What is Teaching Games for Understanding? A Canadian perspective.

By James Mandigo, Ph.D., Joy Butler, Ph.D., Tim Hopper, Ph.D.

"When do we get to play the game?" How many times have teachers or coaches heard this from children and youth during their classes or practices? Often, this question is dismissed as an indication that the participants do not want to work on developing and improving their skills and would rather just play a game. However, if you listen closely enough, this question may actually provide important clues into the type of knowledge and skills that students require to become competent game players. Perhaps the participants do not fully understand why they are taking part in a particular drill or activity and hence will not be able to transfer the skill back into a game. Perhaps it is an indication that the participants feel they have already practiced a particular skill and are ready play. Teaching Games for Understanding (TGfU) provides a learner-centred approach that puts the needs and abilities of the participants first over the importance of the game.

Since its introduction at Loughborough University in the early 1980's, TGfU has received considerable international attention (e.g., Butler, Griffin, Lombardo, & Nastasi, 2003; Light,

Swabey, & Brooker, 2004). As a learner-centered model of teaching, the approach is intended to provide learners with an understanding of the technical and tactical skills necessary to be successful across a wide variety of games and the motivation to continue participation. Identified as one of the original criticisms of traditional approaches to games (Werner & Almond, 1990), students were often leaving the educational system with very little knowledge of how to play games effectively and how to transfer their technical skills back into games.

In a seminal article that introduced TGfU, Bunker and Thorpe (1982) identified the following concerns with regards to students graduating from secondary schools throughout the United Kingdom:

a) a large percentage of children achieved little success due to the emphasis on performance i.e., "doing"
b) the majority of school leavers "knew" very little about games
c) the PE curriculum produced supposedly "skilful" players who in fact possessed inflexible techniques and poor decision making capabilities
d) teacher/ coach dependent performers
e) lack of "thinking" spectators and "knowing" administrators (p. 7)

Today, we would describe students such as those described by Bunker and Thorpe (1982) as being "physically illiterate". In contrast, a physically literate person is someone who:

> ... moves with poise, economy and confidence in a wide variety of physically challenging situations. In addition, the individual is perceptive in 'reading' all aspects of the physical environment, anticipating movement needs or possibilities

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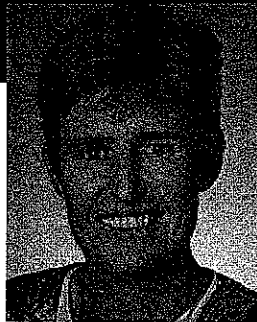
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and responding appropriately to these, with intelligence and imagination. Physical literacy requires a holistic engagement that encompasses physical capacities embedded in perception, experience, memory, anticipation, and decision making (Whitehead, 2001, p. 136).

Building upon this notion of physical literacy, Mandigo and Holt (2004) suggested that students are games literate if they (a) have knowledge and understanding that enables them to anticipate patterns of play, (b) possess technical and tactical skills to deploy appropriate and imaginative responses, and (c) are able experience positive motivational states while helping to facilitate motivation among others involved in the game. Rather than being literate in a single game, children with games literacy are able to engage with poise, confidence, and enthusiasm across a wide range of games.

The Game Categories

Games literacy is predicated upon the concept that different games can be grouped together because they contain a similar structure (Ellis, 1983). Understanding these structures allows principles of play, tactical understanding and skill execution to be learned, transferred and mastered. This in turn leads to increased game play competence (Hopper, 1998; Hopper & Bell, 2000). Rather than teaching the rules, skills, and

Teaching Games for Understanding (TGfU) was first introduced in the 1980's by Rod Thorpe and David Bunker at Loughborough University in response to the prevailing approach to teaching games. They noticed that students were unable to transfer technical skills to game play, and because the emphasis in games lessons focussed on the acquisition of skills, many children were convinced that they could not play the game. An alternative approach, steeped in humanistic approaches to physical education, is TGfU - a learner-centred model that fosters the development of physical literacy through game-centred activities designed to enhance students' game performance, cognitive responses and skill development in a positive and highly motivational setting. Research on TGfU has noted positive learning outcomes for students (Mitchell & Oslin, 1999; Turner & Martinek, 1992). Students show better understanding of tactical knowledge (Rink, French, & Tjeerdsma, 1996) and consistently report experiencing more enjoyment when this approach is used rather than typical games lessons (Lawton & Werner, 1989; Mitchell, Griffin & Oslin, 1994). This introductory article, which precedes the upcoming fall special TGfU issue, will provide you with an overview of the core pedagogical principles associated with modified games, key terms associated with TGfU and what is happening in other countries around the world and in Canada with regard to implementation. Links to existing curriculum policy documents across various provinces in Canada that show considerable support for TGfU within curriculum frameworks will also be provided.

Teaching Games for Understanding (TGfU) a été d'abord introduit dans les années 1980 par Rod Thorpe et David Bunker de l'Université Loughborough, en réaction aux approches courantes inhérentes aux jeux éducatifs. Les chercheurs ont remarqué que les élèves n'arrivaient pas à transférer leurs habiletés techniques au jeu. Puisque pendant les cours axés sur le jeu, on mettait l'accent sur l'acquisition des habiletés, beaucoup d'enfants étaient convaincus qu'ils n'étaient pas capables de jouer à ce jeu. Mais il existe une autre approche fondée sur une démarche humanistique face à l'éducation physique, soit TGfU – un modèle axé sur l'apprenant qui favorise le savoir-faire physique, misant sur des activités centrées sur le jeu pour améliorer le rendement au jeu, les réactions cognitives et le développement des habiletés de l'élève en le situant dans un contexte positif et hautement motivant. La recherche a permis d'établir que TGfU a des retombées positives sur l'apprentissage des élèves (Mitchell et Oslin, 1999; Turner et Martinek, 1992). De fait, les élèves ont une meilleure compréhension des connaissances tactiques (Rink, French et Tjeerdsma, 1996) et déclarent régulièrement avoir plus de plaisir quand on utilise cette approche plutôt que des plans de jeux typiques (Lawton et Werner, 1989; Mitchell, Griffin et Oslin, 1994). Cet article d'introduction, qui précède l'article spécial sur TGfU qui sera publié à l'automne, donne au lecteur un aperçu global des principes pédagogiques de base associés aux jeux modifiés, des termes clés du TGfU et des initiatives de mise en oeuvre en cours dans d'autres pays et au Canada. Les auteurs fournissent également des liens vers divers documents sur les politiques d'apprentissage de diverses provinces canadiennes qui appuient fortement le recours à TGfU à l'intérieur de cadres pédagogiques.

tactics of one sport, a more conceptual or thematic approach can be used to teach games through the use of four game categories, specifically, target, striking, net/wall, and invasion games and their discrete intentions.

By basing similar content areas upon a common structure (i.e., primary rules, fundamental skills, and tactical problems), teachers and coaches can collapse them into themes that represent common game components (Mitchell, Oslin, & Griffin, 2006). Examples of the essential components that are consistent within each of the four game categories are provided in Table 1 (c.f., Butler, 1997). By exposing students to the primary rules, fundamental skills, and tactical problems associated with the games in each category, students become able to participate in a variety of games, not just the ones chosen by the teacher. For example, if a student understands the basic premise behind maintaining possession of an object in an invasion game, the student will be able to play a variety of similar invasion games. Tactical solutions like use of short passes, shielding the ball, or supporting the player with the ball are transferable between similar invasion games like soccer, field hockey, European handball, or basketball.

The Model

The adoption of TGfU within sport and physical education lessons has been suggested as being one of the most effective ways to foster the development of physical literacy (Mandigo & Holt,

2004). The original curriculum model developed by Bunker and Thorpe (1982) suggested a six-step model (see Figure 1) that reverses the traditional order of teaching games. When students begin with a game based on their abilities and within a game category (Step 1), they learn about how to play a game and develop their skills within the context it provides, rather than separate from it (Thorpe, 2001). At the centre of the TGFU model (see Figure 1) is "the learner." That is to say that throughout all steps of the model, the learner's needs and developmental characteristics should be the most important consideration, so that the tasks in which the learner engages are appropriate to her/his capabilities.

The six steps of the TGfU model are as follows:

1. *Game.* The first step in the model (the game) is designed to foster an understanding of game form. At this stage, based on the developmental needs of the students the game is typically a modification of a formal game and should have a specific objective and reflect an understanding of concepts, skills and abilities pertinent to a category of games.

2. *Game appreciation.* Learners develop an appreciation for how the rules, skills and strategies all influence each other. For example, if you play badminton on a long and narrow court, there is more space at the front and back of the court than at the sides of the court. This would encourage players to hit the birdie deep to create space at the front of the court to set up for a subsequent drop-shot at the front of the court.

3. *Tactical awareness.* By participating in game-like scenarios, learners develop an understanding of important offensive and defensive tactics that assist in gaining an advantage over their opponents. For example, batting a ball behind a base runner in baseball increases the chances of advancing a runner to the next base.
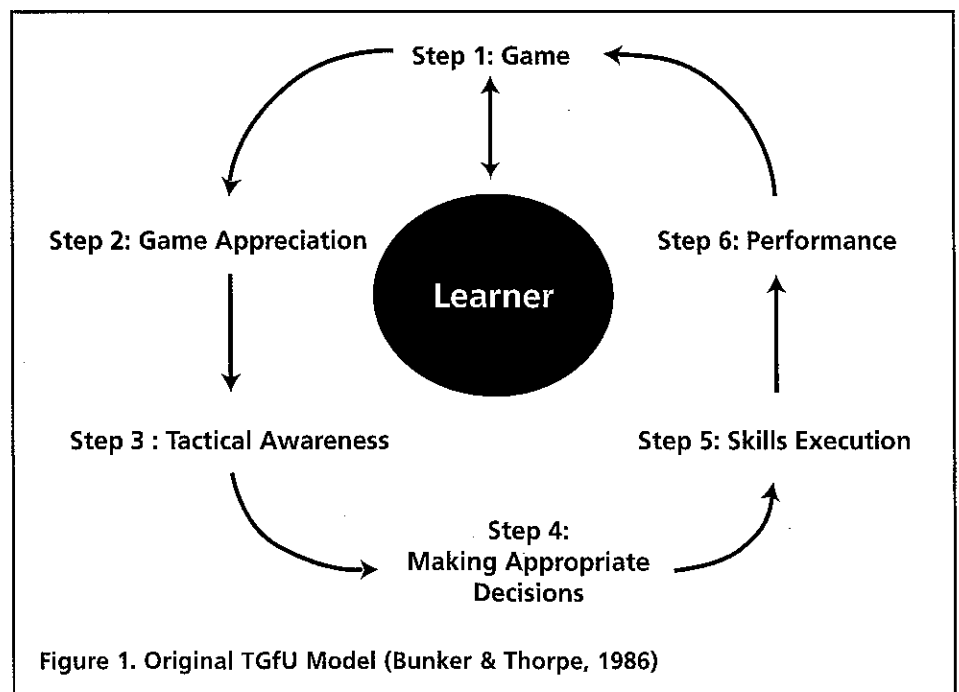

Figure 1. Original TGfU Model (Bunker & Thorpe, 1986)

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4. *Decision making.* After developing an awareness of important tactics, learners begin to understand how to make appropriate decisions within the game context. Learners are encouraged to use the knowledge they have developed through game appreciation and tactical awareness to know when and how to execute certain tactics within the game. For example, when should you dribble the ball in soccer? In the defensive zone, it can be very dangerous; whereas in the offensive zone, it can be used to create a scoring opportunity.

5. *Skill execution.* Having gone through the previous four steps, learners begin to realize the importance of proper skill execution and hence will have a context from which to develop and/or refine their current skill level. They should have realized why the skill is important, as well as how to it can be implemented in a game. In the previous badminton example, players quickly realize the need to hit an overhead clear and understand the recovery movements needed to cover the court, along with the need to be able to send the birdie short with an overhead drop. Side movement, grip, and overhead ready position all flow naturally from this awareness.

6. *Game performance.* The final step of the model involves applying the previous steps through performance in an advanced form of the game being played or making the modified game more representative of a formal game. Instructors play a major role at this step, through the provision of feedback to the learner regarding her/his execution of the skills and reinforcement of the tactical understanding previously introduced.

Pedagogical Principles
The model described above provides the framework upon which TGfU lessons are built; but how are TGfU lessons typically delivered in order to foster games literacy? Embedded within the TGfU approach are four key pedagogical principles (Thorpe & Bunker, 1997). The first principle is called sampling. This technique is used to facilitate understanding of how tactical solutions, rules, and skills transfer between games within the same games category, For example, the use of guards is an effective tactical solution to protect an object in a scoring position in a number of target games such as curling, bocce, and lawn bowling.

The second principle is that of *game representation* whereby instructors create developmentally appropriate game-like scenarios that demonstrate how to use a particular skill or tactical solution within a game. For example, instructors may choose to have participants run to only one base when first introducing the rules of a striking game such as baseball. This helps young children understand the relationship between hitting the ball and then running to a base and avoids confusion about what base to run to and

when. Once the novice learners understand this relationship, more bases can gradually be added to represent base running.

The pedagogical principle of *exaggeration* requires instructors to choose a particular focus for an activity based on game structure and then create a developmentally appropriate scenario that exaggerates the chosen concept. For example, having participants play tennis on half the court to create a long and narrow playing area exaggerates the importance of drop shots and overhead clears. Conversely, playing tennis using only the front halves of the court to create a short and wide playing area exaggerates the importance of placing the ball to the sides of the court to score points while exaggerating a recovery position in the middle to cover space.

The final pedagogical solution of tactical complexity is based upon the premise that there is a developmental progression of tactical solutions that include on and off the ball skills and movements. For example, before participants are able to create space and scoring chances on goal, they must first learn the tactical solutions associated with how to maintain possession in invasion games. (*N.B. The Fall TGfU Feature Issue of the PHE Journal will provide in-depth illustrations of how to successfully implement pedagogical principles associated with TGfU*).

TGfU in Canada
The adoption of TGfU by Canadian schools and sport organizations supports the two major policy documents guiding both of these organizations. Since British Columbia's curricular revision in 1990, physical education curricula across Canada have begun to employ more focused and accessible outcome-based approaches to student learning with an increased recognition of teaching concepts that are transferable across and within the game categories. Embedded within every provincial curriculum are general outcome statements associated with assisting children and youth to develop the

Table 1. Essential Components of Games Education

	TARGET	STRIKING	NET / WALL	INVASION/ TERRITORIAL
MAIN INTENTION OF GAME	To send away an object make contact with a specific, stationary target in fewer attempts than opponent.	To place the ball away from fielders in order to run the bases and score more runs than the opponents.	To send ball back to opponent so that they are unable to return it or are forced to make an error. Serving is the only time the object is held.	To invade the opponents' defending area to score a goal while simultaneously protecting own goal.
CONCEPTS AND SKILLS	*Sending Away* skills: drive, release, deliver	1 *Placement of the ball in field:* striking, body positioning hand positions on bat 2 *Decision Making:* observation, listening receiving and throwing 3 *Covering Bases* sprinting, ready position, moving sideways 4 *Base Running:* sliding, sprinting	1 *Spatial Awareness* throwing, catching on bounce and volley, serving and receiving serve 2 *Positioning on court* running, stopping, changing directions. 3 *Position of Body* balance, footwork, hitting the ball in relation to the body. 4 *Trajectory* throwing and catching 5 *Depth* hitting with specific force, lob shot, drop shot, spin shots, volley, drives, dig 6 *Angles* control of racquet, angle of racquet, volley, forehand & backhand	**Offensive Concepts** 1 *Keeping possession* sending, receiving, traveling. 2 *Penetration / Invasion* accurate passing and receiving, dodging, change of speeds **Defensive Concepts** 1 *Zoning, defending players in area* shuffle, change of speed, running in different directions 2 *Defending a specific player* footwork 3 *Transposition Concepts* peripheral vision, footwork, running, quick change of directions.
PLAYERS ROLES	Same skill required for all players No interaction	Variation in roles for defensive team (e.g. pitcher, catcher).	All players require same skills as they rotate positions. (E.g. all serve and receive.)	Designated goalkeeper Defensive & offensive role or player Mid-court (both roles)
PLAYING AREA	Playing area shared. Players take turns Variations from golf courses to ice sheets.	Area is shared. Offensive team has designated track to run. Running track varies.	Area is divided by a net; opposing players are separated.	Area shared by all players. Rectangular Often outdoors.
OFFENSIVE STRATEGIES	Hitting a target Archery Gold Bowling Jack Curling Button Golf hole Pool Pockets Skittles Pins	Fielding positions Forcing play Holding runner from stealing Staying on offense turn for as long as possible.	Placing ball farthest away from player(s). Placing ball close to boundary lines. Moving to volley position at net Intercepting. Anticipating. Employing spikers.	Keeping possession Moving ball/puck to specified area Rapid changing from offensive to defensive Transposition - organization of players moving from offense to defense and vice-versa.
DEFENSIVE STRATEGIES	No defensive strategies in individual games. Team games, obstacles put up to prevent own target being hit.	Stealing, Leading Tagging Up Quick and accurate receiving and sending skills.	Returning object and keeping it in bounds. Anticipating where opponents will return object.	Intercepting ball / puck before it goes over the line or into the goal. Pressurizing opponents into making mistakes. Closing down distribution options.
Examples of Games	Archery, bocce ball, bowls, bowling, croquet, curling, darts, five-pin & ten pin bowling, Golf, Pool, Pub Billiards.	Baseball, cricket, Danish longball, kickball, rounders, softball, stickball.	NET: Badminton, jai Ali, pickle-ball, tennis, table-tennis, volleyball, sepak takraw. WALL: handball, racquetball, squash.	Basketball, broom ball, field/ice hockey, football, handball, lacrosse, rugby, soccer, speedball, water polo, ultimate frisbee.

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attitudes, skills, and knowledge necessary to a healthy and active lifestyle. For example, in Alberta's physical education program of studies, the physical education program emphasizes "… active living, with a focus on physical activity that is valued and integrated into daily life" (Alberta Learning, 2000, p. 1). In Manitoba, the framework for their physical and health education program states … "that all students (should) acquire the knowledge, skills, and attitudes to become physically active, and to make health-enhancing decisions designed to improve their personal quality of life" (Manitoba Education and Training, 2000, p. 3). In Ontario, curricular expectations from the Grade 1 to 12 Health and Physical Education policy document have been designed to help students develop: (a) an understanding of the importance of physical fitness, health, and well-being, and the factors that contribute to them; (b) a personal commitment to daily vigorous physical activity and positive health behaviours; and, (c) the basic movement skills they require to participate in physical activities throughout their lives (Ministry of Education and Training, 1998). Education New Brunswick (2000) has developed outcomes to ensure that students in physical education receive "…a planned program of instruction and activity … throughout the entire year that develops skills and attitudes towards a healthy active lifestyle" (p. 1).

As these policy statements demonstrate, physical education curricula have been designed to develop physical literacy through the acquisition of the knowledge, skills, and attitudes to take part in a number of different physical activities. When TGfU is implemented using the pedagogical principles in a learner-centred manner, it offers particular promise at successfully meeting the standards and expectations of physical education curriculum across Canada.

Within the sport realm, the Canadian Sport Centres (2006) have recently adopted a new Long Term Athlete Development Plan (LTAD) that is touted as a developmentally appropriate and athlete-centred approach to fostering not only participation in elite sport, but also long term participation in sport by all Canadians. The foundation for this model is the development of physical literacy. In the same way that it can achieve desirable outcomes in schools, TGfU offers a promising pedagogical approach to the successful implementation of Canada's plan for long-term participation in sport for all. The LTAD encourages the development of skills across a number of different sports and games and, much like TGfU, encourages a developmental approach to fostering skill development and tactical awareness. Although ages are attached to the seven stages of the LTAD to provide a general guideline, developmental

readiness is stressed ahead of chronological age. Again, the link to a learner-centred approach such as TGfU offers one of the best mechanisms for the achievement of the intended objectives of the LTAD plan.

TGfU Around the World
The first international conference devoted exclusively to TGfU was hosted by Plymouth State University in the summer of 2001 and was designed to build upon the increasing interest and adoption of TGfU by scholars and practitioners around the world. Over 150 representatives from 18 different countries attended the conference to share their practical ideas and research as it related to TGfU. At that conference, it soon became clear that a number of countries had built upon the initial concept of TGfU and applied it in unique and novel ways to meet the needs of students in their country. The United States included TGfU clubs consisting of pre-service university students, and also the introduction of a modified version of TGFU called the Tactical Games approach. Scholars from Canadian universities linked the adoption of TGfU to ways to address the physical inactivity crisis and to foster healthy and positive development of the whole child. Australian scholars introduced a modification of the initial TGfU model for the purpose of coaching and called it *Games Sense*. Due to the overwhelming

popularity of soccer throughout Europe, scholars from several countries (e.g., France, Portugal, Netherlands, Czech Republic) developed an invasion games competence model that examined ways to enhance game performance in sports such as soccer and basketball. Another modification of the original TGfU model was Concept-Based Games, adopted by the Ministry of Education in Singapore as the curriculum of choice for all physical education programs. As a result of the tremendous success of that initial conference in New Hampshire in 2001 and of the groundswell of TGfU as a global movement, there have been a number of international TGfU conferences in all corners of the globe (e.g., Australia, Hong Kong, Finland). It is now Canada's turn to welcome the world, as we prepare to host the 4th International TGfU Conference at the University of British Columbia (UBC) in the spring of 2008 (www.tgfu.org/conference/conference.html).

Conclusion

As we anticipate the start of the International TGfU Conference at the University of British Columbia, it is clear that Canadian scholars have played a major impact upon the development of TGfU around the world. This is made evident by the scholarly works produced by Canadian academics and through the successful implementation of TGfU by thousands of teachers and coaches who have been exposed to TGfU in a variety of ways (e.g., undergraduate preparation, pre-service preparation, in-service workshops, local, provincial and national conferences). The special series of articles featured in the Fall issue of the *PHE Journal* is a tribute to those of you who have worked so hard to make a positive difference in the lives of children and youth. We hope that you not only enjoy the special series of TGfU articles, but also put into practice and build upon the many ideas that it offers. We hope that it provides you with the skills, knowledge, and attitudes you need to be an effective practitioner as you help the children and youth that you work with develop the physical literacy skills they need to lead healthy and active lives. ∎

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