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# A social semiotic analysis of knowledge construction and games centred approaches to teaching

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**A social semiotic analysis of knowledge construction and games  
centred approaches to teaching**

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**Abstract (100 words for teachers)**

Games centred approaches (GCA) such as TGfU, Game Sense, Tactical Games are widely promoted as alternatives to traditional forms of teaching games within physical education. Despite a growing body of empirical research and a considerable theoretical literature, there are no analyses in the GCA literature, of interactions in actual lessons. In this paper we argue that social semiotics provides the tools for such an analysis. We give an example of how such an approach might be used by analysing questioning, as exemplified in the GCA literature and teacher resources, for the ways it constructs knowledge and interpersonal relations. We argue that the claims for a student-centred approach and mutual construction of knowledge are demonstrated in these examples.

## **A social semiotic analysis of knowledge construction as modelled in the games centred approach literature**

### **Abstract**

**Background:** Games centred approaches (GCA) such as TGfU, Game Sense, Tactical Games are widely promoted as alternatives to traditional forms of teaching games within physical education. These approaches are promoted on the basis of their capacity to engage students in meaningful and enjoyable physical activity and to promote problem-solving and decision-making. There is now a growing body of empirical research investigating the outcomes of such approaches in terms of tactical knowledge, enjoyment and motivation to play games, and a considerable theoretical literature that explains and develops models of practice. Questioning is promoted as a key learning strategy in negotiating tactical understandings and assisting students in decision-making. Examples of questioning sequences are frequently modelled in papers explaining how to teach games centred approaches. While there are considerable examples of how to teach games centred approaches there is a notable absence of research that investigates such approaches in the practice of actual lessons.

**Purpose:** To argue for the value of a social semiotic approach for an analysis of lessons taught using a games centred approach. To demonstrate how a linguistically motivated social semiotic analysis provides the tools to test many of the assumptions and claims made for GCA by investigating practice in situ. In this paper this was illustrated through an analysis of the structure of questioning sequences as modeled in

GCA literature and teaching resources. The purpose of the paper was also to argue that a social semiotic perspective allows for an analysis that goes beyond the immediate context of situation to ask how games centred approaches have wider social and cultural impacts, for example, in terms of whether they (re)produce or disrupt limiting notions of femininity and masculinity; extend opportunities for developing abilities to all students; and challenge traditional hierarchical power relations in physical education classes.

**Conclusion:** A social semiotic analysis of the questioning sequences, as modelled in GCA literature and teaching resources, demonstrated how such sequences followed an initiation<sup>^</sup>response<sup>^</sup>evaluation (IRE) structure that expects one right answer to the questions and closes down opportunities for debate and for negotiating meaning. Such a pattern of interaction seems counter to claims of a student-centred approach and increased student control over knowledge. Research is required that examines both the claims that proponents of GCA make about learning outcomes *and* the knowledge and social relations being constituted in GCA lessons from a broader social perspective. It is argued that a social semiotic analysis can do both: it provides the means to reflect on and critique the quality of learning that takes place in terms of situated knowledge; and it provides the tools to analyse the ways social and cultural meanings about games and sports, about teachers and learners, and their relationship, and about physical education are being constituted?

## **A social semiotic analysis of knowledge construction as modelled in the games centred approach literature**

### **Introduction**

The closely related approaches to games known variously as Game Sense (Australian and New Zealand), Teaching Games for Understanding (TGfU) (UK), or Tactical Approach to Teaching Games (USA) are currently promoted as more contemporary and meaningful approaches to teaching the games component of physical education, in comparison to ‘traditional’ approaches which focus on technical aspects of skill acquisition. Proponents of these approaches, which for the remainder of the paper we will collect under the term game centred approaches (GCA) (Oslin and Mitchell, 2006), suggest that the constructivist or student centred elements of the methods provide an opportunity for physical education to respond to reports that that contemporary physical education lacks meaning in children’s lives, is inauthentic in its practices relating to other social practices and is alienating children from physical activity and their bodies (Kirk and Macdonald, 1998). There is now what one could call a GCA movement with annual international conferences, a growing academic and professional literature and a plethora of professional development workshops in Australia, NZ, UK, Canada and the United States. Although most proponents acknowledge Bunker and Thorpe (1984) as their inspiration, the manifestations of GCA are not uniform across countries and indeed within countries. Rather they seem to have developed in response to local circumstances and traditions and have been influenced by the particular convictions of those who have promoted them (see, for example, Oslin and Mitchell, 2006).

Recent writing in the area has begun to interrogate the relationship between GCA and learning theory. Some of this work has examined the assumptions about student learning underpinning the different games centred approaches, in order to extend and refine current models of curriculum and teaching as related to games learning (Kirk and MacPhail, 2002; Butler and McCahan, 2005; Richard and Wallian, 2005). The empirical GCA literature, as described in Oslin and Mitchell's (2006) review of GCA research, primarily compares the outcomes of traditional skill based lessons with game-centred approaches in physical education in terms of skills, tactical understandings of game play and motivation to play games. There is little evidence in either the theoretical or the empirical literature of what a GCA looks like in real lessons. This is not intended as a criticism of the approach but rather to point to a fertile area of research that is urgently needed.

The theoretical literature on GCAs provides an argument for adopting a games centred approach and models ideal practice; the empirical literature provides evidence of outcomes but does not show process. This leaves the process of GCA opaque to practitioners; there are no analyses of practice to inform their own reflections and to assist them in improving their practice. This is one of the practical contributions a social semiotic analysis of classroom practice for both practitioners and researchers. Theoretically a social semiotic analysis can contribute to an understanding of how particular forms of knowledge and social relations are produced in GCA lessons. It can provide the empirical basis to test assumptions about particular models of learning and claims about the empowerment of students. A social semiotic analysis also brings its own sets of questions about social relations and subjectivities; and about the social and cultural contexts of knowledge.

The purpose of this paper, then, is to argue for the value of social semiotic approach that can closely and systematically examine meaning-making practices in social contexts. This proposal builds on earlier work that used a linguistically motivated social semiotic analysis to interrogate how meanings were constructed in ‘traditional’ physical education lessons. In this work (Wright, 1993, 1997, 2000a) the focus was on gender relations and the constitution of meanings about the body. However, questions were also asked about how particular interactions in physical education lessons fostered learning and the kinds of learning being fostered (Wright, 2000b). This paper will build on the analytical framework developed for this earlier research to interrogate some of the claims made for GCA and suggest a methodology for further research which uses recordings of GCA lessons (both on video and audio tape) to better understand how and what forms of learning are taking place. From this perspective other questions also need to be asked, questions for example about: the social relations that are being produced; and the relationship between the knowledge constructed in the lesson and wider social values (for example, about physical activity and sport). While this paper will not use transcripts of lessons to explore these questions (this requires a much larger project and one argued for in this paper), it will exemplify a social semiotic approach through interrogating some of the claims made in the GCA literature for meaning construction, particularly as these relate to questioning and reflection. We will do this through analysing examples of interactions provided in GCA teaching and coaching resources and in the academic and professional literature.



The paper will begin by discussing the notion of social semiotics and draw on previous work in education and physical education to argue for the usefulness of such an approach to understanding how possibilities for learning are being constructed through interactions between teachers and students and students with each other in physical education classes. A social semiotics approach is of particular relevance to an investigation of learning in relation to GCA because of the centrality of interactions (through questioning) between teachers and students, and students with each other, to develop understandings of game play. We argue that such an approach is also valuable because it allows for an analysis that goes beyond 'content' knowledge to investigate the wider social and cultural implications of meaning making in GCA classes. For example, we would want to ask questions about how GCA provides spaces for social change, how it can provide for an understanding of the place of games in culture(s), how students are 'empowered' in ways that allow for more control over what will take place in lessons. These are not necessarily questions which interest many (perhaps most) advocates of GCA, but we would argue they do need to be of interest to physical education teachers if they are to be critically reflective about their own practices. A social semiotic approach provides some resources to assist in this reflection by making visible not only the way learning might be taking place but also how social relations are constituted and power is deployed.

A major limitation of this paper is the absence of classroom interaction data from GCA lessons. What we use instead are models of interactions provided in resource materials and textbooks. The value of using these interactions is that they are intended to demonstrate how questioning *should* happen. Our argument is that these models actually set teachers up to fail as facilitators of students' learning. Although GCA

seems to be predicated on a constructivist model of learning, the questioning examples provided continue to follow a closed Initiation Response Evaluation (IRE) pattern, that expects one right answer to the questions and closes down opportunities for constructing and negotiating meaning (Cazden, 1988). Such a pattern of interaction seems counter to claims of a student-centred approach and increased student control over knowledge.

### **Social semiotics**

The social semiotic model being used in this paper is one derived from the work of linguists, particularly Michael Halliday (1978) who developed the notion of language as a social semiotic, but also from the work of Jay Lemke (1990). Jay Lemke (1990) in his book *Talking Science*, provides a discussion of the emergence of social semiotics and its theoretical antecedents. Lemke defines semiotics as a field of study which covers ‘all systems of signs and symbols (including gestures, pictures and even hairstyles [and we would add movement]) and how we use them to communicate meanings’ (p. 183). According to Lemke social semiotics draws on linguistics, anthropology, critical sociology and most recently poststructuralist/postmodernist theorists such as Michel Foucault, and we would add queer theorists such as Judith Butler, to investigate how meanings are constructed through the use of systems of social meaning-making resources which vary from one community to another. Put simply, social semiotics is ‘a theory of how people make meaning’ in social contexts (Lemke, 1990, p. 186). The key shift here from humanist notions of meaning making is the idea that meaning is *made* or constituted out of existing resources in the community (other texts, discourses, genres). The way in which such resources are

drawn on to construct meanings may do little to challenge the status quo, however, other combinations can create 'new knowledge', challenge the status quo and bring about change. An examination of *how* meaning is being constructed and what meanings are being constructed allows the possibility of change through making visible that which is often invisible and taken for granted.

This purpose has been the motivation for Wright's (1993, 1997, 2000a,b; Wright and King, 1991) investigations into the meanings associated with masculinity and femininity that are produced through teachers' use of language (and other meaning making practices) in physical education lessons. Such an analysis demonstrated how the organization of physical education lessons (the genre) and teachers' 'choices' of speech functions (commands, questions and statements) and modality (certainty and uncertainty) created different environments for female and male students. Analyses of the genre of physical education lessons also demonstrated how the structure of the games lesson, typically 'roll call ^ warm-up ^ skill development (1-n) ^ skill application (1-n)' helped to preserve a particular notion of physical education and how students learn in physical education lessons – one which is challenged by the advocates of GCA by their proposing of a different sequence of events. The following quote suggests some of the consequences of such an approach. The argument made in the paper was that,

from the roll-call to the warm-up, the overall structure and characteristics of the physical education lesson including its linguistic features facilitate the control and regulation of students, their movements and their attitudes to activity and their bodies. (Wright, 1993, p. 28)

A reasonable question to ask from a social semiotic position is whether the different structure of the lesson espoused by GCA approach will make a difference to these outcomes or indeed whether from a GCA perspective it should.

***Language as ‘a system of resources to make meaning’***

The value of a social semiotic approach informed by linguistics is that it provides the means to closely and systematically examine the way language is used to realise, create and transform social and cultural meanings. The model of language by Halliday (1978, 1985), generally called systemic functional linguistics or functional grammar, incorporates the necessary theoretical link between language and culture to be able to interpret meanings in context. In other words, it makes possible an analysis that goes beyond the level of the word (lexis) to the choices made by speakers/writers from the language system in terms of particular patterns or structures.

Lemke’s (1990) work is particularly useful because of its focus on the language of lessons, in his case science lessons, and the kind of learning that takes place. He is interested in how students learn to *do* science, that is, to observe, describe, hypothesize, question, design experiments, follow procedures and so on. There are clear parallels here between what GCA is designed to do; learning to *talk* science is also about *doing* science; learning to *talk* games – to make sense of games - is necessary to *do* games successfully. His starting point is that language is not simply ‘vocabulary and grammar’ but ‘a system of resources for making meaning’ (p. ix). Students in GCA lessons, it could be argued, need to develop a language to talk about

technique, rules and tactics, they need to have a language to express what they observe about their own and others' behaviour while playing games. As Lemke points out with the choices made in language come certain social values, values that might not be the same for the teacher as for the students. For example in GCA, there is an assumption about the value of games that is rarely questioned, there are also assumptions about the nature of games which, as will be demonstrated later in the paper, underpin the types of questions that are modelled in the literature on GCA.

Of particular interest to this paper is Lemke's illustration of what he and others (Cazden, 1988) describe as a 'pervasive' feature of classroom dialogue, the Question^Answer^Evaluation (QRE) or teacher Initiation^student Response^teacher Evaluation (IRE) sequence. Essentially it involves a teacher asking a question to which there are limited right answers, a student responding and when the answer is correct, and this may be arrived at through a number of prompts, a teacher evaluation – this could be silence, moving on to the next question or some form of evaluation.

[Teacher Preparation]

Teacher Question

[Teacher Calls for Bids (Silent)]

[Teacher Nomination]

Student Answer

Teacher Evaluation

[Teacher Elaboration]

(Lemke 1990: p. 8)

This sequence clearly marks the teacher as the one who has the power both to initiate interactions but also who has control over what counts as valued knowledge. As Lemke points out this approach has a number of advantages for teachers which perhaps explains why it is so common and why it is so hard to diverge from in teacher student interactions (even those modelled as exemplary practice).

In this structure the teacher gets to initiate exchanges, set the topic, and control the direction in which the topic develops. They get to decide which students will answer which questions and to say which answers ... will count as the legitimate Answer. In contrast students have little or no opportunity for initiative, for controlling the direction of the discussion, or for contesting teacher prerogatives ... (Lemke, 1990, p. 10)

Questioning is a key element of GCA. GCA proponents also claim that compared to traditional approaches to teaching games, GCA lessons offer opportunities for empowering students, that GCA is a more student centred approach and allows students to take more responsibility for decision-making and problem-solving. This would suggest a form of organising lessons and particularly interactions between students and teachers to promote this. As will be demonstrated below, a close look at the models of questioning provided in the resources and in the literature, looks much more like the IRE sequence than an open-ended construction of meaning.

## **Games centred approaches to physical education**

Games centred approaches are based on a pedagogical model which has been designed to involve the use of games to allow students to develop an understanding and an appreciation of games, their tactics and the decisions involved in playing. This is different from the traditional method of teaching games followed by most secondary teachers where skills are taught first then placed in a game situation (Oslin and Mitchell, 2006). In social semiotic terms there is a genre shift from skills practice^games to modified game^reflection on play^modified game. Proponents of GCA, argue that the traditional approach is a bottom up method which relies on a hierarchical determination of skill sets and a teacher directed approach to the classroom. They suggest that by using games as the starting point, students can bring their own perspectives of games to the classroom and create or construct their own meanings within the games context. The teaching of skills comes at the point where the student realises that improvement in skills is connected with the achievement of aims within the game context. Although some research on GCA is informed by an information processing perspective, increasingly claims are made that GCA have the potential to employ a constructivist approach more so than the traditional skill drill approach to games teaching. (e.g. Griffin and Sheehy, 2004; Kirk and MacPhail, 2002; Light, 2001; Richard and Wallian, 2005).

As Hyslop-Margison (2004, citing Dewey, 1929 and Vygotsky 1978) points out 'constructivism is not a single unified theory' (p. 143) and different paradigms of constructivism 'perceive the personal construction of knowledge in significantly different ways' (p. 143). In arguing for a more democratic and transformative role for

information technology in classrooms, Hyslop-Margison draws the comparison between Dewey and Vygotsky's versions of constructivism. He points out that for Vygotsky 'social and cultural reproduction [was] the primary objective of constructivism', the teacher or mentor therefore took a central role in setting up the conditions that would eventually lead students to 'subject mastery and cultural assimilation'. Hyslop-Margison argues that Dewey's constructivism, on the other hand, was about 'the autonomous capacity of individuals to participate in shaping their social and cultural experience'. Hyslop-Margison's argument that information technology in classrooms has the capacity to, and should, engage students in learning that shifts from 'instrumental rationality or acquiring pre-established understandings and truths, to promoting epistemic independence of students' (p. 144) resonates with some of our concerns about GCA. Are games centred approaches simply about 'subject mastery and cultural assimilation' or can they and should they (two different questions) assist students in "shaping their own social and cultural (including movement) experience"?

An insight into how games centred approaches sit with the various models of constructivism is provided by Richard and Wallan (2005). They acknowledge that current games centred models take a more empiricist-constructivist approach to teaching and learning, that is the discovery of one solution to a problem in a specific situation. However, they cite Kirk and MacPhail's (2002) discussion of TGfU as situated learning, to argue for a more radical constructivist approach where students not only actively engage with their environment through observations of game play in forming solutions but are also involved in "critical thinking through the debate of ideas" (Richard and Wallan, 2005, p. 22). Kirk and MacPhail (2002) suggest changes



to the Bunker-Thorpe model that recognise the situatedness of learning and the knowledge that children bring to school from their prior experience of games and sports. This certainly allows for an increased recognition that the student brings valuable knowledge to the game and to their reflections as a game player. However, from our point of view this does not go beyond ‘mastery and assimilation’, the model still does not go beyond an unquestioning acceptance of the intrinsic value of games, and of the community of practice that games and sports constitute. Nor does it question how what actually happens in TGfU lessons realises TGfU defined outcomes, or outcomes that are associated with empowering young people to take a more active part in their own learning about games and the place of games in society.

### **Questioning in game centred approaches**

A key tenet of our argument that GCA is not quite as liberatory or even as student-centred as it claims, is based on our analysis of the questioning process modelled in GCA resources and in the GCA literature. Questioning, it is argued is “a key pedagogical tool in TGfU” (Turner, 2005, p. 82), “a critical teaching skill ... in the tactical games model” (Griffin and Sheehy, 2004, p. 43); it is the process by which students come to build their understandings of the game in context. The use of a questioning protocol (what? where? when? why? with whom? how?) is described and often exemplified through constructed dialogues in papers describing the process of teaching a games centred approach.

The emphasis in much of the early research and descriptions of GCA seems to be on decision-making in the context of the game through the teacher’s manipulation of

game conditions. The emphasis on questioning seems to have developed out of an interest in students' capacity to be able to verbally reflect on action and also in some contexts to demonstrate how teaching games in the context of physical education can contribute to the cognitive learning outcomes valued by state education systems (for example, Pearson, Webb, and McKeen, 2005). One of the more recent articulations of a theorised approach to questioning is that associated with the notion of 'reflective attitude' developed by French proponents of a games centred approach to physical education. According to Oslin and Mitchell (2006),

the notion of reflective attitude stems from the Parisian Semiotic School, ... [it] involves a cycle of reflecting about action (i.e. in a particular game situation) and includes: verbally interpreting the situation, generating an action plan, and then implementing an action plan. Making the learner deconstruct and reconstruct actions results in production of knowledge about action, and allows for an examination of the learner's knowledge. (p. 634)

Unfortunately a model of the questioning associated with such an approach was not available in the literature that we surveyed at the time of writing this paper (such an analysis is now available in the Wallian and Chang paper in this Special Issue). The examples we did find come from papers on TGfU (Turner, 2005), games sense (Light 2002 and a web based resource developed at the University of Wollongong) and tactical games (Griffin and Sheehy, 2004)

## **Modelling questioning in practice**

The first point to note about the following examples is that they all model what we would argue is an IRE sequence, where the teacher asks the questions and there is one (right) answer. On one hand, it could be argued that these are only constructed examples and so are artificial. However, a fairly comprehensive review of the literature and resources suggests that there are very few other resources available which model how teachers might engage students in reflection and the negotiation of meanings necessary for problem-solving. It follows that how these sequences are set up *does* matter; in the absence of transcripts of lessons or other examples they stand as *the* model for interactions in lessons using a games centred approach.

The first example is from a paper by Turner (2005) on ‘Teaching and learning games at the secondary level’. It is in this paper that Turner emphasises the importance of questioning to help students read the game. Turner argues that ‘[i]n virtually every game or practice, teachers need to look at the scenario and ask students the following questions:

1. What is going wrong?
2. Where does the problem occur?
3. When does the problem occur?
4. Why does the problem occur?
5. Who owns the problem?
6. How can it be fixed?’ (p. 71)

This set of questions in itself promotes a particular orientation to game play. Would it also be useful to look for what is going right? Why have particular tactics worked and so on? The following scenario is then presented and a particular sequence of questions and answers modelled:

Consider the following example of a game-related practice in a STX-BALL lesson: three attackers versus one defender in a 20-yard X 10-yard (18-meter X (-meter) grid. Attackers score by running the ball over the goal line. The offense is having trouble with this task.

*Q: What does the ball carrier need to do?*

A: The ball carrier needs to attack the defender by moving toward the goal line.

*Q: Where does the problem occur in the game area?*

A: Where the ball carrier approaches the defender.

*Q: When should the ball carrier pass the ball?*

A: When the defensive player is committed to the ball. The decision about when to pass (timing of the pass) will be crucial.

*Q: Why does the problem occur?*

A1: If the pass is too early, the defender has time to get across the receiver.

A2: If the pass is too late, the defender will cut off the passing lane.

*Q: Who owns the problem?*

A: The offensive off-the-ball players and the on-the-ball player

*Q: How can the problem be fixed?*

A: Teammates can move wide to position in space. They need to support the ball carrier. (The teacher can talk about angles of support, positioning square of the passer, or penetrating past the defender to receive a pas closer to the goal line).

*Q: How can the ball carrier help after passing?*

A: Cut to the space behind, or in front of, the defender after the pass.

(Turner, 2005, p. 71)

This sequence of questions and answers suggests that there is always one right answer to the questions and one set of responses to the problem. The scenario proposed by these answers only works if a set pattern is followed. The power to ‘know’, to determine what is correct or incorrect knowledge, lies solely with the teacher. The teacher is also modelled as the only one who asks questions. Turner in an earlier section of the paper suggests that this approach represents a constructivist learning orientation. Following Richard and Wallian’s (2005) categorisation of constructivism into empiricist-constructivist and radical constructivist approaches then this approach would model the former: that is, students are guided to one solution that applies in a specific situation.

In a further and similar example, in a chapter on ‘Using the tactical games model’, Griffin and Sheehy also emphasis the importance of ‘high quality questions’ in guiding students ‘in identifying solutions to the tactical problem presented in the game’ (p.43). Under the heading ‘Putting the problem-solving framework in action’, they provide an example of ‘a representation of a typical exchange, designed to

foreground problem-solving skills within the psychomotor domain' (p.45). The tactical problem is one of setting up to attack for volleyball.

TEACHER: Were you able to set up for an attack? Why or why not?

STUDENTS: No. Cannot get the ball to the hitter or spiker.

TEACHER: What do you need to do first to have the opportunity to set up for an attack? (tactical awareness)

STUDENTS: Forearm pass

TEACHER: Where must you pass the ball? (space)

STUDENTS: To setter or target, front line

TEACHER: How do you perform the forearm pass? (skill and movement execution)

STUDENTS: Medium body posture, feet to ball, flat platform, and finish to target

TEACHER: Ok, let's practise the forearm pass

(Griffin and Sheehy, 2004, p.45)

Again we would argue that what this exchange models is an IRE structure. Except for the first question and answer, which would seem to provide students with the opportunity to open up the discussion, the exchange seems to be about determining what the student 'knows' about game play and technique in the same way that a science or mathematics teacher might test for knowledge which the student is assumed to have learnt in a prior class. If this is the purpose of the exchange then the form of questioning used is appropriate, if however the purpose is to model problem-

solving and joint construction of meaning then the exchange needs to take a different form.

In a last example from a resource on teaching from a games sense approach, produced for a website by our own university. The resources were set up as small snapshots of games play focused on particular tactical scenarios. The snapshots began with students playing a passing game in which each of the tactical ‘problems’ were illustrated and then stopping the game to answer questions posed by other students who had been observing the game. The following is a transcript of the question and answer sequences, grouped under the focus of each scenario.

#### ***5 Passes – games for outcomes***

Q: What did you think the most effective form of pass was, the long pass or the short pass?

A: It depends on who you want to pass it to. If someone was over the other side it would be a lob, if someone was right next to you, it would be a chest pass, or if you have to get around someone it would be a bounce.

#### ***Touch –Full sided approach: First pass backwards***

Q. When the first compulsory backward pass was added, how did you find it changed the game?

A: It might have slowed the game down and made it shorter instead of throwing a long ball every time.

A2: It forces the attacking team to regroup everytime there is a change in direction.

*Touch – full sided approach : unrestricted passing*

Q: When you get the ball and want to pass how do you decide who to pass it to?

A: I tried to look for someone in a clear space and if they called for it, I'd try and pass it to them.

For the academics who designed these scenarios these were examples of good practice. Again what they demonstrate is a sequence of questions and answers where there is only one right response, where the teacher (or the preservice students in this case) asks the question and where there is no discussion, follow up or negotiation of meaning. The questions themselves are very specific to a particular situation and potentially they do have more than one 'correct' answer. One of the practical problems with models such as this and the ones provided above, is that teachers have very little guidance as to how to deal with responses that do not conform to the norm. The following is an example of what can happen when the IRE sequence goes awry because the 'correct' answer is not provided by a student. It was reconstructed by the second author after observing a preservice student teaching a games sense lesson on his teaching practicum.

Game played: end zone, first pass backward, score by passing the ball into the area and having it caught on the full by a team member.

T: So which was the best pass to throw, the short or the long

S: The long

T: But wasn't the short safer?



- S: Well I could score by throwing the long pass
- T: But it would it be easier to maintain possession, wouldn't it?
- S: But I could move it quickly throwing the long pass
- T: So why would you throw a short pass?
- S: I wouldn't
- Q Ok let's move on

The point to be made by this example is that the models provided in the literature do very little to prepare teachers for interactions that go beyond a neat IRE structure where students accept their positions as 'secondary knowers', that is, where their experience and knowledge of the game is secondary to that of the teacher. The structure itself limits the possibilities for debate, and for the negotiation of knowledge<sup>1</sup>.

The following sequence (constructed by the second author) suggests a more open-ended scenario, which allows for responses that reflect the student's experience of the game:

- T: So which was the best pass to throw, the short or the long
- S: The long

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<sup>1</sup> As one reviewer noted 'This sequence and your discussion of it reminds me that any teacher who has had foundational training in educational games or gymnastics would have this frame of reference to understand why students came up with these responses and how they could enrich the class understandings of why that response might or might not work and under what conditions.' We could not agree more. However, in Australia the knowledge associated with educational games and/or gymnastics is virtually non-existent, our students do not even know what the terms mean. We would suggest that there should GCA should be taught in context, that is, GCA need to be located historically in and taught in the context of learning theory and assumptions about students and knowledge?

- T: Why was that?
- S: Well I could score by throwing the long pass
- T: Was it always successful?
- S: No, but I could move it quickly throwing the long pass

In this scenario, there is more opportunity for the negotiation of meaning around the question and the context. There is the opportunity for a 'suitable personal tactical response' where there may be more than one response from the student's point of view (Richard and Wallian, 2005, p. 21).

None of these examples offer questions that go beyond the immediate tactical situation of the game. The possibility of questions that address the social context of games is suggested in Light's (2002) description of a game sense class taught to preservice primary teachers. A modified game was set up and the students were asked the 'typical' questions about how movement off the ball could be more strategic. As the following quote suggests, questions were also asked about the nature of the game itself and the relations between players.

... if better players dominate and reduce interaction, then the class is asked to suggest rules to address the problem that are then put into practice but may sometimes be further modified. They might also be abandoned if the students feel that they make the game less enjoyable. (Light 2002, p. 162-3)

Light's scenario differs from the others so far described in that it provides for the potential of 'transforming' the game itself. In most other examples the teacher sets up

the game situation and controls it, students are asked to problem-solve within the parameters of the game – and the game is taken to be a modified version of a socially valued form. However, from the perspective that games are social and cultural practices, questions could also be asked about why games take the form that they do? For example: What purposes do particular rules play, how have rules evolved and for whose benefit? From a social semiotic perspective, meanings are made in social and cultural contexts and part of more fully appreciating the nature of the game is to understand how its meanings were constituted.

The difference between understanding meaning-making from a situational as compared to a cultural context is exemplified in the following exchange between the two co-authors as we were writing this paper. The first author was about to provide an illustration of how questioning about games could take a more socio-cultural approach and posed a rhetorical question about the rules of netball and specifically the restrictions on player movement and passing. The second author interpreted this as a question about some of the rules relating to the concepts of the game: that is ‘Why is there the 'short pass' rule?’ From his point of view the answer was as follows:

Because the mode of movement is passing so it probably was developed to give everyone a chance of getting the ball. The same with the 'over a third rule'. Why? So in a game with everyone in positions that has court restrictions, there has to be the opportunity for all players to participate in the play.

From the point of view of the first author, this explanation ignores the history of the game and how, from the perspective of most feminist historians, the game had been

developed in a particular social and cultural context to provide women with opportunities to play a team game, but also in doing so to restrict their movements so that there could be no accusations of unfeminine behaviour. Treagus (2005) explains how, in 1892 Senda Berenson, a gymnastics teacher at Smith College, Massachusetts created the rules of women's basketball (later netball) to clearly differentiate it from the male version and to construct it as a game 'acceptable for women to play'. Her rules divided the court into three equal parts, snatching and batting the ball and holding the ball for longer than three seconds were not permitted, only one three bounce dribble was allowed and there could be five-ten players on a team.

This may seem as something of a diversion from the main argument of the paper. However, for the first author this illustrates how games centred approaches can be narrowly constituted to reproduce a games form that is culturally disembodied, never brought into question and self-perpetuating. Knowing how the rules of netball came to be as they are, demonstrates the constructedness of games and sports, how they have been produced and continue to be adapted in particular social contexts. However, the second author's answer is also worth considering in the context of a GCA for the questions that might be asked to enhance an appreciation and transformation of the game to better suite the local situation. Is netball a game that provides more people with an opportunity to participate in the play? Would this work in other game situations? How might any game be modified to ensure maximum participation?

## **Conclusion**

What we have tried to demonstrate in this paper is that a social semiotic analysis of classroom practice provides the means to investigate how meanings associated with knowledge about games and meanings associated with the social relationships between teachers and students are constituted. It provides the tools to test many of the assumptions and claims made for GCA by investigating practice in situ. In this paper the focus was primarily on the process of questioning in GCA lessons, however, the analyses of gender relations and other forms of social relations, which have been modeled in other papers in relation to traditional physical education lessons also need to be extended to GCA lessons. How do GCA lessons (re)produce or disrupt limiting notions of femininity and masculinity; how do they extend opportunities for developing abilities to all students; and how do they constitute particular relations of power? The models of GCA provided in the literature suggest an ideal form, but as Evans and Clarke (1988) point out in their investigation of the social production of PE knowledge in classes taught by teachers using what were then innovatory HRF (health related fitness) and TGfU approaches,

...the achievements in the new initiatives of PE are incomplete. They do little to challenge existing social and ability hierarchies or the social roles that govern them. Changing the content of the PE curriculum has not brought with it changes in the deep structure of communication in classroom life, in the relationships between pupils and between teacher and taught, in the teacher's control over knowledge or in the way teachers think about ability and performance. (p.139)

Admittedly this paper was published in 1988 but the critique is still relevant and there needs to be further research that examines both the claims that proponents of GCA make about learning outcomes *and* what knowledge and social relations are being constituted from a broader social perspective. A social semiotic analysis can do both: it provides the means to reflect on and critique the quality of learning that takes place in terms of situated knowledge (in the case of this paper by pointing to the resources which look at lesson interactions to analyse approaches to questioning); and it provides the tools to analyse the ways social and cultural meanings about games and sports, about teachers and learners, and their relationship, and about games teaching in the context of physical education are being constituted? It is important that such research takes place if physical education is to continue to meet the needs of all students, to develop their abilities and their capacity to participate in the decisions about their own learning. It has been beyond the scope of this paper to do more than argue for the potential of a social semiotic approach and to point readers in the direction of useful resources. These include those referenced above, the many researchers conducting classroom-based studies in other fields, and others writing in this Special Issue.

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