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# Linking teaching games for understanding and quality teaching in NSW secondary schools

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## **Conference Paper: Linking TGfU and Quality Teaching**

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**Paper Title: Linking Teaching Games for Understanding (TGfU) and Quality Teaching (QT) in NSW secondary schools**

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## **Linking Teaching Games for Understanding (TGfU) and Quality Teaching (QT) in NSW secondary schools**

### **ABSTRACT:**

A discussion paper entitled *Quality teaching in NSW public schools* (Department of Education and Training, 2003) has been developed to improve teaching practice and hence student learning outcomes. The model of pedagogy outlined in this document focuses on the three dimensions of intellectual quality, quality learning environment and significance.

Elements associated with these dimensions such as deep understanding, higher order thinking, student direction and inclusivity can be difficult for teachers to implement into practical lessons. When effectively implemented TGfU is one strategy that allows teachers to address these elements when teaching games in physical education and sport. TGfU places an emphasis on the play, where tactical and strategic problems are posed in a modified game environment, ultimately drawing upon students to make decisions.

Research indicates the strengths of TGfU and the desirability of it as one of the major approaches to enhance quality teaching of games. A survey was conducted with 50 Personal Development, Health and Physical Education (PDHPE) teachers that participated in workshops that linked TGfU and quality teaching. From the data collected, a matrix showing the relationship between TGfU and quality teaching was developed. Whilst TGfU is not the only pedagogical model for teaching games, it is most certainly one that can be used effectively to achieve student outcomes by addressing the intellectual quality, quality learning environment and significance dimensions of the Quality Teaching model.

## INTRODUCTION TO TGfU

Research and observation of games teaching in physical education typically shows a series of highly structured lessons based heavily on the teaching of technique (Ho, 2003; Light, 2003a; Turner, 1996; Pearson & Webb, 2005). This format generally divides the lesson into an introductory activity, a skill phase and finishes with a game. This traditional model has consistently revealed a large percentage of children achieving little or no success due to the emphasis on performance, skilful players who possess inflexible techniques and poor decision-making capabilities, players who are dependent on the teacher/coach to make their decisions, and a majority of children who leave school knowing little about games (Werner, Thorpe & Bunker, 1996). The transition from technique learning to game play is difficult for children without an understanding of how and when to use their skills (Turner, 1996).

Teaching games for understanding (TGfU) provides students with a more substantive base and clearer frame of reference for learning about critical elements of game play. The TGfU approach to teaching games places the focus of a lesson on the student in a game situation where cognitive skills such as 'tactics, decision-making and problem solving are critical... with isolated technique development utilised only when the student recognises the need for it' (Webb & Thompson, 1998, p.1). Other terminology and variations of TGfU (Bunker & Thorpe, 1982) include: 'Play Practice' (Lauder, 2001), the 'Games Concept Approach' (Wright, Fry, McNeill, Tan, Tan & Schemp, 2001, cited in Light, 2003a) and more recently, 'Playing for life' (ASC, 2005). Modifying and adapting games is also an important part of using the Game Sense approach. The concept of 'modification for exaggeration' is used to emphasise particular tactical aspects.

Using the game of hockey as an example, it is important that the student first has an understanding the game, that the ball must be moved down field, with the intention of scoring a goal. An appreciation of the game might include a grasp of the concept of moving down the field individually or as a team whilst thwarting the opponent's attempts to take control. One of many examples of tactics is passing to players on the wing to run the ball up field. Whether to have a shot at goals, or whether to pass to a player in a better position is where the skill of decision-making is required. Finally skill execution and performance is required to perform a flick shot to score in the top corner of the goals.

Teaching games for understanding is an approach to teaching that makes very effective use of active learning in that the students are learning through playing the games. In addition to this, 'questioning is a powerful method of encouraging players to analyse their actions, both individually, and as a team' (Goodman, 2001 p.7). Questions will generally relate to a particular tactical aspect. Effective phrasing of questions can also help to guide the player to an answer, in the event that they are struggling with an activity. Age, experience and ability level of the players will affect the complexity of the questions used (Goodman, 2001).

Given the decreased involvement of children in physical activity, TGfU is aimed at encouraging children to become more tactically aware and to make better decisions during the game. As well, it encourages children to begin thinking strategically about game concepts whilst developing skills within a realistic context and most importantly, having fun. Essentially by focusing on the game (not necessarily the 'full' game), players are encouraged to develop a greater understanding of the game being played. Thomas (1997b) states that the desired effect of this is 'players/students who are more tactically aware and

are able to make better decisions during the game, thereby adding to their enjoyment of playing the game' (p.3). She also gives an account of workshops where participants were asked to identify what they perceived as the strengths of TGfU, with the following five major themes emerging. TGfU was found to:

- Encourage a holistic approach to the teaching of games
- Promote enjoyment for participants
- Promote player centred learning
- Cater for varying abilities
- Foster efficiency in aspects of implementation

TGfU has been shown to result in improved learning outcomes for students. Games are a significant component of the physical education curriculum, with research suggesting that '65 per cent or more of the time spent in physical education is allotted to games' (Werner et al, 1996, p.28). Key outcomes of successful physical education are students that have the ability to make successful decisions on the field and have an awareness of both technical and tactical aspects of the game (Martin & Gaskin, 2004).

### **QUALITY TEACHING MODEL FOR NSW PUBLIC SCHOOLS**

A discussion paper *Quality teaching in NSW public schools* (NSW Department of Education and Training, 2003) proposes a model of pedagogy that contains three dimensions for quality teaching and learning. The model was developed by Dr James Ladwig and Professor Jennifer Gore from the University of Newcastle in consultation with and on behalf of the NSW DET. It is based on current research of authentic pedagogy (Newmann et al, 1996) and productive pedagogies (QSRLS, 2001). The three dimensions of the model are:

1. **Intellectual quality** refers to pedagogy focused on producing deep understanding of important, substantive concepts, skills and ideas. Such pedagogy treats knowledge as something that requires active construction and requires students to engage in higher-order thinking and to communicate substantively about what they are learning. Research has demonstrated that pedagogy focusing on high levels of intellectual quality benefits students, whether they are high or low achievers, from backgrounds typically identified as educationally disadvantaged or gifted and talented, or students identified with special needs.
2. **Quality learning environment** refers to pedagogy that creates classrooms where students and teachers work productively in an environment clearly focused on learning. Such pedagogy sets high and explicit expectations and develops positive relationships between teachers and students among students. Research into effective teaching, authentic and productive pedagogy, teachers' expectations, students' time-on task and student engagement has consistently demonstrated that classrooms in which there is a strong, positive and supportive environment produce improved student outcomes.
3. **Significance** refers to pedagogy that helps make learning meaningful and important to students. Such pedagogy draws clear connections with students' prior knowledge and identities, with contexts outside the classroom, and with multiple ways of knowing or cultural perspectives. That is, pedagogy that promotes intellectual quality and produces a quality learning environment also requires some means by which teachers link the work of their students to personal, social and cultural contexts.

(NSW DET, 2003, p.9)

While intellectual quality is central, all three dimensions are essential for improved student outcomes. Each of the three dimensions of pedagogy can be described in terms of a number of elements. These elements draw from research that links quality pedagogy to improved student outcomes. Elements are observable characteristics of pedagogy. These are summarised in Table 1 below:

<b>Intellectual Quality</b>	<b>Quality learning environment</b>	<b>Significance</b>
Deep knowledge	Explicit quality criteria	Background knowledge
Deep understanding	Engagement	Cultural knowledge
Problematic knowledge	High expectations	Knowledge integration
Higher-order thinking	Social support	Inclusivity
Metalanguage	Students' self-regulation	Connectedness
Substantive communication	Student direction	Narrative

**Table 1. The dimensions and elements of the NSW model of pedagogy (NSW DET, 2003, p.9)**

In working with the model there are four key questions:

1. What do we want students to learn?
2. Why does this learning matter?
3. What do we want the students to do?
4. How well do we expect them to do it?

Obviously, the focus of the model is to increase the quality of education and the best way to do this is through pedagogy, which has been shown to have most influence on quality of learning (NSW DET, 2003). The model is designed to promote improved student learning outcomes, cater for a wide variety of individual differences and to deliver equitable student outcomes.

### **QUALITY TEACHING and TGfU**

Most research on quality teaching (QT) has focused on classroom lessons with limited research on practical classes, particularly on the teaching of games. Stirling and Bell (2002) explored effective teaching and quality physical education, placing emphasis on the *process* of teaching and learning as well as the outcomes. They suggested that quality teaching only occurs when relevant teaching strategies combine with a quality teaching pedagogy. The Department for education and skills (2004) in England highlights the importance of inclusiveness in physical education with an emphasis on teachers having a deep knowledge and understanding of effective teaching strategies with a focus on student engagement and enjoyment.

The majority of research that does link quality teaching and games tends to focus on TGfU. Research (Crespo, Reid & Miley, 2004; Light, 2003b; Thomas, 1997a; Turner & Martinek, 1999; Werner et al, 1996) indicates the strengths of the TGfU approach and the desirability of it as one of the major approaches to the quality teaching of games. Light (2002) highlighted the effectiveness of TGfU for engagement and cognitive learning. Higher order thinking occurs from questioning and discussion about tactics and strategies and also 'through the intelligent movements of the body during games' (Light, 2002, p.23). Cognitive development through decision-making and tactical exploration are combined with skill development within modified games to provide meaningful contexts. Light (2002) suggests that it is difficult for some physical educators to address cognition in

games. Teaching games for understanding is one pedagogical approach that may assist teachers and coaches to address this issue.

Light (2003b) examined the response for teaching games for understanding pedagogical approach in an Australian University to Bachelor of Education students studying primary teaching. Student evaluations were generally positive indicating an increase in enjoyment, understanding and cognitive engagement in the games. In comparing games sense to skill-based teaching, Werner et al, (1996) state that...‘while the teacher may be convinced that skill-based lessons are having a positive effect in that some immediate skill improvement is made, the social and skill related interactions might over time convince the youngsters of their lack of ability’ (p.32). Thorpe and Bunker (1986, cited in Allison & Thorpe, 1997) argued that a skill-based approach to teaching less physically able students is likely to: ‘...result in a sense of failure, a lack of enjoyment, poor self-concept and subsequently inhibition of long term participation’ (p.11). In contrast to this, the students who exhibited low physical and technical ability in the TGfU lessons consistently reported significantly higher and more positive scores for these same factors. ‘It appears that a skills-based approach serves only to highlight, confirm and reinforce – often publicly – the pupils lack of physical ability’ (Allison & Thorpe, 1997, p.12).

Turner and Martinek (1999) compared two middle school physical education lessons on hockey – one using the traditional method and the other TGfU. They found that there was a clear trend towards better decision making for the TGfU group, who also scored higher for procedural knowledge. The TGfU approach enabled students to control a hockey ball more adeptly, make better passing decisions, and execute passing more effectively than under a technique approach. Harrison, Blakemoore, Richards and Oliver (2004) in their study of volleyball players, found that TGfU also increases self-efficacy of players.

In 2005, a new *Personal Development, Health and Physical Education (PDHPE) Years 7–10 Syllabus* (Board of Studies, 2003) was implemented in NSW secondary schools. One area that has undergone major changes within the syllabus has been that of the teaching of games with the move towards a TGfU framework. Research indicates the strengths of the TGfU approach and the desirability of it as one of the major approaches to the teaching of games in the new PDHPE syllabus.

Twenty-five Personal Development, Health and Physical Education (PDHPE) teachers representing the NSW DET regions across the state participated in a professional development day (March, 2004) on implementing the new year 7-10 PDHPE syllabus (BOS, 2003). One workshop on this day, presented by the authors, involved utilising TGfU for quality teaching and addressing the outcomes of the new syllabus. This workshop was repeated in March 2005 with a similar group of PDHPE teachers, thus providing a total sample of 50 teachers.

At the conclusion of each workshop, the participants completed a questionnaire on TGfU and QT. The questionnaire was constructed to provide information on teachers’ knowledge and experience of the QT model and also of TGfU. Overall, the group had ‘general to good’ knowledge of the QT model as most were head teachers of the representative schools, but few had ‘good’ knowledge of the concept of TGfU prior to the workshop (see Table 2).

Descriptor	Knowledge of Quality teaching model	Knowledge of TGfU (prior to workshop)	Knowledge of TGfU (after workshop)
Poor		20	
General	26	20	
Good	24	10	26
Excellent			24

**Table 2. Knowledge of Quality Teaching model and TGfU of workshop participants.**

The questionnaire also provided participants with a brief definition of the three dimensions of QT and participants were then asked to suggest how TGfU might address each of the dimensions. The responses listed below are those that were suggested by ten or more respondents.

### **Intellectual quality**

- Critical thinking about the game
- Problem-solving, questioning
- Discussion and decision-making
- Analysis and understanding
- Deep knowledge
- Examining tactics as well as skill and technique
- Involvement in evaluating their performance

### **Quality learning environment**

- Student-centred, self-directed
- Actively involved (cognitively and physically)
- High participation opportunities
- Cooperative/teamwork opportunities
- Modification of games
- Ownership of ideas

### **Significance**

- Relevance to the game
- Establish meaning to the movements
- Understanding purpose of learning
- Caters for different needs and learning styles
- Concepts adaptable to other games and situations
- Utilisation of different equipment
- Student ownership of ideas

In addition to the above responses, some other notable comments from fewer individuals for each of the three dimensions included:

- Intellectual quality – ‘able to synthesis ideas’, ‘directed to think about what they are doing’ and to be able to ‘synthesise ideas’
- Quality learning environment – ‘opportunity for communication’, ‘peer teaching’, ‘non-threatening’, ‘challenging’, ‘fun’ and ‘easier for teachers to monitor students and see them displaying skills/tactics’
- Significance – ‘skills and elements of sport in relevant contexts’, ‘can achieve success’, ‘easily incorporated into assessment’ and ‘life long skill’.



There was overwhelming support for the concept of TGfU complementing the three dimensions of quality teaching. From the responses and research results, a matrix showing the relationship between the QT model and TGfU has been developed (see Table 3).

<b>Quality teaching dimensions</b>	<b>TGfU components</b>
<p><i>Intellectual quality</i></p> <ul style="list-style-type: none"> <li>• Deep knowledge</li> <li>• Deep understanding</li> <li>• Problematic knowledge</li> <li>• Higher-order thinking</li> <li>• Metalanguage</li> <li>• Substantive communication</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking</li> <li>• Problem solving</li> <li>• Focus on tactics</li> <li>• Decision making</li> <li>• Deep knowledge</li> <li>• Deep understanding</li> <li>• Communication</li> </ul>
<p><i>Quality learning environment</i></p> <ul style="list-style-type: none"> <li>• Explicit quality criteria</li> <li>• Engagement</li> <li>• High expectations</li> <li>• Social support</li> <li>• Students' self-regulation</li> <li>• Student direction</li> </ul>	<ul style="list-style-type: none"> <li>• Small-sided approach</li> <li>• Large-sided approach</li> <li>• Games for outcomes</li> <li>• Student centred, self directed</li> <li>• Actively engaged (cognitively and physically)</li> <li>• Modification of games</li> </ul>
<p><i>Significance</i></p> <ul style="list-style-type: none"> <li>• Background knowledge</li> <li>• Cultural knowledge</li> <li>• Knowledge integration</li> <li>• Inclusivity</li> <li>• Connectedness</li> <li>• Narrative</li> </ul>	<ul style="list-style-type: none"> <li>• Context of learning – tactics, rules, technique</li> <li>• Caters for ranging abilities</li> <li>• Gradual progressions</li> <li>• Concepts transferred to and from other game situations</li> <li>• Game appreciation</li> <li>• Ownership of ideas</li> </ul>

**Table 3. Matrix linking quality teaching dimensions and TGfU pedagogy**

Intellectual quality can be achieved through TGfU by effective questioning that promotes reflective thinking, decision-making and communication. The gradual progressions involved in TGfU pedagogy benefit all learners, whether they are high or low achievers, as the games and questions can be tailored to suit. Teaching games for understanding requires the learner to make the connections that lead to successful outcomes.

Quality learning environment is supported through TGfU by providing opportunities to maximise students' time on task and engagement. Students and teachers/coaches work together to solve problems and develop tactical solutions. Team/group work, collaboration

and peer learning are all encouraged. There is a focus on inclusion and development of not only skills and tactics but also game socialisation.

Significance is achieved through TGfU in that the skills, knowledge and understanding developed can be readily transferred to other games and situations. Each aspect of the game and associated skills and tactics are put into context to become more meaningful for the learner.

If the goal is to make students think, the TGfU approach to teaching games is far more appropriate than skill-based. With the tactical approach, players learn the structure of the content taught and the relationships between the concepts which comprise it and are able to transfer these concepts to other situations (Butler, 1996). TGfU allows students to understand how to use the skills they are acquiring and why they need these skills to play the game. The TGfU approach challenges teachers and coaches to understand the deep intellectual structures of playing and learning to teach a game effectively (Hopper, 2002).

### **Conclusion**

The QT model (DET, 2003) and new syllabus outcomes (Board of Studies, 2003) highlight the need for students to not only participate, but also to be cognitively involved in games. Quality teaching is about what students learn, not just about what they do. Many teachers still view a successful physical education lesson as one that has a high participation rate, is enjoyable and has minimal misbehaviour (Webb, Pearson & McKeen, 2005). However, physical education teachers must also provide opportunities for students to gain knowledge. The paper clearly demonstrates that TGfU is an approach that provides teachers to engage students in learning. The monitoring of standards and the quality of teaching performance has become very apparent in NSW public schools and requires teachers to adopt effective teaching strategies. It is essential that quality physical education has student learning as a central consideration and focuses on developing knowledge for life-long physical activity (Hickson, 2003).

The QT model suggested for public schools in NSW reinforces syllabus outcomes by requiring teachers to have deep knowledge and understanding of concepts and ideas and for students to be challenged and be engaged in critical thinking and problem solving. The learning environment needs to be structured to support student learning and involve them in the process and to achieve significance in learning outcomes, students need to see and understand the relevance of what they are learning. The central components of a TGfU approach - student-centredness and tactical questioning – fit well into this prescribed pedagogy. Whilst TGfU is not the only pedagogical model for teaching games, it is most certainly one that encapsulates the dimensions of quality teaching. There are however, many practicing PDHPE teachers that have little knowledge of the TGfU approach and the teaching strategies for successfully integrating TGfU into the curriculum. Continuing teacher training and development is required to support teachers in developing an understanding and skills necessary to utilise a TGfU approach that underpins quality teaching and the teaching of games with the new NSW 7-10 PDHPE syllabus.

### **References**

- Allison, S., & Thorpe, R. (1997). A comparison of the effectiveness of two approaches to teaching games within physical education. A skills approach versus a games for understanding approach. *The British Journal Of Education*, Autumn, 9-13.
- Australian Sports Commission. (2005). *Active after-school communities – Community coach training program*. Canberra: ASC.
- Board of Studies. (2003). *Personal Development, Health and Physical Education (PDHPE) Years 7–10 Syllabus*. Sydney: Board of Studies.
- Bunker, D., & Thorpe, R. (1982). A model for the teaching of games in secondary schools. *Bulletin of Physical Education*, 18(1), 5-8.
- Butler, J. (1996). Teacher responses to teaching games for understanding. *Journal of Physical Education, Recreation & Dance*, 67(9), 17-20.
- Crespo, M., Reid, M., & Miley, D. (2004). Tennis: applied examples of a game-based teaching approach. *Strategies*, 17(40), 27-30.
- Department of education and skills. (2004). *High quality PE and sport for young people: a guide to recognising and achieving high quality PE and sport in schools and clubs*. Nottingham: DfES Publications.
- Goodman, S. (2001). 'Game Sense Presentation notes'. Unpublished notes prepared for 1996 ACC Coaching Development workshops.
- Harrison, J., Blakemoore, C., Richards, R., Oliver, J., et al (2004). The effects of two instructional models – tactical and skill teaching – on skill development and game play, knowledge, self-efficacy, and student perceptions in volleyball, *Physical Educator*, 61(4), 186-199.
- Hickson, C. (2003). Putting education back into P.E. *International Journal of Learning*, 10, 401-409.
- Ho, W. (2003). Teaching games for understanding – model rethink from the integrated perspective, *Proceedings of the 2nd International Conference: Teaching Sport and Physical Education for Understanding (pp 26-33)*. University of Melbourne, Australia.
- Hopper, T. (2002). Teaching games for understanding: the importance of student emphasis over content emphasis. *Journal of Physical Education, Recreation & Dance*, 73(7), 44-48.
- Lauder, A. (2001). *Play practice: The games approach to teaching and coaching sports*. Illinois: Human Kinetics.
- Light, R. (2002). Engaging the body in learning: promoting cognition in games through TGfU. *ACHPER Healthy Lifestyles Journal*, 49(2), 23-26.
- Light, R. (2003a). A snap shot of pre-service and beginning teachers' experiences of implementing TGfU. *Proceedings of the 2nd International Conference: Teaching Sport and Physical Education for Understanding (pp 44-52)*. University of Melbourne, Australia.
- Light, R. (2003b). The joy of learning: Emotion and learning in games through TGfU. *Journal of Physical Education New Zealand*, 36(1), 93-99.
- Martin, A., & Gaskin, C. (2004). An integrated physical education model. *Journal of Physical Education New Zealand*, 37(1), 61-69.
- Newmann, F., & Associates. (1996). *Authentic achievement: restructuring schools for intellectual quality*. Jossey-Bass: San Francisco.
- NSW Department of Education and Training. (2003). *Quality teaching in NSW public schools*. Sydney: Professional Support and Curriculum Directorate.
- Pearson, P., & Webb, P. (2005). *Physical and Health Education teachers' knowledge and understanding of TGfU in NSW*. Unpublished paper, University of Wollongong, Australia.

- Stirling, J., & Bell, L. (2002). Effective teaching, quality physical education and the New Zealand curriculum. *Journal of Physical Education New Zealand*, 35(1), 69-76.
- The State of Queensland Department of Education. (2001). *The Queensland school reform longitudinal study final report (QSRLS)*. Education Queensland: Brisbane.
- Thomas, K. (1997a). Game Sense: What About Technique? *Sport educator*, 9(2): 32-35.
- Thomas, K. (1997b). *Game Sense Workshops; Research Project*. Unpublished Papers: The University of Newcastle, May 1997. Undertaken for the Australian Sports Commission.
- Turner, A. (1996). Myth or reality? *Journal of Physical Education, Recreation & Dance*, 67(4), 46-49.
- Turner, A., & Martinek, T. (1999). An investigation into teaching games for understanding: Effects on skill, knowledge, and game play. *Research Quarterly for Exercise and Sport*, 70(3), 286-296.
- Webb, P., & Thompson, C. (1998). *Developing thinking players: Game sense in coaching and teaching*. In, Sports Coach 1998: 1998 National Coaching and Officiating Conference, 25-28 November 1998, Melbourne Convention Centre, Victoria, Unpublished papers, Australian Coaching Council, Australian Sports Commission, 2, 610-613.
- Werner, P., Thorpe, R., & Bunker, D. (1996). Teaching games for understanding: evolution of a model. *The Journal of Physical Education, Recreation & Dance*, 67(1), 28-33.