving the understanding and implementation of GCA by pre service teachers. This paper takes up this recommendation and uses the process of student self-reflection to analyse PETE undergraduates’ views on their use of questioning when conducting a GCA lesson to fellow students and examine the issues that emerged for them when questioning in a GCA context.

5.3 Method

5.3.1 Qualitative Study of a PETE undergraduate cohort in games and sport
The data for this case was collected by me as part of a larger study into the development of understandings of GCA by PETE undergraduates (see Wright and Forrest, 2007; Forrest, 2009; Forrest, Wright and Pearson, 2012). The students involved in the study were PETE undergraduates (n=119) who participated in four consecutive practical studies courses over four semesters (two years) with me. The courses covered the invasion sports of soccer, hockey, basketball and netball in the second year of the degree, the net court sports of tennis, volleyball, badminton and squash and the striking fielding sports of cricket and softball/baseball in the third year of the degree (for further detail, see Forrest, Wright and Pearson, 2012). Assessment remained constant across the four courses and consisted of two interrelated parts. The first part required the undergraduates to present a GCA lesson to their peers in a sport in the relevant category. This lesson was aimed at developing their pedagogical skills in an environment free of behavioural and management issues. As described by Forrest (2009), this lesson was recorded on an iPod and the students used this as data for the second part of the assessment which involved them presenting a four page self reflection of their GCA lesson, based on the key interrelated elements GCA literature identified as common to all GCAs: lesson purpose or focus; games and progressions used; and the use of questions in the lesson in relation to the previous two elements. This task remained constant across the four practical studies courses in games and sports and provided the PETE undergraduates with a consistent task across different categories of games and sports. Over the four semesters, this produced four self-reflections on their GCA lessons in three different games and sports categories using both the audio recordings of their lesson and video as support (if needed). The self-reflections used for this paper were from the third year cohort in the third of their practical studies course with [first author].

5.3.2 Data Collection and Analysis
Data for the study was collected over a three-year period from each of the practical studies courses in games and sports. The self-reflection papers were submitted as a hard copy by the students and were graded by myself in relation to assessment in the course. Copies were made for coding
purposes. Audio recordings of all GCA lessons were also transcribed along with audio notes made by first author of each of the presentations. Data was analysed using a constant comparative qualitative analysis espoused by Strauss and Corbin (1998). The self-reflection papers were examined for emerging themes, which were further clarified through ongoing discussions with colleagues and comparisons with the field notes and transcriptions of the presentations. Those themes specifically related to questions and questioning provided the material for discussion in this paper.

5.4 Results and Discussion

Four main themes emerged from the data: the value of questioning; the role and type of questions in learning; the skill of questioning; and the impact of questioning on the PETE students’ perceptions of being a teacher of games and sports.

5.4.1 The Value of Questioning

The reflections in their diaries suggested that the PETE undergraduates valued the use of questions as a tool, especially in relation to enhancing learning in the lesson. Some presenters found that using questions to prompt student exploration meant they were freed from constantly directing the students in the lesson, thus reducing teacher talk, identified by Bailey (2001) as a major issue with PE lessons. As a result, some noted that they were better able to observe and determine the level of students’ understanding in the lesson, both as a whole but also on an individual basis. For example, Presenter S wrote that:

*I found by setting up the play with a question or through using questions, I could leave them on the topic of defensive strategies and they came up with and explored a number of elements associated with it by them. I did not have to tell them a strategy and then teach them to execute. They came up with some great ideas and none of the groups used the same strategy.*

Presenter K also noted that by using questions, he was forced to reevaluate his beliefs on what the participants in his lesson actually knew, which, in his case, was beyond what they could demonstrate in play.
I found I was better able to understand what students knew when I asked them questions after play. I thought one group weren’t trying but when I asked and actually found out what they were trying to do, I realised they had great understanding [but] could not demonstrate this in movement because they did not have the skill. It actually challenged my beliefs about the group and what they understood about the strategies in possession.

This was also supported by Presenter A, who reflected that questioning revealed skills and game play understandings in less experienced students that he had not expected, including solutions which he had had not thought of himself.

I was surprised to find that a student, with less experience in the actual sport, was actually a good decision maker and used speed in deciding to move for a shot to overcome his lack of experience. He told us he had to get into position earlier as his movement skill was not as good. I would not have noticed without our questions!

As a result of the questioning, the presenter actually came to a better understanding of the complexity of game play and to broaden her understanding of responses in play and in reflection. However, this was not always the case. A number of presenters also found questions valuable, not because they furthered the student-centred aims of GCA or for higher order thinking, but for class management. The following reflections demonstrate how when this is the purpose, the kind of questioning used is more like IRE form discussed above.

I used questions well in the presentation. I brought them in and I asked them a question and if they (students) did not understand, I led them on the right path with a closed question. I then received the answer I was looking for. This allowed me to get the correct answers for all the questions I was asking every time and allowed me to have a great lesson. (Presenter M)

I planned and used questions to allow for smooth transition between the games. I gave them a certain period of time to answer: if it went too long, I just used a closed question, got the answer I needed and progressed the game. This meant the students were not bored and kept busy. (Presenter G)

In neither of these quotes do the students reflect on how this closing of the discussion and searching for correct answers is at odds with the exploration and higher order thinking in GCA lessons. This suggests that even in a GCA presentation, there are strong habits to overcome for PETE
undergraduates, especially when the ‘presenter’ has different beliefs from others on what constitutes a good GCA lesson (see for example Forrest, Wright and Pearson, 2012). For these presenters, remaining in control of the knowledge and structure of the lesson had priority and they used specific kinds of questions to achieve this.

For some of the presenters, their reflections suggest that while they valued questions to promote critical thinking, the attitudes of the participants in their lessons significantly influenced their success at using questions in a GCA.

They (the students) wanted to play and just did not answer the questions. Even when I tried to reiterate and reword, there was a lack of response from the group as a whole. They just seemed to wait until I made it really simple, almost forcing me use a closed question. When I then provoked them, one student at least actually came up with a rebuttal. That allowed me to see some response but it seemed like they did not want to learn. (Presenter H)

There was real resistance from the students when I tried to probe and further explore their game play. They really just wanted to get it over with and begin to play again and seemed quite disgruntled at being asked. Some of the ‘better athletes’ were quite rude: it was as if I was imposing on them by even asking and interrupting their play time. (Presenter I)

However, Presenter P felt that this situation improved when there had been an expectation or culture of such thinking from previous experiences, highlighting the importance of the context of the lesson and the learners as being as important as the approach used. He found that, unlike the two examples above:

It was lucky that the students had been involved in an environment where there had been challenges and deeper questioning in our tutorials and that everyone was really interested in learning. As they were used to being challenged in the tutorials, it created an environment where they found it quite normal and as a result, really engaged with questions I asked.

Such responses to questioning are certainly in line with research into resistance to GCA, especially from students in GCA settings and other staff (Brooker et al 2001, Forrest, Wright and Pearson, 2012). Despite the intention of using questions to create higher order learning opportunities, it was the participants in the lessons who became the issue, even in a lesson where no such issues would be expected. This points to the difficulty for those attempting to use questioning to engage students
in higher order and critical thinking, despite their pedagogical skills and willingness to use and structure such sessions.

5.4.2 The role and type of questions and questioning
The comments that the students wrote suggest a high degree of understanding about the use of questioning and a sophisticated capacity to reflect on the effects of different questioning approaches, including a recognition, for example, that just using a particular mode (an open question) did not always guarantee the desired result. Reflecting on their approach to their lessons, the PETE undergraduates in the study generally wrote comments that suggested that they were very conscious and deliberate in the type of question used. They saw themselves as using questions and question structures as a way of encouraging ‘higher order thinking’. Most suggested that they used a range of questions to create and encourage an environment of critical thought. For example in the following quotes both students write about using open-ended questions and probing further to ‘find out and encourage what student were thinking’.

*I always tried to use open questions to begin (the discussions) and then tried to use questions to probe and clarify answers to find out and encourage what students were thinking. It didn’t always come off but I was trying to do so. (Presenter Jo)*

*We had the groups play their game and then we brought them in at the end and questioned them about the game, promoting higher order thinking. We tried to make sure it began with an open-ended question each time and tried to a range of question structures to elicit higher order responses. (Presenter A)*

They also seemed to be able to identify closed questions and recognize the way these limited further discussion. In the following quote Presenter L demonstrates her recognition of how a closed question cut off the potential for discussion.

*After the second game, I started my first questioning line with a closed question. It did not allow any further discussion. The question received a yes/no answer and I had nowhere to go from there apart from the next game.*

However, Presenter K found that just using an open question did not always allow a critical thinking scenario to develop.
I knew that I should start with an open question when I began the discussion. However, it was so open that it took a couple more convergent questions to allow the students to actually understand what I was asking and by that time, it was really limited in its value.

In contrast Presenter L suggested that, despite the need to encourage higher order thinking, the dynamic nature of the games and the variety of elements that could be addressed in game play required a more convergent structure to begin discussion.

We really needed to maintain a line of questions around shot placement to keep the student’s focus and discussion on our purpose. It was actually better than an open question as it allowed the students to actually concentrate on the purpose of the presentation in an environment where so much was going on. (Presenter L)

This idea of more convergent rather than open questions to focus students’ attention on certain areas of game play was supported and expanded upon by Presenter T:

I found there was so much to observe in play, it would have been easy to go off on tangents and ask about a range of things. I asked and used questions kept the thinking focused on the area we wanted the students to explore. What it also provided was a lens to look at that area in play. The fact I was going to ask questions actually forced me to observe that part of play.

Each of these responses suggest that those teaching the lesson had a clear understanding of the role questioning has in relation to attempting to create a thinking environment and encourage higher order responses from the participants. They were also aware that the types of questions needed to be true to a constructivist-learning environment. This may have been because of their understanding of questioning in a GCA or due to the fact they were being assessed on their use of questions. However, the last two responses suggest there was considerable depth of understanding of the role of questions specific to the context of game play. Rather than simply following a type of question related to higher order thinking, such as a divergent question, these students recognised that games create a range of areas to ask questions on, due to the dynamic nature of game play. Here, the students were creating what Pill (2009) suggests is necessary in GCA: a focus for the learning on the areas needed. While the questions used were not necessarily open and divergent as many suggest should be used to allow for higher order thinking, they allowed those answering to focus on certain areas of play thus opening up opportunities for a more in depth examination of these areas.
5.4.3 Skills in Questioning
The PETE undergraduates’ reflections suggested that they recognized when their questioning approach did not work; they generally acknowledged that they needed to work on their pedagogical skills in relation to questioning. They identified a number of reasons for a breakdown in questioning. While most felt that they had planned good questions, execution in practice, irrespective of the amount of times they had presented, was a major factor, as could be expected with inexperienced teachers. For example Presenter R wrote that her experience in initially structuring questions then managing the responses was an issue.

The way I structured questions did not allow any further discussion. If a question received a yes/no answer, I had nowhere to go and was not quick enough to follow on or probe. As a result, I simply accepted whatever answer was give and moved on. The lesson then lost its student centred nature.

Presenter K felt that the way she used the questions was an issue and was related to her knowledge and understanding of game play. Rather than using questions to explore, she felt she used questions to actually cover her limitations.

I did not allow the students to fully explore the concept. I just kept using more questions without the time to fully analyse the responses or give more than one student time to answer. I think that I was worried I would not know where it was going so just kept asking questions. I don’t think I really was sure that what they were not saying was actually an appropriate response, nor did we conclude with anything definitive so I would ‘question’ the depth of what was learnt in the lesson.

Presenter E also noted that while the scaffolds demonstrated in set readings for the subject provided a structure, he found it difficult to move beyond these when the exchange required it.

I tried to use the scaffolds but I was not able to adapt. Listening to my audio, I would receive an answer but rather than respond to it and further expand, I just stuck to the scaffold. As a result, I am not sure the next question or answer was relevant at all.

The presenters also noted in their reflections that sticking to the ideal was not always easy in the practical context of the lesson. For example, Presenter D wrote:
I tried to use open and divergent questions but sometimes a closed question or an answer just slipped out. I was so keen and so excited that they were all responding that I just could not wait for them to give the final answer. I just closed the discussion and answered it for them. It was not deliberate; I could not help it.

5.4.4 Perceptions of Teaching, Teaching Practice and Content Knowledge

The use of questions in the lessons created challenges for the PETE undergraduates in relation to their perceptions of achieving what they had planned or in progressing learning, which often were not one and the same, and their perceptions of their abilities to facilitate learning. While the use and type of questions established the nature of the lesson, as those in the lesson became more involved and active in the learning, the unpredictable responses were often not in line with their plans. While some students, such as Students G and M (noted above), used questions to ensure this did not happen, for others, such as the students quoted below, questions that prompted discussion meant that they were at risk of losing control of the direction of the lesson or running out of time to ‘get through’ what was planned:

I like where the questions were taking the learning and the lesson began to develop student centred qualities but I had to get through a number of things in the lesson. I actually became irritated as they (the students) wanted to keep exploring tactical changes and I needed to move on. I was forced to use a closed question to stop the discussion otherwise I would never get through what I wanted to cover and had planned. (Presenter J)

I would have liked to extend the silence after the question to allow time for critical thinking but this impacted on me getting through the content. I just gave them the answer to speed things up and move them on to get through the lesson. (Presenter V)

On reflection Presenter S suggested a solution:

I actually needed to give the students more time to actually play again after the questions, to help them with the questions but I felt I had to get through the games. After the lesson, I felt that the time allocated was too short but the involvement of the students with my questions caused the issues. I then realised that time was set and I could have had much better learning with only one of our games.
However, a few of the PETE undergraduates really embraced the potential of questioning to create a dynamic learning environment. The following reflection from Presenter J for example, demonstrates what was required to step outside her comfort zone:

*The use of questions and managing the responses threw traditional planning out of the window. Using questions allowed me to let play guide where and how the group progressed the lesson which was good, but scary! I had to really think on my feet and immerse myself in the lesson. I could not just go through the motions; I had to really pay attention to play, which was a challenge.*

Planning what one wanted to happen and then dealing with what did happen in student-centred lessons also created challenges in the execution of lessons. Most presenters did preplan their questions and some felt that this helped as it gave a more predictable path for the flow of the lesson. However, others noted such planning became limiting the more student-centred the lesson became. For example, Presenter S wrote:

*The question structure and scaffold of Turner (2005) was some help: it was what I observed that was the issue. I tried to begin with the demonstrated structure but the first set of answers simply made it redundant, as the answers did not relate to the those I expected and they came up with four or five different responses. I ended up just agreeing all of the time.*

One of the key issues in the use of more exploratory questions was in relation to how these set up situation, which the presenters perceived as challenging their role in the lesson. While, as earlier demonstrated, some presenters enjoyed the freedom that setting the questions and having the students explore created, the majority did not. This was because it created a dissonance with their perception of the role of a teacher. For some of the students, such as Presenter G and M above, open-ended, intuitive questions were simply avoided. For others such as the presenters quoted below, questions were used effectively to set up problems, but they then felt disconnected from the learning and their role in it:

*When I set them a task using questions and they then went off and explored, I ended up feeling a bit left out of the lesson. I wanted to be more involved but they went ahead and began to work by themselves. I know I planned for this but as a result of this independent work, I could not really connect with the lesson. (Presenter N)*
I felt I was not doing anything and felt quite useless. I actually interrupted for the sake of it and asked a question that was not really helpful to me, the students or for the game.

(Presenter E)

Using open-ended questions, where the responses were unpredictable, also challenged the content knowledge of the students, which again, most felt had a major impact on their ability to operate effectively as a teacher. Most of the presenters felt that they did not have the observational or analytical knowledge of game play and the ability to transform this analysis into a verbal form, to structure new questions and develop further discussion and to deal with answers that were outside their range of predictions. This was one of the most common themes throughout the self-reflections. While there were PETE undergraduates who embraced such an environment such as Student J above, most wrote they felt inadequate, uncomfortable or threatened. Importantly, many wrote that they struggled to manage the answers evolving from the questions, rather than manage the type of question asked. This is evident from the following quotes:

I felt I asked a number of open questions to develop discussion but it would not have mattered what I asked. I struggled to maintain the exploration, as I did not always understand the answers given in relation to decision making. I did not really evaluate their play because they seemed like they were active and playing well. As a result, I rambled on with some general points, which, on reflection, had nothing to do with my topic.

(Presenter Y)

I asked the first question and the group came up with a range of answers. After this, I had nothing. I just went blank as I did not whether what they were suggesting was in a range of what was appropriate in relation to the attacking strategies or even relevant. I could not see it in play so just kept agreeing with everything that was said. (Presenter L)

I asked the question and generally picked the student I wanted to answer because they saw the same things I did. After one answer, I assumed that the entire group had that answer. I did not really want to move into areas that I was unfamiliar with and as a result, did not really let them explore. (Presenter A)

This lack of observational and analytical skill could well be expected due to the dynamic nature of game play in most categories and the experience levels of the students. While other curriculum areas have a more consistent entry level into tertiary education degrees (Ball, Thames and Phelps, 2008), future PETE students enter their tertiary education with a considerable variation in the breadth of content knowledge and experience of games and sports. Some come with very specific
expertise in a certain sport, others come into the courses with little games and sports background at all. In addition, in most cases, those with expertise have been or are players, rather than observers and analysts. Even practical studies courses like the ones that these PETE undergraduates have studied, provide them with very limited exposure time to develop these observational and analytical skills in game play. This then impacts on practice, and as demonstrated above, causes discomfort or unease for the users, which in a teaching environment, may lead to the dropping of questions or of pedagogies that have questions as a fundamental component all together.

5.5 Conclusion

This study into the use questioning by PETE undergraduates in a GCA context was an attempt to examine their perspectives about questions, a central element to the success of GCA lessons. The study points to the positive response from those using questions in regard to their role and their perception of the value of questions in creating learning environments. Of note was the quality of reflections, with most students demonstrating a depth of understanding related to questions and questioning in GCA that further suggested a positive future for their questioning in lessons and their questioning when using GCA in general.

However, although there is a substantial literature into the use and type of questions in teaching in general, this study raised important questions relating to the management of answers and discussions resulting from questions and the impact it had on those using the questions. The PETE undergraduates noted key issues with their ability to maintain the discussion based on their own observation skills and content knowledge in games and sports and how their role as a facilitator often clashed with what they believed their role to be as a teacher and their own teacher identity. They also demonstrated the impact that using questions to create environments valued by GCA advocates had on planning and achieving what they had set as the outcomes of the lesson. There were also issues with the resistance of those in the lessons to engaging in higher order thinking, which combined with the other elements, may impact on teachers’ persistence with using questions in games and sports lessons and on implementing a GCA as a whole.

Oslin, Butler, Mitchell and Griffin (2008) suggest that there needs to be more consistent efforts to bridge the gap between research and practice in GCA to help students engage more fully in games and sports lessons. This study points to key issues related to a central part of all GCA approaches, the use of questioning from the perspective of those who will be responsible for future implementation of GCA in the future. For tertiary educators, it demonstrates key areas of support
needed for PETE undergraduates in teacher education programs if they are to use GCA effectively: questioning, practical experience and supporting students as they are asked to challenge their own perceptions of their role as a teacher in a lesson. It also points to the need for further research into how to resolve the conflict between developing content knowledge and associated observational and analytical skills in the complex environments that make up games and sports and the time available to develop this in tertiary courses, such as explored by Memmert and Harvey (2010). These PETE undergraduates demonstrated a real willingness to implement GCA, with an aim of providing quality games and sports experiences for their ‘students’. By supporting them in these areas, we can better support quality questioning practices in schools in the future as well improving the long term viability of pedagogies such as GCA as a valuable part of student learning in games and sports.

5.6 References

Forrest, G (2009) Using iPods to enhance the teaching of games in physical education, in Herrington, J., Herrington, A., Mantei, J., Olney, I. and Ferry, B. (eds.) New technologies,
new pedagogies; mobile learning in higher education, Faculty of Education, University of Wollongong, 87-99.


Chapter 6

Assessment of GCA Practices – The GCA Assessment Scaffold

Publication Details

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6.1 Introduction and Background

Games and sport have dominated most secondary physical education programs, taking up to 65 per cent of curriculum time (Turner, 2005). Traditionally, a ‘movement skill first approach’, which focuses on the development of movement skills as a precursor to other elements of play has been used. A number of issues related to student learning have been raised with this approach, including low levels of student engagement, low transferability of knowledge and a lack of understanding of the game itself (Gréhaigne, Richard and Griffin, 2005).

It is not surprising then that over recent years, there has been considerable debate and interest in methods of teaching and learning games and sport in physical education. From this interest, a number of alternative teaching approaches have been promoted in the area, under the collective rubric of ‘Game Centred Approaches’ (GCAs) (Mitchell and Oslin, 2006). These approaches, which claim to promote student’s active involvement in problem solving through game play and game progression and the use of questions, discussions and reflection, have attracted strong interest due to links with constructivist teaching practices (Light and Wallian, 2008). As a result, advocates have promoted GCAs as pedagogies to address the issues raised in relation to the traditional approach and to enhance the learning experiences of students. However, this seems to have resulted in the development of the idea that simply teaching using GCAs will result in more engaging, more meaningful and more relevant lessons for students. What it means to employ GCAs has been little explored. Rather GCA research has primarily focused on comparing the effectiveness of learning in GCA lessons to the traditional approach (see Turner and Martinek, 1999). Other research has assessed the success of GCA lessons by determining the perceptions of those who were students in lessons, or were users of GCAs (see Light and Georgakis, 2005).
However, there is a dearth of research investigating GCA lessons for the extent to which they employ the constructivist elements and create high quality learning environments that are the basis for the claims their contribution to student learning. The quality and value of constructivist pedagogies such as GCAs are reliant on the creation and maintenance of their student-centred nature, where the student is active in the construction of knowledge. However, this is inherently dependant upon the teacher. As a result, lessons and learning environments could be of high quality or of low quality. While Roberts and Fairclough (2012) have provided the validated tool, SOTG, it makes judgements about what is occurring in a games lesson rather than quality of use in relation to teaching. If GCA lessons are to have possibilities for improvement in student learning, being able to determine the quality of GCA lesson as constructivist learning approach would be of considerable value for teachers and for teacher educators and their students. This article takes up this challenge by offering a possible method for such an assessment of the quality of GCAs in use.

6.2 GCAs and their role in student learning

GCAs is an umbrella term that includes teaching models that use games as the central learning vehicle in games and sports lessons (Mitchell and Oslin, 2006). Most GCAs originated from or were inspired by the work of Bunker and Thorpe (1982) and their ‘Games for Understanding’ model. Teaching Games for Understanding (TGfU; Bunker and Thorpe, 1982); The Tactical Games Model (TGM; Mitchell, Oslin and Griffin, 2006); Play Practice (PP; Launder, 2001); Game Sense (GS; Light, 2004); the Tactical-Decision Learning Model (TDLM; Gréhaigne, Wallian and Godbout, 2005); the Ball School (BS) model (Memmert and Roth, 2007); the Games Concept Approach (GConA; McNeill, Fry, Wright, Tan, and Rossi, 2009); and the Invasion Games Competence Model (IGCM; Tallir, Lenior, Valcke and Musch, 2007) (Light, 2012). While there are a range of models developed from different circumstances in different countries, these are, as Mitchell (2005, quoted in Oslin, Butler, Mitchell and Griffin, 2008) notes, ‘paths up the same mountain’, in the sense they all focus on the improvement of student understanding of games and sports. These improved outcomes are due to the theorized connections between the characteristics typifying GCA models and constructivist and situated learning theories (Kirk and McPhail 2002). Based on the work of Piaget and Vygotsky, constructivist teaching and learning methods differ from more traditional learning approaches as they view the learner as active in constructing knowledge rather than following instructions. Light and Wallian (2008) note that when using these approaches, knowledge is no longer something that has to be internalized by the learner but is constructed continually through interaction with others in authentic learning environments. Thus, in a GCA lesson, it is theorized that knowledge construction occurs through active student
involvement in games and game play that pose problems, questioning and discussion and reflection on play and progressions on the games to develop this. Through this, students continually construct and reconstruct knowledge about the problems presented. For example, in the most well known of GCAs, Teaching Games for Understanding (TGfU), the students engage in an initial game that establishes a problem. Once they play the game, they examine strategies and tactics of the play, then the decision making needed in the play. As they reflect on, discuss and answer questions put to them by the teacher, it is assumed that the importance of movement skill in relation to the execution of strategies and tactics and the decisions made becomes more important to the students and they are more willing to engage in the learning of all elements of game play. As this process continues and students are constantly constructing and reconstructing knowledge about game play, their understanding constantly improves. This is similar in Game Sense, an Australian GCA. Students are set problems in small-sided games or full-sided games. The teacher then asks questions and promotes discussion on the rules, technique and tactical strategies and, through their involvement and construction of knowledge, students are able to set the direction of the lesson with the teacher.

The processes outlined above are key in connecting GCAs with higher quality teaching and learning environments and improved outcomes for students in games and sports lessons (Pearson, Webb and McKeen, 2005). GCAs such as Games Sense have been aligned with descriptors in the New South Wales Quality Teaching Framework and became a key method of teaching games and sports in tertiary education programs in Australia and overseas (see Forrest, Wright and Pearson, 2012). However, as demonstrated in the above two examples, these connections inherently reliant on the user creating the high quality learning environments in which constructivist principles of teaching prevail. While GCA literature and texts (see Mitchell 2003, Pill 2008, Light and Wallian 2008) often point out what to do, they do not take into account the complex issues of implementation. A major factor to take into account must be the human element of the teacher. Authors such as Chandler (1996), Gréhaigne, Godbout and Bouthier (1999) Chen and Rovegno (2000), Turner (2005) McNeill et al (2008) Diaz-Cueto, Hernández-Alvarez and Castejon (2010) and Forrest, Wright and Pearson (2012) suggest that constructivist models of teaching games, such as GCAs, reveal issues associated with game understanding, teacher beliefs, questioning and game observation and analysis for those using GCA. As a result, implementation of GCAs in the everyday teaching environments may not actually align with such descriptors, as found by McNeill and colleagues (2008) and Wang and Ha (2009). On one hand then, it is possible that a GCA lesson may have the teacher facilitating a quality-learning environment in games that as it remains true to constructivist intent. On the other hand, personal observations, over many years of students and teachers teaching GCA lessons, supported by McNeill et al (2008) suggest that the GCAs are just as
likely to be teacher-centred with little or no construction of knowledge, where GCA use becomes more like following a recipe with little or no connection to GCAs’ constructivist intent (Wright and Forrest, 2007).

At present, however, it would be difficult to provide systematic feedback on the effectiveness of a GCA lesson in terms of congruence with constructivist principles and the teaching components associated with them that align such principles with quality learning: the quality of questions and discussions; the ability to actively engage students with the learning; student centred nature in the understanding of game play and the analysis and consequence of answers arising from this. In a nutshell, there is little guidance on how judgements are to be made about whether a GCA lesson is actually providing quality learning through the construction of knowledge or whether the teacher is using GCA elements as a way of controlling knowledge and learning. In contrast, for a traditional lesson, there are ways of making judgements by observing the teacher’s organisation of content, their delivery of key teaching points and associated feedback and their control of learning environment to ensure the key teaching points were understood. With GCAs, it is significantly harder to make assessment of ‘effectiveness’, as learning in the environment is constantly evolving and reliant on student responses. While tools such as SOTG-PE (Roberts and Fairclough, 2012) examine a range of elements in what is happening in games lessons, it does not make judgements on the quality of the interactions. Consequently, a tool is needed to enable judgments on the quality of GCA lessons, which takes into account whether the elements that create the high quality learning environments are used. This paper responds to this challenge by proposing a GCA Assessment Scaffold that allows such judgments to be made. It does this through firstly outlining the conceptualisation of the Scaffold and the development of the observational indicators, and secondly, through demonstrating the implementation of the scaffold in practice. Finally, the paper will conclude with observations on the future possibilities for the scaffold in tertiary education and professional development.

6.3 The Conceptualisation and Development of the GCA Assessment Scaffold

6.3.1 Initial Conceptualisation
The Scaffold was developed as a consequence of the analysis of over 200 GCA lessons and in response to my recognition that to provide further systematic feedback to students such a tool would be invaluable. I was responsible for the teaching of four of the five games and sports courses for undergraduates in the invasion, striking/fielding and net/wall court categories. Assessment in previous versions of the course had students present a GCA lesson and reflect on the success of the
GCA lesson based on their own ‘perception’ and memory of what occurred. When using this assessment, I found the responses submitted had little analysis of the lesson or GCA use and provided both user and myself with little more than a simple recall. Therefore, the GCA Assessment Scaffold was developed to provide more detailed feedback on the quality of the undergraduate presentations.

6.3.2 The Development
This development has been an ongoing process of refinement over the last four years. Initially, the key elements of GCAs were identified and a marking scaffold was developed to allow more detailed feedback to be given to PETE undergraduates on the GCA use. These were based on my own observations of the GCA lessons and common features of GCA models reported in the GCA literature. While there are a number of different GCAs, most evolved from or were inspired by the work of Bunker and Thorpe’s 1982 ‘Games for Understanding’ model. Despite differences in their evolution and the circumstances of their development, there were three features that were common to all (Osln and Mitchell, 2006). These are:

1. **Learners have a clear problem or concept to focus on.** The primary concept sets the problems for the participants to examine in their game play and in their dialogue with the teacher and the other students. For example, in the TGM, learners may focus on an initial tactical problem related to the game category examined in the lesson (Light, 2012).

2. **Games and progressions are used to actively involved.** Games are used constantly in the learning cycle to exaggerate play and be representative of the primary concept to be solved (Bunker, Thorpe and Werner, 1996). The games and progressions are the experiences in which the students are active in creating meaning in relation to the problem.

3. **Learners respond via questions, dialogue and discussions.** These elements are used to seek and examine student’s points of view in relation to the game play and understanding of the problem and concepts examined.

However these features simply identify what GCA lessons should look like and lack observable descriptors to establish the depth of their connection with principles evident in constructivist classrooms. While Reigler (2005, cited in Killen, 2013) states there are a variety of schools of constructivism, to determine the descriptors related to the quality of GCA that would make sense to the undergraduates and those using the tool, the work of Brooks and Brooks (1999) was as a reference point for the overarching principles evident in constructivist classrooms. These authors determined that to facilitate learning in these environments, one should provide lessons that allow
learners to:

1. Have their points of view and values actively sought:
2. Have their suppositions challenged in relation activities used:
3. Examine problems and be involved in experiences that foster the creation of personal meaning and;
4. Examine primary concepts and discern for themselves associated elements that require further investigation:

<table>
<thead>
<tr>
<th>Learning purpose / Concept</th>
<th>Emerging</th>
<th>Developing</th>
<th>Developed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very broad &amp;/or Multiple concepts &amp;/or Uncertain or unclear</td>
<td>Two or three concepts covered in time frame &amp;/or Inconsistent</td>
<td>Single concept &amp;/or Consistent</td>
</tr>
<tr>
<td>Games and Progressions</td>
<td>Large variety &amp;/or Change rather than progression &amp;/or Unclear relationship to previous games &amp;/or Quick progression/ change through lesson &amp;/or Not related to demonstrated learning</td>
<td>Variety but allowed exploration of concept &amp;/or Progression not consistent with learning &amp;/or Progression linked to management and difficulty of game play</td>
<td>Games allowed exploration of concept &amp;/or Progression flexible and linked to learning &amp;/or Game complexity catered for participant ability</td>
</tr>
<tr>
<td>Questions and Discussions</td>
<td>General or simple &amp;/or Inflexible followed pre plan &amp;/or Single exchanges / numerous topics &amp;/or No interaction between students &amp;/or Management/time focus</td>
<td>Wider range of structures &amp;/or Limited interactions &amp;/or Design and use influenced by management</td>
<td>Range of questions and structures &amp;/or Mix of pre planned and unscripted &amp;/or Based on demonstrated learning</td>
</tr>
</tbody>
</table>

Table 3: The GCA Assessment Scaffold
6.3.3 The Relationship

From combining the features of GCA with the characteristics of constructivist lessons, three categories of GCA use in relation to the quality of learning experiences - ‘Emerging’, ‘Developing’ and ‘Developed’ - were established (see Table 1). Thus with the first GCA feature, ‘purpose or problem’, the observer, using the Scaffold, would assess the breadth and consistency of the statements about the purpose or problem in providing a focus for the lesson. A more ‘Developed’ GCA lesson would: examine a very small number of concepts within a given time frame to allow a greater chance to examine the problem or concept being examined; be active in determining elements that require further investigation; and create personal meaning in relation to the concept.

In contrast an ‘Emerging’ for the lesson would examine a broad range of concepts, providing students with fewer opportunities to do these things. The second GCA feature, ‘games and progressions’, provides the context for student experiences in relation to the concept/s. The games selected and the progressions allow students to discern problems presented in play while also allowing meaning to be developed about play and suppositions challenging, all in relation to the problem or concept being examined. Again, a more ‘Developed’ level of use would have games the games and progressions to allow this, the more the lesson is at the ‘Emerging’ level, the less the games and progressions allow this to occur. Finally, the third feature is ‘questions and discussions’. This feature involves all four elements of constructivist principles and practices. The questions and discussion represent the opportunity to value and support student contributions and represent student understanding of their experiences, the suppositions, the primary concepts and the personal meaning they are developing in, as Gréhaigne, Richard and Griffin (2005) note, an overt way.

Again, the more ‘Developed’ the level of use, the more the questions and discussions allow these elements to occur, the more ‘Emerging’ the level, the more limited the opportunity.

As is the case with most assessment scaffolds, it is important to note that inevitably lessons, or all parts of a lesson, will not respond neatly to each of the categories and should be viewed as lying on a continuum. A lesson may have observable indicators from different levels for different GCA features. For example, a lesson may have very sound games that match with the concept examined in the lesson very clearly. However, there may be poorly designed questions, allowing only yes/no responses or the teacher may not encourage further discussion, indicating that this part of the lesson is at the ‘Emerging’ level. Similarly, there may be excellent questions but poor resulting dialogue due to a very broad concept, again allowing the user of the scaffold to target areas to improve in.
6.4 The GCA Assessment Scaffold in Action

In the following section of the paper, two short lessons are used to demonstrate how the Scaffold might be used in practice. The two examples have been selected from a bank of over 60 GCA presentations by PETE undergraduates to their peers in the invasion and net/wall court games. Data were collected by using iPods to record the dialogue of lessons that were then transcribed as described by Forrest (2009). Due to limitations on paper length, two presentations only have been used to demonstrate the Scaffold’s use for the purposes of comparing the way the features of GCA have been used in one lesson classified as an ‘Emerging Lesson’ and one classified as a ’Developed Lesson’. For consistency, both examples are lessons in the net/wall court category. For the purposes of clarity, the three student teachers that together presented each of the lessons have been combined as the ‘Teacher’ in each of the lessons. The examples from the two categories are organised in such a way to both demonstrate the GCA Assessment Scaffold in action and allow comparisons the constructivist elements at the beginning, body and conclusion of the lessons in relation to the quality of learning experiences.

In the first example from the ‘Emerging’ lesson, the opening stage of the GCA lesson begins with the teacher addressing the participants as a whole group.

Teacher OK, last lesson (hypothetically), we looked at the shots of volleyball, does anyone remember what they were?

Student K Dig (forearm pass)

Teacher Dig, What was the dig?

Student K That one? (uncertain, demonstrating the action of a forearm pass)

Teacher Do you want to demonstrate it again for me, just point out the key points?

Teacher goes through the same process with the set and the spike.

Teacher Good, good, ok, today we will play a few games, they should be a bit of fun, after a warm up. So what we are going to do is try to put them (the shots) into a series of game situations.

Warm Up Teacher calls out a different shot (e.g. ’Set’) and the students demonstrate the correct position

In this initial exchange a very broad purpose is established, the implementation of the ‘shots of volleyball’ in ‘a series of game situations’. What is less clear is what the purpose of the examination of these ‘shots’ and why they will be examined as a point of reference for the students. The
questions and answers following do not clarify but conduct a broad review of the ‘shots’ of volleyball; the questions are simple in structure and only require a recall of information, thus reducing the quality of the interaction. They don’t provide a focus for the learning to come and the only certainty for the class is that they will play a range of games that will need the ‘shots’ practiced in a hypothetical previous lesson. This allows those involved little space to determine what elements require further investigation. While their views have been actively sought, as it is only recall, it reduces the quality of the interaction.

This beginning can be compared with the second example that demonstrated elements of the ‘Developed’ level. The lesson was also in the net/wall court game category and begins, as above, with the teacher addressing the group as a whole after they were placed in groups of three.

*Teacher*  Today the focus of play is on decision-making and positioning: where to place your shot over the net and where to position yourself for the next shot. We are playing a version of Newcomb ball in teams of three. The rules are as follows: one player of the three on the court, two on the outside of the court with only one player allowed on at a time. After you play your ‘shot’, you must exit the court to the side and your teammate can then enter from the baseline. All ‘shots’ in the game are underarm throws. All ‘shots’ must be caught on the full and must land within the court. A rally continues until ball bounces in the court or lands outside the court, which results in the loss of a point for that team responsible. If you lose a point the other team restarts play with a serve from the baseline. Your aim is to get five points in a row.

*Groups move to their allocated courts. Play begins and continues for about five minutes.*

*Teacher* (talking to groups during play) It [the focus] is just decision-making. So you have to be aware of the shot ... that’s their point there.... So you have a decision; who goes on the court, who goes off the court, where is the best place to put it (the ball).

*Play continues.*

*Teacher* Lets hold it there.

In this presentation, there is an immediate difference. An immediate clear purpose for the lesson has been established: the role of decision making, related specifically to one’s own shot and the shot of the opponent. The game used is a modified version of Newcomb ball, where a throw is used to replace the traditional shots of volleyball and players combine this with movement on and off the court. The use of the throw rather than the strike as a shot, however, removes the possible impact of differing levels of movement skill proficiency impacting on the ability of participants to focus on
the purpose. In addition, the initial play is accompanied by verbal cues from the teacher related to focus area of decision-making. As a result, when the command ‘freeze play’ occurs on one of the courts, the participants have had adequate time to explore the purpose.

After the opening stage, the ‘Emerging’ lesson continued as follows:

Teacher: Good, good. Ok, I need three groups of five with a ball. We are going to start with a very open game, spread out and in a circle. Just keep the ball up in the air, whatever way we (you) want. Ok? Lets start.

General chat between class members, staying on task, keeping ball up with a range of body parts.

Student N (to Teacher) ‘Is this right?’ (hitting the ball underarm with an open hand)

Teacher Yes, just hit it however you want...

Student N Ok ....?

Game continues for 3 minutes, no more feedback in game play. Group is questioned as a whole.

Teacher Ok guys, can you just hold the ball again? How do we make sure that everyone in our group is getting involved? What are some rules we can put into play to ensure that everyone gets a turn?

Student S Can’t pass the ball back to the person who hit it?

Teacher Yep, yep, anything else?

Student J Can’t hit it to the person next to you?

Teacher Yep, yep

Student P Can make it like a game where everyone has to touch the ball once so they can get a point?

Teacher Yep yep. Ok so we will make this like ‘hacky sack’, you have to get it around so everyone in the team gets a touch

Game played for about three minutes with laughter and enjoyment.

The initial game used in the lesson was a very open, exploratory type game with the aim of keeping the ball up in the air. It could have been used as an exploration of the stated purpose but wasn’t. Thus the game and outcomes (‘keep it up anyway you want’) lack connection with the previously stated purpose (implementing ‘shots in game situations’). There is uncertainty and confusion for the students: Student N asks, ‘Is this right’ as she tries to discern what elements require further examination but the positive affirmation, while outwardly valuing the question, does little to help. However, the questions following further demonstrate lack of connection. The line of questioning does not relate to keeping the ball up, the aim of the game or the initial purpose. The focus is on everyone ‘getting a turn’ and the resultant discussion includes a range of ways to do this. From this
exchange, it seems the purpose of the lesson is now inclusivity, not the implementation of the shots of volleyball in game play. The range of suggestions generated by the students receives a positive response from the teacher and the number of responses indicates a student responses are valued. However, the responses have few links with what had happened in relation to ‘keeping the ball up’ and there is little interaction or exploration from the questions, which are simply vehicles for suggestions. As a result, the game seems to have little connection with the lesson, apart from a vehicle to use student input to formalize the rules of the progression to ‘hacky sack’ (footbag), a circle game where the etiquette of inclusivity in play is the key. In reality, the game is the same as the first with an added purpose of ‘everyone gets a touch’. The value of the students’ involvement has been superficial, almost playing a role to justify the teacher’s selection, rather than to examine problems and create personal meaning. The connection between the stated purpose and play is no longer evident at all and a competing set of ‘purposes’ has emerged. While there is certainly evidence of enjoyment, the connection between game play, questions and purpose struggles of the elements associated with the constructivist principles outlined to enhance quality learning.

In comparison, the ‘Developed’ lesson exhibits much stronger links with constructivist principles. This following exchange occurred when the teacher gathered one of the groups together and examined their play.

Teacher  
(calls group over while other two play)  
With that point there, what did it illustrate? Where should the ball be placed?  

Students (as one)  
In a space (chorus of answers)  

Teacher  
OK, but where do you think is the best place to put it?  

Student H  
Behind  

Student N  
Yeah, so your person has enough time to get on court  

Student H  
Behind (agreement from others)  

Teacher  
So back court, so what else, what could be your next shot?  

Student S  
In front (as group)  

Teacher  
Yeah, in front, that could be a drop shot, an important shot. But tell me, why is it important to get it (the shot) back and high in the backcourt?  

Student H  
Because it is easier to move forwards than backwards  

Teacher  
Yeah, but what else will it do for your team?  

Student N  
Give them time to run in?
Teacher: Yeah, give them time so they have to throw it all the way from the back court, you have time to run in there, so if they don’t have time to come in you can drop shot or go back over again. It’s just moving them around and giving yourself time to look for the shot or just give yourself time to get on. So let’s keep going with the idea of time, a couple of more minutes.

What is evident in this excerpt from the ‘Developed’ lesson is the immediate connection between the play and the stated purpose of the lesson. There is a chorus of answers in response to a simple question on shot placement, which could easily have been accepted by the teacher, but he probes further. This suggests to the students that there are other elements involved in decisions about shots, more than just ‘space’ and that their view of the concept may not have taken all factors into account. The questions explore the topic and present a hypothetical situation (‘the next shot’) for the participants to think about in play. The discussion concludes by the teacher, summarising the discussion and pointing to the key element to focus on in the game play: ‘time’ in relation to decisions made. The importance of ‘time’ as an element for decisions in play is supported by research cited in Gréhaigne, Richard and Griffin (2005) that indicates its influence as a key area of difference between novices and experts in decision-making. However, the teacher does not yet progress the game. Students go back into the same game and explore the issues that have been discussed in play to build on this concept.

In the ‘Emerging’ lesson, the next stage of the GCA lesson went as follows. The ‘Hacky Sack’ game continued for about five minutes. The teacher then halted play and opened the dialogue with the following statement and question:

Teacher: Ok, this is fairly mundane. What could we add to make it less boring, more like volleyball?
Student P: …a net?
Teacher: Yes that would be a logical progression …and what about some boundaries and teams, teams would be good I reckon…and points.
Student J: I am finding I can’t slam it much.
Student T: It could be made a bit more competitive.
Teacher: Yeah, that’s cool. Ok, good. Let’s move over to the courts and we can play this but with a net and two teams. Keep it up the same; make sure everyone gets a hit. I also want you to think about attacking and defensive formations and start to anticipate what the other team is going to do with the ball. So off you go and have a try!
Game played with no feedback for 8-10 minutes until the concluding set of questions.

The purpose now returns to playing a game ‘more like volleyball’ and the idea of ‘everyone gets a turn’ seems longer valuable; playing ‘hacky sack’ in fact is ‘fairly mundane’. The teacher again asks for student input through an initial question (‘what would make it less boring, more like volleyball?’) that refers back to an evaluative statement about the previous game. Therefore, the question does not lend itself to an open set of answers and a third purpose is revealed, playing something ‘more like volleyball’. There is no exploration of possible topics from the last game: for example, the difficulty of keeping the ball in play: the impact on skills used to keep the ball in the air: issues with the rules of ‘hacky sack’. As a result the leading question is answered (‘a net’) and the teacher then uses this as permission to add a number of his own suggestions, supported by two students (‘slamming’ and ‘more competitive’), whose ideas receive a positive affirmation (‘cool’). Thus the students’ viewpoints seem only to be valued if they align with the teacher’s view. The answers accepted result in a rapid change to the lesson and concepts examined (‘nets’, ‘boundaries’ and ‘points’, ‘attacking and defensive formations’ and ‘anticipation’), areas that have not been part of the lesson up until now. In a further reflection of the uncertain purpose, despite it being ‘mundane’ in the last interaction with students, ‘keep it up, make sure everyone gets a hit’ reemerges to perhaps reconnect the students with previous knowledge construction or the previous concept. For those in the lesson, the combination of rapid change, uncertain purposes and varied focal points to take into consideration results in a haphazard learning environment.

In comparison the next stage of the ‘Developed’ lesson has a number of elements that are closely associated with constructivist learning environments. Play had continued until the teacher felt those playing had demonstrated understanding of the discussed elements in each of the games and then made the following progression:

Teacher (to whole group) Ok, hold it there. Now we will add a pass before the ball goes over the net. You can pass or not, its up to your team. I want you to think about how you would use the pass, to best cover your (court) area. Apart from the pass, the same rules as before but think about these things as you play.

Game played for another 8-10 minutes. Teacher gathers one group in while the others play.

Teacher Ok, how did the pass to a teammate change the game?

Student N It made it quicker

Teacher What did it make you do?

Students?
Teacher: Attacking (ly)

Student H: Oh. Well you could rely on the partner a little more......

Student M: And you had more time to think where you were going to put it.

Teacher: And when did you decide to pass and when did you just throw it over?

Student M: Well if I could throw it over if it opened up?

Teacher: So you would throw it from back there (Back of the court)?

Student M: Well no, not if you could not make it!

Student H: But if you wanted to get a good shot get more court to get your opponents out, you play it from close to the net.

Teacher: So it would not be a very good attacking shot from the back because?

Student H: Well their going to have more time to anticipate the next shot

Teacher: What will a shot from the back give them?

All: Time!!! (Chorus)

Teacher: Ok, time again. So think about those elements now and try to incorporate them in your play.

Unlike the ‘Emerging’ lesson where are large number of changes were introduced, the teacher’s progression here changes one parameter of play: adding a pass before the ball goes over the net. He also sets a series of challenges related to decisions and its impact on ‘passes’ and ‘the next shot’. As the players are not confronted with making sense of a whole range of rule changes, the focus can immediately be on the purpose related to the element of ‘time’ in relation to decisions on court. Thus the game play is still strongly related to the purpose, but the teacher asks the group to apply their understanding of play to the next ‘shot’. The initial exploration question asks how the pass to a teammate changed the play in the game. While the discussion initially is quite open and quite broad, the follow up probes allow the discussion to return to the focus area and explore suppositions about this in relation to play. A range of students are involved in the discussion and there are again a range of questions, some probing, some clarifying and some leading. The key element of ‘time’ again emerges, in relation to team decision making about the ‘shot’, but now with and without the ball. However, as with the last example, the verbal discussion is not enough, even though they have been able to discern for themselves this element that requires further investigation. The participants again are asked to explore the discussed concepts once again in play, again to foster the elements of personal meaning in play.

At the end of this exchange, the three groups went away to practice on the courts. Two of the courts remained on the same game for the remainder of the lesson, while a third demonstrated some more
developed understanding of the concepts. As a result, the teacher challenged the group by further progressing the game.

**Teacher** Ok, same game as before except all three on the court. You can use a pass still if you want but the person that throws it over cannot be the next receiver. So say you C were on the attacking team and L threw it over?

**Student C** I’d aim straight for L.

**Teacher** So L, your (prior) shot option would be...

**Student L** I’d put it in a place that would be hard for her to get it back to me.

**Teacher** Which would be …

**Student L** To the back of the court!

**Teacher** A good defensive shot.

**Student L** Um ….. maybe not …..?

**Student K** Yes it is.

**Student L** Oh good!!

**Teacher** What it will give you is more time to set up you player’s position on court. C, if you saw L drop it short

**Student C** I’d smash straight back to her.

**Teacher** Ok. So lets try to consider these things as you play again.

The progression here is interesting. While the rule proposed, that is not being able to receive a pass if you had just made a pass, is not usually associated with traditional net/wall court sports, it adds a layer of complexity to the play, now forcing the receiving team to make decisions based on the play prior to receiving the ball, Here the teacher does not follow the play ^ question ^ play structure but immediately asks a hypothetical question after explaining the progression, allowing the participants to conceptualise the problem based on their understanding developed in the previous games in relation to the focus. After getting an initial response from C, he immediately asks the recipient of C’s ‘answer’ for her response. The question ^ response sequence continues until a point of uncertainty is established. However, the uncertain answer receives a positive affirmation and the teacher includes the student who was initially involved in the initial question^ response sequence, bringing the discussion full circle. The teacher then immediately uses game play again allow further investigation.

The emerging lesson concludes with the following exchanges between the students and the teacher.
Teacher  Ok, come in, come in. (Class sits)

(To whole class) So what were some of the harder things you came across?

Student N  The ‘dig’ with the hard ball!

Student P  Yeah that hurt!

Teacher  Yes that’s why we bend the knees. What about tactical set ups? Any problems?

Student P  Yeah, it was hard to get three shots in a row.

Teacher  Yeah, Yeah, exactly. And what was the best way to return the ball?

Student J  Stay close together and get small passes

Teacher  Yes, that would have allowed the passes to be more accurate. Anything else?

Ok, well thanks for participating.

After the initial, amusing ‘miss’ with the first question, the second set of answers demonstrates that the participants had thought through a range of issues, even including the first answer. However, there is no more than a single question on each component and the question ^ answer sequence only has a shallow connection with the last game, again indicating little opportunity to examine the problems that arose in the lesson in any sort of depth. Consequently, while the answers demonstrate the potential of this lesson, due to an inconsistent and broad purpose and the use of variety of unconnected games and a broad range of simple questions, the lesson lacks the connections with the characteristics associated with the quality elements associated with constructivist learning. While on face value, it looks like a GCA lesson, the systematic use of the Scaffold reveals little opportunity for those involved to construct, develop, enhance and communicate knowledge in a meaningful way. This then indicates that the quality of learning for students in this lesson was not as high as it could have been. However, by identifying these elements with the presenters and providing them with this feedback, they can clearly see the areas of improvement needed and provide the opportunity for a fruitful discussion on ways to improve implementation to enhance the quality of learning.

A comparison with the ‘Developed’ conclusion further demonstrates the differences between the lessons. Here, the lesson concludes with the teacher making a clear statement about the original concept or focus and then asking a question relating to this.

Teacher  Ok, so what we were trying to do was link the decision-making with positioning and shot selection and then make some plans from this in a way that could go straight into volleyball. If we had a key element that was common through play, what was it?
Sts  Time
Teacher  Why was this?
Student C  If you needed more time, you went to the back of the court as the ball was in the air longer
Teacher  And
Student  If you wanted to finish the point, you gave them (the other team) less time
Teacher  Therefore, if you wanted to finish the point, where was the best place to make the shot?
Student (Silence)
Teacher  We came up with the answer over there (third game).
Student L  From the front
Teacher  Reason?
Student L  It gave us greater spaces to place the ball
Teacher  And
Student L  Gave the other team less time to make a decision and be in a good position.
Teacher  Excellent. Thanks guys, that’s all.

Here the teacher has developed an immediate connection between what has developed in play and the purpose: the exploration of the impact of time on decision-making, positioning and the shot selection in net court. Again, there are probing questions, an exploration of the concept and a range of students answering, allowing an in depth examination of the problems emerging. Students from all of the groups are able to answer most of the concluding questions and there is an exploration of the concepts as they presented in play. There is a drilling down into the reasons for certain elements of play and the students are all able to have input into the final discussion on a range of levels, including a challenge to the more advanced group, thus all opinions are clearly valued, which enhances the understanding of those involved. Students are asked to construct their understanding of play and constantly have to conceptualise and re-examine their understandings and as a result, the lesson has all of the indicators of providing a quality learning experience for those involved.

6.5 Conclusion

One of the challenges for tertiary educators is ensuring that the aims we have in relation to the quality of the games and sports lessons we wish our undergraduates to produce can be translated into practice. This article responds to this challenge by proposing a method to allow systematic assessment of GCAs in terms of matching their intent with the implementation. It is not the purpose
of the paper to provide a definitive answer to whether GCAs are the best pedagogical method to produce quality-learning outcomes for students in games and sports. Nor is the intent here to demonstrate a tool to make judgements if undergraduates do or don’t use a GCA properly or correctly. It takes the position that GCAs have the capacity, as a pedagogical approach, to produce quality-learning outcomes for student in games and sports. However, the key to this is not just the model but also the implementation of the GCA by the teacher. As a result, the paper argues for a tool that allows systematically assessment of the quality of learning opportunities provided by GCA implementation that can also double as a valuable feedback tool.

This demonstration of this Scaffold offers a beginning to what it is hoped will be a further fruitful discussions around assessment and evaluation quality learning in games and sports, with further refinements or expansion to the Scaffold welcome. It is also hoped that such discussions can further develop ideas related to the implementation of constructivist pedagogies and teaching strategies to provide quality learning experiences for students as a way of connecting theory and practice in a meaningful way and disseminating this into the wider teaching community. Using such an approach could also play a part in enhancing uptake of GCA in the teaching community in a more meaningful way.

The GCA Assessment Scaffold makes no claims to be a perfect tool to assess the quality of experiences in GCA lessons, nor does it claim to be a validated tool. However, by demonstrating a method to make judgements of in this area, based on key indicators in key elements of GCAs, the paper aims to open a dialogue in relation to the delivery of quality learning outcomes that moves beyond the teaching of a certain approach. It is only through such discussions can we move the quality of use of GCAs forward but also advance the consistency in the quality of learning experiences in provided in games and sports using constructivist methods. This will serve a twofold purpose: better relevance for the subject and better outcomes for students in all of our classes.

Note: The caret (^) symbol in text is used in semiotics is used to demonstrate the movement of dialogue. It represents ‘this is followed by....’.

6.6 References


Chapter 7

Where to from here

7.1 Discussion

The thesis presented here has investigated how PETE undergraduates develop their understanding of Game Centred Approaches. It did this through examining how they constructed understandings and meanings about games and sports for themselves and for their peers using a GCA and how my own understandings and uses of a GCA impacted their knowledge and understanding of GCA. The findings of the study in relation these questions are presented in the following chapter. While each finding is presented under individual headings, they did not operate independently and were all connected to and interdependent on each other.

7.1.1 GCA are Difficult but Valuable Pedagogy to Use in Games and Sports

The study reported here reinforces views by most GCA authors such as Turner (2005), Memmert and Harvey (2010) and Light (2013) that while GCAs are difficult pedagogies to use they have great value in the teaching and learning games and sports. Undergraduates in the study were required to examine a broader range of content areas than a traditional model as students and as presenters. As a result, they had a greater variety of demands placed on their teaching skills than a more traditional teaching method would. Their content knowledge in the areas of strategies and tactics, decision-making as well as movement skill was challenged and they had to observe and analyse these elements in game play. The undergraduates were also required to articulate their analysis in a verbal form, managing questions and dialogue that emerged from the play and then develop changes to game play to enhance the learning of those in their presentation. This meant their presentations were always filled with uncertainties as play rarely replicated itself and the learning often progressed in an organic manner rather than a linear fashion, as demonstrated in Chapter 5. As a result, the responses in play and answers to questions fell into a range of possibilities rather than a ‘correct’ or incorrect’ choice, which caused further uncertainty. This all occurred in a learning environment which challenged the expectations of those in the presentation, who were at times discomforted by the use of a GCA and occasionally resentful of being asked to answer questions and involve themselves more than they felt they should.

However, despite the challenges, GCA offered genuine learning opportunities for those in games and sports presentations, as demonstrated in Chapters 4, 5 and 6. As a result, this study provides
further evidence that GCA have the capacity achieve many of the qualities that advocates believe are possible through GCA use, even with inexperienced users. There were a number of undergraduates who demonstrated strong capabilities in GCA and the majority of others were moving in a positive direction in a number of key areas of GCA, especially questions as demonstrated in Chapter 5. The GCA presentations provided the opportunity for quality learning experiences for those involved and the use of the approach enhanced the undergraduates’ own skills in observation of play and use of elements of GCA, such as questioning and the use of questions. As a result, GCA presentations provided opportunities for a range of students in the class to have positive learning experiences, including those undergraduates with limited experience in games and sports, as seen in Chapter 6. This also indicates that there was evidence of the undergraduates improving in their understanding of game play in games and sports through use of GCA in tutorials, which then provided further opportunities to understand the GCA process. Thus, it could be suggested there were positive and engaging learning experiences in content areas associated with games and sports through the use of a GCA in the tutorials, even with inexperienced undergraduates managing presentations.

7.1.2 *The Continued Influence of the Traditional Approach on GCA Development*

A key finding of the thesis was that the traditional approach to games and sports lessons still played a role in the development of the PETE undergraduate understanding of GCA. From the evidence presented in earlier chapters, the PETE undergraduates entered their undergraduate teacher education programs with expectations of learning to teach games and sports more aligned with using the traditional method. This meant that the structure of tutorials, the content covered and my expectations in relation to preparation for tutorials was possibly at odds with many of the expectations and understandings of the undergraduates in relation to games and sports teaching. The undergraduate expectations seemed to be more aligned with gaining a broad experience in sports through the development of movement skills and, their skills to teach would develop through this. For these students, they seemed to perceive their role in learning the teaching of games and sports as someone replicating their experiences rather than understanding a range of methods to teach games and sports. Other teaching approaches that moved beyond the development of movement skill movement skill or playing sport seemed to create some clash with this belief set this and created discomfort for some of the undergraduates. They expressed this discomfort in a range of ways, from simple statements about their boredom with examining these elements to questioning their choice of career if they were required to move beyond a more traditional approach. There was an alignment of this attitude and their GCA presentations, as demonstrated in Chapters 5 and 6. Some tried to teach the ‘whole sport’ in their presentations or provide experiences that were broad
in nature but kept the students moving quickly through tasks to give them an experience in the sport being taught, despite the assessment requirement to use a GCA.

Interestingly, the traditional approach’s apparent influence on undergraduate beliefs, attitudes and expectations may have been supported and reflected in the structure of the courses themselves. As noted in Chapter 1, Light and Georgakis (2005) suggested that tertiary educators must address the contradiction in how they expect undergraduates to teach and the way they teach them. In the courses, such a contradiction seemed to be clearly evident. The titles, ‘Skill Analysis’ and ‘Advanced Skill Analysis’ perhaps suggested a need to analyse movement skills at a cognitive and associative level as the key component of games and sports teaching. Assessments in courses other than those described in this thesis required the learning of movement skill, while at the same time, the content of the courses provided only a brief opportunity to examine a broad range of sports. As demonstrated in the appendices, the undergraduates were given up to four hours exposure to each sport in a course, a seemingly inadequate amount of time to develop understanding for the less experienced. Thus, on one hand the stated intention of the courses was the advancement and promotion of GCA, while on the other, the courses themselves seemed to reflect a traditional view of learning in games and sports. It was therefore understandable that some undergraduate presentations demonstrated such an approach and that a number of students were confused and challenged by the course structure that was presented to them.

7.1.3 Undergraduate Attitudes and Beliefs in Understanding GCA
The PETE undergraduates in my study generally seemed to demonstrate a willingness to adopt a GCA in practice and were positive about the benefits of both using a GCA and the value of investigating the broader elements of game play, supporting the findings of Wang and Hu (2009) and earlier authors such as Light and Butler (2004) and Light and Georgakis (2005). The undergraduates did begin the courses exhibiting the range of characteristics described by Placek (1995), Tinning et al. (2001) and Tsangaridou (2006) in relation to games and sports: a wish to replicate their experiences in schools and a desire to be players rather than observers, analysts and future educators as were demonstrated in Chapter 4. For some, GCA use resulted in discomfort, disagreement, resentment and even anger and a search for someone to blame. For others, GCAs represented a opportunity to understand games and sports at a deeper level. However, from an overall cohort perspective, there seemed to be a genuine willingness by most to explore how GCAs could provide for the wide range of students in their lessons. Those in the study demonstrated a willingness to work at trying to improve the key teaching elements needed to use a GCA and
furthering their understanding of the learning theory that underpinned their use. This resulted in progressive development of GCA use in practice, especially game observation and analysis skills, their questioning skills, their progressions of games. The study demonstrated that these areas were not necessarily well developed at the beginning of the study but evidence presented in Chapters 5 and 6 suggests that these areas were improving for a number of students. The undergraduate responses in these chapters also could be interpreted as a positive affirmation of the experiences they received as students and as presenters and could be seen as a shift from those experiences noted by some undergraduates in Chapter 4. They seemed to be encouraged by their ability to recognise observation and verbal responses as indicators of learning and some reflections noted they used the experiences to further their own understanding of both games and sports and GCAs.

As demonstrated by the later chapters of this dissertation, many attempted to use GCAs in the best manner possible and the comments in their reflections showed that their understanding of GCA may have been more than ‘studentship’ (Graber 1991). Even though use of a GCA was required by the very nature of the assessment tasks, they continually placed themselves in positions of discomfort that are often the result of GCA use, despite the cost to themselves. They also willingly self reflected and responded to the challenges and feedback I gave them, however forthright and honest it was. As a result, their own understanding of both GCAs and their own strengths and limitations seemed to shift many of the undergraduates to a position where they at least valued the benefits of GCA and would perhaps attempt to implement of GCAs in their future educational settings.

7.1.4 The Value of the Course Structure and Tools on GCA Understanding

The study demonstrated that the structure of the practical studies course in games and sports had a generally positive influence in relation to undergraduate understanding of games and sports and GCAs for this set of undergraduates. Using a generic games approach, supported by readings and using tools such as iPods and video to support self-reflection gave undergraduates the opportunity to use a GCA in a practical environment but also make judgements in relation to how they used the model based on the actual recordings. As noted in Chapters 3 and 5, the combination of the above components provided the undergraduates with the capacity to make judgements about their general lesson management but also be very specific in relation to key elements of GCA use, in this case, the use of questions. More specifically, the use of readings, while initially viewed with suspicion by the undergraduates as demonstrated in Chapter 4, seemed to provide the undergraduates with support for their observations on both the types of questions to use and when to use them and undergraduate presentations and reflections were presented with greater depth, as demonstrated in
Chapters 5 and 6. Importantly for this study, the approach also played a part in developing undergraduate capacity to present high quality GCA lessons, as demonstrated in Chapter 6.

The use of the iPod as an audio diary was also extremely valuable for me as the lecturer and researcher. I had first hand evidence of how the undergraduates responded to GCAs, allowing observation of attitudes to GCAs, points of resistance and strengths and limitations in game play and GCA components. Audio of presentations enhanced the depth of my own self-reflection practices, both on course content and progression, my teaching and undergraduate responses to both. This in turn allowed a more in depth examination of where these enhanced undergraduate understanding of games and sports and GCAs and where they needed to be more supportive of undergraduate needs.

Lastly, the use of the generic games approach that focussed on understanding the principles of play of the categories and the elements of GCAs rather than a focus on individual sports showed great promise as a method of developing undergraduate understanding of GCAs. This then further supports the work of GCAs that follow a similar philosophy, such as The Ball School (BS) model (Memmert & Roth, 2007). GCA presentations seemed to indicate that the GCA used had a positive impact on undergraduate understanding in both the specialised sports themselves and the elements essential for GCA use such as strategy and tactics, decision-making and movement skills, as demonstrated in Chapters 4, 5 and 6. Evidence from the undergraduate reflections and exchanges during GCA presentations or in consultations presented in the study suggest a positive move forward from the beginning of the course in the students’ capacity to both understand these GCA elements and an ability to transfer this understanding to the specific sports. Such findings further support other literature, such as with Memmert and Roth’s work that such an approach could have real promise in developing a positive understanding of GCAs and the sports in categories themselves in the limited time frame available to tertiary educators.

7.2 Recommendations

Recommendations from the findings of this study are outlined in the following section in relation to the research questions.

The study recommends both the use of GCAs in preparation of PETE undergraduates to teach games and sports and continued research into how we can further support their use of this in their teaching practices. Development of games and sports using GCAs allows undergraduates to both
experience and observe games and sports as much more than the execution of movement skills. It also allows the development of content knowledge in areas that many students (if the cohorts involved in this study are an example) have not explored or cannot articulate. Learning games and sports through GCAs use means that, as future teachers, they not only have a more complete view of the complexity of games but a more complete understanding of the interaction that occur in game play. This allows the users to have a greater range of skills in relation to game play and as a result, the ability to use not only GCAs but also other games pedagogies effectively.

However, while the study recommends that GCAs are adopted, it is important they are not taught as an alternative pedagogy or used as a method to teach undergraduates how to play sports. As with most research into undergraduates in undergraduate PETE courses, those involved in the study enjoyed playing and learning the sport through use of a GCA, further supporting the work of authors such as Light and Georgakis (2005). However, learning to play the sport does not necessarily provide undergraduates with the skills to teach using a GCA nor necessarily the ability to translate their understanding of playing and then articulating their knowledge and understandings to create meaningful lessons. This is because GCAs are complex approaches to teaching. The interactions and elements of game play identified by GCAs in games and sports are quite complex, involving dynamic and often chaotic interactions in an ever-evolving environment (Gréhaigne, Richard and Griffin 2005). While it is vitally important to promote and advocate the unique abilities of learning through game play as an absolutely vital tool in developing content knowledge and understanding games and sports, the study recommends that undergraduates need to further supplement this play with extensive opportunity to observe and analyse of game play through the use of audio and video, both in real time and after play.

The study also recommends further research into the exploration of teaching approaches to enhance GCA understanding that moves away from the examination of specialised sports as the context of learning in tertiary courses. This study demonstrated a range of outcomes that resulted from using a generic games approach that focused on developing an understanding of principles of play that underpin the games and sports in the categories rather than a particular sport with its specialised primary rules and movement skills. From this foundation, it could be possible for the undergraduates to then apply these principles in game play and then develop an understanding of elements of game play such as action rules. This could allow undergraduates with a range of ability levels to develop the capacity to explore the elements of game play as opposed to a sport specific approach, which can have the effect of catering to those with prior experience while possibly excluding those without such expertise. As pointed out by Ross (2006), expertise in any area
requires many thousands of hours practice. If games and sports programs in schools use a traditional approach to games and sports, it could be reasonably argued that there may not be enough time allocated to games and sports programs in schools to develop an appropriate depth of understanding of GCA elements. As a result, the students entering courses with games and sports knowledge derived only from their schooling experiences may be at a disadvantage in relation to basic content knowledge about the sports compared to those with games and sports backgrounds. The adoption of the use of generic games from categories as the foundations of game play understanding and the examination of sports as specific examples of these categories has potential to enhance the content knowledge for all, at both a general and a specialised sport level. Such an approach supports the ideas of Chandler (1996) and the work of Hopper (2002) and the work of other GCA models such as Memmert and Roth (2007) in relation to undergraduates learning and understanding games in order to teach them.

A further recommendation is that those responsible for developing understanding of GCAs consider the advantages of using methodologies similar to that demonstrated in this thesis. The exploration and examination of one’s own practice and the responses of the students to such practices in situ can give a valuable insight into the attitudes, values and beliefs of all involved in the teaching environment. The recording of these practices, either with audio or both audio and video has the capacity to allow both lecturer and teacher to re-examine what actually occurred in the elements associated with undergraduates trying to, in this case, understand pedagogies that may be new to them and support them as they shift from ‘student’ to ‘teacher’. Such an approach gave me an accurate record of what was occurring in tutorials, giving me the opportunity to address challenges, problems, misunderstandings as the occurred. This also allowed ongoing development of the courses and a greater capacity to support the undergraduates. With advances in technology, such as smaller and more portable recording devices and an increased opportunity to facilitate real time analysis tools, there are an increasing range of possibilities when using this ethnomethodological approach to contribute to the GCA field of research for both those who are future teachers and those who are using and developing the skills of others to use GCAs.

Finally, the study recommends continued active promotion and advocacy of GCAs in the wider teaching and coaching community and the further provision of Professional Development opportunities to support of those using the approach. While the study does not suggest that GCAs are the best approach to teaching games and sports or the only approach to use, at present they seem to have the capacity to provide a wide range of learning opportunities for all in the class (regardless of ability or experience level), either as a stand alone or in conjunction with other teaching
approaches. GCAs seem to provide to those involved, especially those who seem to have less experience in games and sports, a wider range of opportunities to demonstrate what they can do rather than what they cannot. They also seem to provide the user of GCAs the opportunity to better understand the capabilities their ‘students’, as demonstrated in Chapters 3, 5 and 6, and perhaps a more complete understanding of the needs of the range of students in their class. Promotion, advocacy and professional development of GCAs may also assist this further understanding of GCAs in two key areas. Firstly, those entering our undergraduate degrees in the future may be better placed to be cognisant of different elements of game play at entry level in PETE undergraduate degrees if there is continued promotion of GCAs in the teaching community. This could develop the capacity to develop more in depth examination of game play in courses, especially at this particular tertiary setting. Secondly, it may provide some support for undergraduates when they enter the teaching profession if they encounter what Mitchell, McNeill and Butler (2004) refer to as occupational socialisation if our undergraduates enter practicum environments that are well versed in GCA use. Our future teachers may then be developing teaching skills in teaching environments in that may be more cognisant and accepting of GCAs rather than be advocates trying to introduce alternative approaches. This will be of benefit to all in games and sports courses.

7.3 Limitations

While the study represents a comprehensive collection of data in relation to GCA understanding, it is, like many of the GCAs around the world, representative of a specific undergraduate course in regional NSW. While GCA literature used in the study and the does reflect a range of common international themes, the findings represented here may also be representative of a specific group of students in a specific location. Indeed, Ten Have (2004) suggests a central theme of ethnomethodology is the recognition that practices described here are unique and must be examined as part of a local cultural context, in this case, of games and sports and GCAs. Both within Australia and internationally, there are a wide variety of methods used to teach undergraduates GCAs, a wide variety of philosophies and a wide variety of undergraduate qualities in practical studies courses. As a result, some of the findings may not be consistently in relation to undergraduate knowledge development and understandings in relation to undergraduates and their understanding of GCAs.
Another limitation may be associated with the use of data and video in the study that is closely related to assessment. As noted in Chapter 1, the use of data associated with assessment may have led to comments and attitudes that were not truly reflective of the methods used by the group. This may have resulted in some of the responses of the group being less than authentic, despite them being situated in their normal activities.

7.4 Coda

The data collection for this project began in 2007 and, although the data used for the study was from the two cohorts listed in Chapter 1, data collection continued over the next two years as a method of re-evaluating and verifying themes that presented throughout the data. The findings of this study have resulted in a range of research projects in relation to the key elements of games and sports identified by GCAs, PETE undergraduate understanding of games and sports and GCA’s and PETE use of GCAs in teaching environments. These have been conducted by myself or in conjunction with undergraduate students in the University’s honours program. These projects include:

• Developing a systematic observation tool to observe and analyse strategy and tactics in game play.
• Examining the development of observational and analytical skills in strategy and tactics in a specific net court sport through participation in generic net/wall court courses.
• Exploring student perceptions on content knowledge, observation and game analysis skills and GCA understanding using GCAs in Second Year Net/Wall Court courses.
• Examining game play performance, motivation and physical activity levels in volleyball after involvement in a generic net court/wall court course.
• Exploring changes in game play performance and physical activity levels in net court sports in Year 5 and Year 6 students using the GCA described in this thesis.
• Examining changes in coach and teacher content knowledge and game play analysis in games and sports through the use of gaming technology.
• Examining changes in observation and analysis skills of both players and coach in invasion sports through use of helmet cameras.
• Using ‘Go Pro’ cameras and video of game performance to improve game play understanding of youth players and youth umpires in AFL.
These research projects continue the work in the area of games and sports and aim to add to the body of knowledge on the use of GCAs in teaching and coaching, the preparation of those who are future teachers and coaches in games and sports and in the area of games and sports in general.

7.4 References


Butler, J. (eds.), *Teaching Games for Understanding. Theory, Research and Practice*, 

a Hong Kong perspective’, *European Physical Education Review*. 15, 407.
## Appendix 1

Games and Sports Course Structure and Progression 2007

<table>
<thead>
<tr>
<th>Subject</th>
<th>Structure of Course - Games and Sports Component</th>
<th>Assessment of Games and Sports Component</th>
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<tr>
<td><strong>Skill Analysis and Performance I</strong></td>
<td>Walla Rugby, Oz Tag, Touch Football</td>
<td>Walla Rugby, Oz Tag, Touch Football Presentation (3’s)</td>
</tr>
<tr>
<td></td>
<td>Walla 3 weeks</td>
<td>Skills and Progressions Handout Resource for Presentation</td>
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<tr>
<td></td>
<td>Touch 3 weeks</td>
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<tr>
<td></td>
<td>Oz tag 3 weeks</td>
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<tr>
<td><strong>Semester Program</strong></td>
<td>Overview and history of the sports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Game sense approach to teaching</td>
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<tr>
<td></td>
<td>Walla rugby: catch/pass, continuity, lineout</td>
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<tr>
<td></td>
<td>skills, scrummaging, backline play</td>
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<tr>
<td></td>
<td>Touch: rules, individual skills – passing/kicking, settling patterns,</td>
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<tr>
<td></td>
<td>Touchball, mini-touch, team play</td>
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<tr>
<td></td>
<td>Oztag – rules, play</td>
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<tr>
<td><strong>EDUP223</strong></td>
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</tr>
<tr>
<td><strong>Skill Analysis and Performance II</strong></td>
<td><strong>Field Hockey and Soccer</strong></td>
<td>Movement Skill Competency and Evaluation – 10 soccer / hockey skills</td>
</tr>
<tr>
<td></td>
<td>Field Hockey 5 weeks</td>
<td>Peer Presentation (3’s) – 15 mins</td>
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<tr>
<td></td>
<td>Soccer 5 weeks</td>
<td>Skills of Field Hockey</td>
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<tr>
<td></td>
<td>Presentations 3 weeks</td>
<td>Skills of Soccer (shooting, passing,</td>
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<tr>
<td></td>
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<td>dribbling, trapping, goalkeeping,</td>
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<td></td>
<td></td>
<td>attack, defence)</td>
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<tr>
<td><strong>Semester Program</strong></td>
<td>Game Sense approach to the invasion games of</td>
<td></td>
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<tr>
<td></td>
<td>soccer and hockey</td>
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<td></td>
<td>Role of the coach / teacher</td>
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<td></td>
<td>Lead-up activities, drills, minor and</td>
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<tr>
<td></td>
<td>modified games for hockey and soccer</td>
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<tr>
<td></td>
<td>Fundamental Soccer Skills</td>
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<tr>
<td></td>
<td>Fundamental Hockey Skills</td>
<td></td>
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<tr>
<td></td>
<td>Defensive / offensive formations in hockey</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and soccer</td>
<td></td>
</tr>
<tr>
<td><strong>EDUP 224</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Skill Analysis and Performance III</strong></td>
<td><strong>Basketball and Netball</strong></td>
<td>Movement Skill Competency and Evaluation – 10 netball skills</td>
</tr>
<tr>
<td></td>
<td>Basketball 5 weeks</td>
<td>Peer Presentation (3’s) – 15 mins</td>
</tr>
<tr>
<td></td>
<td>Netball 5 weeks</td>
<td>Skills of Netball (shooting,</td>
</tr>
<tr>
<td></td>
<td>Presentations 3 weeks</td>
<td>passing, positions, attack, defence)</td>
</tr>
<tr>
<td><strong>Semester Program</strong></td>
<td>Role of the coach / teacher</td>
<td></td>
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<td></td>
<td>Lead-up activities, drills, minor and</td>
<td></td>
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<tr>
<td></td>
<td>modified games for basketball and netball</td>
<td></td>
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</tbody>
</table>
| EDUP323 Advanced Skill Analysis and Performance I | Fundamental Basketball Skills  
Fundamental Netball Skills  
Defensive / offensive formations in basketball and Netball |
<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Semester Program</strong></td>
<td>defence</td>
</tr>
</tbody>
</table>
| Net Court  
Volleyball / Badminton  
Presentations  
Squash  
Presentation  
Tennis  
Presentations | 7 weeks  
2 weeks  
1 week  
1 week  
2 weeks  
2 weeks |
| Sport Education Resource,  
Peer Presentation in National and International Sports  
Peer Presentation (3’s)  
Volleyball, Tennis, Squash or Badminton (presenters choose content)  
iMovie Resource (20 minutes) |

| EDUP324 Advanced Skill Analysis and Performance II | Introduction  
Cricket  
Presentations  
Softball / Baseball  
Presentations | Week 1  
4 weeks  
2 weeks  
2 weeks  
2 weeks |
<table>
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<tbody>
<tr>
<td><strong>Semester Program</strong></td>
<td>Movement Skill Competency – Fundamental Skills of Cricket and Softball</td>
</tr>
</tbody>
</table>
| Basic skills, drills and rules related to:  
Cricket, Softball and baseball  
Different teaching strategies and programming techniques  
Demonstrated competency in selected striking fielding skills | Unit Outline – 4 week Unit on Cricket or Softball (pairs) |

Structure of Practical Studies Courses and Assessment Component Beginning of 2006– Games and Sport
## Appendix 2

### Practical Studies Course Overview and Progression 2007

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Degree Sequence</th>
<th>Content</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDUP123</td>
<td>Semester 1, First Year</td>
<td>Fundamental Movement Skills Dance</td>
<td>1 hour lecture per week, 2 hour tutorial per week</td>
</tr>
<tr>
<td>EDUP124 Skill Analysis and Performance I</td>
<td>Semester 2, First Year</td>
<td>Walla Rugby, Oz Tag, Touch Football, Aquatics Gymnastics</td>
<td>1 hour tutorial per week, 2 hour tutorial per week for 6 weeks, 2 hour tutorial per week for 6 weeks</td>
</tr>
<tr>
<td>EDUP223 Skill Analysis and Performance II</td>
<td>Semester One, Second Year</td>
<td>Soccer, Hockey Gymnastics Social Dance</td>
<td>1 hour tutorial per week</td>
</tr>
<tr>
<td>EDUP224 Skill Analysis and Performance III</td>
<td>Semester 2, Second Year</td>
<td>Netball, Basketball Group Fitness and Physical Activity Track and Field Orienteering</td>
<td>1 hour tutorial per week, 1 hour tutorial per week, 2 hour tutorial per week for 3 weeks, 2 hour tutorial per week for 3 weeks</td>
</tr>
<tr>
<td>EDUP323 Advanced Skill Analysis and Performance I</td>
<td>Semester 1, Third Year</td>
<td>Volleyball, Badminton, Squash, Tennis Target Sports Aquatics</td>
<td>1 hour tutorial per week, 1 hour tutorial per week, 2 hour tutorial per week for 6 weeks</td>
</tr>
<tr>
<td>EDUP324 Advanced Skill Analysis and Performance II</td>
<td>Semester 2, Third Year</td>
<td>Cricket/Softball/Baseball Latin / Modern Dance Outdoor Education</td>
<td>1 hour tutorial per week, 1 hour tutorial per week, 2 hour tutorial per week for 6 weeks</td>
</tr>
</tbody>
</table>

Summary of Practical Studies Courses in PHE Undergraduate Degree
Appendix 3

Participant Information Sheet For Pre Service Physical Education And Health Teachers

Facilitating Game Knowledge, Development and Dialogue in Pre Service Physical Education and Health Students

PURPOSE OF THE RESEARCH

This is an invitation to participate in a study conducted by researchers at the University of Wollongong. The purpose of the research is to investigate the dialogue developed between teachers and their students when attempting to use a game centred approach to physical education lessons. The study wished to ascertain the impact the dialogue has on the lesson, whether it encourages deep understanding and knowledge of games and the issues that teachers have using the approach.

INVESTIGATORS

Greg Forrest  Prof Jan Wright  Dr Phil Pearson
Masters by Research Study  Faculty of Education  Faculty of Education
02 4221 5187  02 4221 3664  02 4221 3899
greg_forrest@uow.edu.au  jan_wright@uow.edu.au  phil_pearson@uow.edu.au

METHOD AND DEMANDS ON PARTICIPANTS

If you choose to be included, a game centred lessons that will be part of your course requirements for EDPM202 and EDPM301 courses will be videoed and audio of the lesson recorded. This will also include a written self-reflection indicating your views on the success of the lesson, based on the dialogue developed and the games used, which will be part of the subject. After the papers are graded and returned, the self-reflections will then be used in conjunction with the video and audio data from the lessons and analysed in relation to the dialogue that was developing between all involved and the games used to generate understanding. You may also be interviewed after the semester has ended to clarify issues that may not be clear from the reflection.

POSSIBLE RISKS AND DISCOMFORTS

Apart from the possible time requirements of an interview (if needed), we foresee no possible risks for those involved. All components will be part of the EDPM202 and EDPM301 courses that students must complete as part of their Physical Education and Health undergraduate degrees. Students can withdraw their permission to use their written and audio component of their presentation and the video of their personal ‘lesson’ but cannot withdraw from video of other’s lessons. However, this video will not be of confidential or sensitive issues but of the actions and teaching expected in a practical movement class but may be used in edited form as part of conference presentation or a Doctoral thesis. Student identity will also be needed to link and analyse reflections with the lessons they are from but after this, confidentiality regarding responses can be assured.

Participation or lack of participation in the project is not linked with student grades for the subject grades in the subject nor will it affect relationships with the University of Wollongong in any way.

FUNDING AND BENEFITS OF THE RESEARCH
There is no funding for the research. However, the research will provide valuable information on the use of game centred approaches to increase engagement and intellectual quality in Physical Education lessons as well as insights into the pedagogical requirements and associated difficulties for pre service, new career and practicing teachers attempting to use such an approach. Findings from the study plus video evidence may be used at conferences presentations, be part of an educational resource and may be published in education journals for the benefit of physical educators as a whole.

ETHICS REVIEW AND COMPLAINTS

The study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong. If you have any complaints or concerns regarding the way this research has been conducted, you can contact the UOW Ethics Officer on (02) 4221 4457.
Thank you for your interest in the study

Greg Forrest Prof Jan Wright Dr Phil Pearson
Appendix 4

Consent Form For Pre Service Physical Education And Health Teachers

Facilitating Game Knowledge, Development and Dialogue in Pre Service Physical Education and Health Students
Greg Forrest

I have been given information about Facilitating Game Knowledge, Development and Dialogue in Pre Service Physical Education and Health Students and discussed the research project with Greg Forrest who is conducting this research. This is part of a Masters by Research degree supervised by Professor Jan Wright and Dr Phil Pearson from the Faculty of Education at the University of Wollongong.

I have been advised of the potential risks and burdens associated with this research, which are based around normal participation in the course, and have had an opportunity to ask Greg any questions I may have about the research and my participation.

I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the written component of the research at before the semester ends but am committed to remain in the video component, parts of which may be used to compile a DVD that may be used as part of a thesis or presentation. However, the video will not be of confidential or sensitive issues but of the actions and teaching expected in a practical movement class. My refusal to participate or withdrawal of consent will not in any way affect my relationship with the Department of Physical Education and Health or my relationship with the University of Wollongong.

If I have any enquiries about the research, I can contact Greg Forrest on 4221 5187 and Professor Jan Wright on 4221 3644 or if I have any concerns or complaints regarding the way the research is or has been conducted, I can contact the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on 4221 4457.

By signing below I am indicating my consent to (please tick appropriate box/boxes)

- Video taping of presentation and participation in game centred lessons
- Audio recordings of the lessons
- Submission of a self reflection
- Comparison of self reflection with the video and audio of the lesson
- Use of the video in edited form as part of a thesis presentation
- Use of data collected from my participation in journal publications and conference presentations
Signed…………………………………Date ……/……/……

..........................................................................................
Name (please print)
..........................................................................................