

Using the TGFU tactical hierarchy to enhance student understanding of game play. Expanding the Target Games category

El uso de la jerarquía táctica de TGFU para mejorar la comprensión del juego de los estudiantes. Ampliando la categoría de juegos de diana

Antonio Méndez-Giménez¹, Javier Fernández-Río¹, Ashley Casey²

1 Universidad de Oviedo (Spain)

2 Universidad de Bedfordshire (UK)

CORRESPONDENCIA:

Antonio Méndez-Giménez

Universidad de Oviedo

Facultad de Formación del Profesorado y Educación

C/ Aniceto Sela, s/n. Despacho 239

33005 Oviedo (Asturias)

mendezantonio@uniovi.es

Recepción: septiembre 2011 • Aceptación: mayo 2012

Abstract

This article reviews the structural and functional elements of a group of activities denominated moving target games, and promotes its inclusion in the Teaching Games for Understanding framework as a new game category. It represents an attempt to enlarge Almond's taxonomy (1986) to make the transition from one group to another smoother. The basic idea is to modify the structural elements of games to make them developmentally appropriate. Self-made equipment is also introduced as a tool to enhance the educational possibilities of these games. It is easy to make, it reduces the risk of causing damage to an opponent, and it gives students the opportunity to invent games. Finally, the article also tries to show how this approach can be implemented in schools.

Key words: games, developmentally appropriate, homemade equipment, tactical model, shaping and inventing games.

Resumen

Este artículo analiza las características estructurales y funcionales de un grupo de actividades denominadas juegos de diana móvil. También trata de mostrar cómo se puede implementar y promover su inclusión en los centros educativos en el marco de TGFU (Teaching Games for Understanding) como una nueva categoría táctica de juegos. Representa un intento de ampliar la taxonomía de Almond (1986) para hacer más suave la transición hacia los grupos de juegos más complejos. Además, proponemos modificar los elementos estructurales de estos juegos deportivos como estrategia para ayudar a los profesores a dar forma a actividades lúdicas que se ajusten mejor al nivel de desarrollo de todo el alumnado. Centrándonos en la modificación del equipamiento, defendemos el uso de material autoconstruido como una herramienta para mejorar las posibilidades educativas de este tipo de juegos. Los motivos son múltiples: es fácil de crear, reduce el riesgo de causar daño a un oponente, y ofrece a los estudiantes la oportunidad de inventar juegos.

Palabras clave: juegos deportivos, desarrollo, material autoconstruido, modelo táctico, invención de juegos

Introduction

Games dominate the world-wide context in which, and through which, physical education is taught. Despite this, a large number of leading academics and experienced classroom teachers have argued that the way they are taught in schools is not always educative or inclusive. According to Werner, Thorpe, and Bunker (1996:29-30) “the games experience in schools should not be simply a summation of playing several games, but rather a continuous experience through the school years in which experiences are selected to provide progression and balance”. Others, such as Kirk (2010), Lawson (2009), Locke (1992), Metzler (2005) and Siedentop (2002), have gone further and suggested that current practice in physical education is not always or often ‘fit for purpose’. Indeed, the state of physical education - as personified by the prevalence of games in our curriculums - has seen students suffer significantly negative experiences (including alienation and embarrassment) to the extent that authors such as Ennis (1996) have suggested that more than apologies are necessary.

This failure to teach games in their natural context and to instead rely on teaching techniques in isolation lead to both Bunker and Thorpe (1982) and Siedentop (1982) to write their seminal texts on *Teaching Games for Understanding* (TGfU) and *Sport Education*, respectively. It also prompted Almond (1986) to present a games classification system that identifies four game forms: target, fielding/run scoring, net/wall, and invasion. The aim of this categorisation was to aid teachers in offering their students a balanced games experience across their physical education classes. Within Almond’s classification, the category of target games includes very different activities such as golf, croquet, bowls, billiards, curling, and pool. The common characteristic of all of these is that the “target” is stationary and the player or players must hit it with or without the help of another object. Hastie (2010) recently categorised these as the easiest games, since they are less complex in nature and require a lesser degree of spatial understanding.

Nevertheless, based on Ellis’ work (1983), within this category of games, two sub-groups could be differentiated: unopposed games (e.g. bowling and golf), and opposed games (e.g. bocce, croquet, and curling, etc.). According to the tactical model of teaching games in school (Werner et al., 1996) this genre of games involve basic tactics and skills and should be taught first. However, Bell (1983) felt that the latter sub-set could be considered to have a higher level of complexity and could, therefore, be viewed as a natural pro-

gression from its simpler cousins. Werner et al. (1996) indicated that after target games students should be exposed to fielding/run scoring games. These games require different attacking and defensive tactics with a varying degree of interaction among players. Consequently, the level of game complexity rises rapidly as students are required to deal with moving targets (in terms of the delivery of the ball) and obstacles to their success (in terms of bowlers and fielders). As a direct result, the progression and balance of the game experience of learners is, for less able players, quickly compromised. Indeed, as we argue in this paper, there seems to be a gap between the target games and the fielding/run-scoring categories that needs to be filled with a category of games that shares some characteristics with both groups.

Certainly, there are some games that share basic features with the target games, but represent a step further, because they require the students to hit a moving object. These games are played in interacting groups or teams, which means that students must develop and use attacking and defensive tactics. Therefore, they should be considered as an additional, and more developmentally appropriate, progress in terms of game complexity, and could be presented to students before fielding/run-scoring games.

However, some of these games are not without their critics and some have engendered, and still do engender, debate about their suitability for physical education. Tag ball games like dodgeball have been included by authors such as Williams (1992:57) in the physical education hall of shame, because they “have limited physical activity, require little training or pedagogical skill to teach, barely promote any of our major goals, or single students out for potential embarrassment in front of their classmates”. Furthermore, Maurer (2006:7) believes that in this game: “skilled students learn to dominate, hurt, humiliate, embarrass, upset, degrade, and overpower lesser skilled students”.

However, while these denouncements might stand as irrefutable reasons to ban this type of game in the school system, we argue that maybe they should be given another chance. Many authors, not least of who are Almond, Bunker, and Thorpe (1986), Kirk (2010) and Siedentop (2002) have criticised the teaching of adult versions of games to children as young as five. If we are arguing that children should experience games free from the need to conform to adult expectations of ready-made games, as Casey and Hastie (2011) recently argued, then modification is key here. Instead, as Deutsch (2007:48) has pointed out, “activities can be modified such that their variations have 100% participation, never set a student up for embarrass-

ment...". Perhaps, it is a matter of the way teachers use and teach this activity, and not the activity itself. A very popular sport in schools such as basketball can also be frustrating, embarrassing, or degrading for low-skilled students when they have to face their high-level classmates in unbalanced matches.

Do tag ball games teach anything to students?

There is an on-going debate about the appropriateness of certain games that have at their core human targets. Different authors have raised serious doubts about the suitability for educational contexts of games that use humans (students) as targets. Some researchers (Maurer, 2006; Williams, 1992; 1994) believe that this type of games should be banned from physical education because of the negative elements they include: exclusion, harm, or shame.

Many teachers still claim that it is unethical to teach children games where they have to aim at their classmates. They seem to forget that in many sports, athletes have to aim at definite body parts of their rivals: a basketball player can throw the ball at the legs of a member of the other team to make it go out of bounds and a volleyball player tries to hit the outside hand of the other team's block. Similarly, athletes have to avoid being hit by a ball: football players move to let a ball go away, baseball players jump over the ball to get to second base. Furthermore, in sports such as rugby or American football the player holding the ball is the target for the other team, while he/she tries to avoid being tackled. In martial arts, competitors try to dodge the opponent's kicks and punches. Therefore, it seems appropriate to teach students how to avoid a ball (made with soft material) or a player from the other team that it is coming directly at them. In this regard, tag ball games are best utilised to teach our students these specific skills.

In addition, other authors have ascribed several positive aspects to these tag ball games. Both, tag and tag ball games increase students' enjoyment and enthusiasm, while developing students' conditioning, basic locomotor and game-performance skills (Deutsh, 2007; Hanrahan & Carlson, 2000). Tag ball games can be used as perfect lead-up activities for any kind of sport: tactics and strategies such as being balanced and ready to move, use different fakes when avoiding tags, and dodging quickly and unexpectedly (Belka, 2006). Tag ball games help develop different skills that could be used in other settings. Therefore, they are considered activities that can enrich students' overall level of performance (Jackson, 2001).

From these researchers' point of view, tag ball games are very valuable for physical education, because they can develop a wide array of movement skills.

The issue is that teachers must make their goals clear and unambiguous when they use this type of games. As Belka has stated (2006:35): "if a tag game is used for warm-up and fitness purposes, the teacher should avoid any claim that the game is developing tactics that will transfer to other team games". On the other hand, if the latter is the goal, the game should be modified to fit the needs of the students: no elimination, small groups, and focusing on offensive and defensive skills.

Tag ball games, like any other content in physical education, are not innately positive or negative by nature. Instead, the teacher's actions turn one activity into a positive or a negative experience depending on the way he/she delivers it to his/her students. Even researchers such as Williams (1994:19) believe that: "Tag games, when structured correctly can be a great addition to a physical education curriculum. They can teach motor skills, locomotor patterns, teamwork, strategy, honesty, and sportsmanship...". So why are we not using these types of games in school settings?

A new category of games: Moving Target Games

As stated in the introduction, there is a gap in the framework established by the tactical model of teaching games. According to this model, students are first introduced to target games, which are the simplest ones. Within this category, Ellis (1983) and later Mitchell, Oslin, and Griffin (2003) distinguish two sub-categories: unopposed games (bowling, golf, archery or darts), and opposed games (bocce, croquet, curling, shuffleboard, or billiards). Unopposed target games consist of the participant performing independently of their opponent while still sharing playing space. Opposed target games allows the participant to counterattack a move that has been made, such as taking out an opponent's rock in curling or blocking a shot in bocce. The latter involves basic tactics skills, which could be considered at a higher level of complexity than their unopposed counterparts. Subsequently, students should have the opportunity to experience unopposed target games first and opposed target games later.

According to the original step-by-step process, the next progression should be the fielding/run-scoring games. The problem is that this type of games requires attack and defence tactics due to the interac-



Figure 1. Almond's Games Taxonomy Enlarged.

tion among players. Therefore, they represent a much higher level of difficulty for students, which make the shift from class one to class two very hard. We strongly believe that tag ball games can make this difficult shift much easier. They can make this gap smaller and make the transition process between the two categories smoother. This new category could be called "Moving Target Games".

Several reasons support the proposal of creating this new category of games within the framework of the understanding approach to the teaching of games (Bunker & Thorpe, 1982). There is a large number of games under the label "tag games" that are very popular in schools around the world. These tag games share in common actions such as "chasing, fleeing, and dodging" (Belka, 2006:35). Moreover, they hold a long tradition of usage in physical education, and they could be considered the precursors of a group of games, whose target moves from one place to another being chased by a ball.

These moving target games have been played by children for hundreds of years and all over the world. A few examples of these traditional games are: "British bulldogs" (UK), "gaga ball" (Israel), "filling the bottle" (Zimbabwe), "deweke" (Botswana), "matangululu" (Namibia), "cheia" (Mozambique), "abki" (India), and "cara o cruz" and "balontiro" (Spain).

Some of these games have been officially recognized as sports. They have organized themselves in associations that have established the rules and which celebrate national and international championships. They even use specially designed equipment that can be purchased in stores. That is the case for Dodgeball (USA and Canada), Rock-it-ball (England), or Tagball (USA). These types of games demand high cognitive, perceptual, and psychomotor effort from the players,

since they possess many tactical and strategic possibilities. They are played by a group of players that face another group of players who have at the same goal, i.e. scoring points.

All of these games share offensive and defensive skills and tactics that can be learned and transferred from one game to another. We are talking about abilities such as dodging, faking, speeding and stopping, catching, moving away or closer to a ball or an opponent, or throwing. They are locomotor and non-locomotor skills that can be used in any sort of physi-

Deweke (Botswana). The player in the middle tries to introduce all cans scattered on the ground into a bucket. He/she must use the feet to achieve the goal without being tagged by the hunters located on the end zones. In the game "filling the bottle" (Zimbabwe), the central player tries to fill a bottle with sand using his/her hands without being tag with a ball. In the game "cheia" (Mozambique), the defensive team tries to collect six cones (one by one), and place all of them one on top of each other without being tagged.

Balontiro (Spain). Each team starts on one side of the playing field. One member of each team is situated at the opposite end zone: the cemetery ("cementerio"). The main goal of the game is to throw the ball to tag the other team's players. The player tagged must go to the cemetery to continue playing. He/she can returns to his/her starting playing place by shooting the ball to an opponent. Therefore, his/her teammates must decide whether to pass the ball to his teammates in the cemetery, pass it to better located teammate, or throwing it directly at an opponent.

Figure 2. Rules of a couple of traditional moving target games.

cal activity. Furthermore, these same skills could be transferred to “more complex” sports within the tactical taxonomy such as baseball, tennis, volleyball, or football. Therefore, those activities could be considered lead-up games for more difficult games such as fielding/run-scoring, net/wall, and invasion.

Such games can promote a lifelong appreciation of physical activity, because they require different skills which once learnt can be used outside physical education settings, and into the adult life.

Furthermore, they are simple games. They are easy to organize, because they require little equipment (no baskets, goals, nets, or walls). They can be very motivating for students because of the aim of moving fast while chasing other children or trying to hit a moving target. Finally, like any of the games belonging to the other categories, they can be easily modified to meet the educational needs of the students or the contexts where they are going to be experienced.

All these reasons support the idea of a new category of games called “Moving Target Games”. It should be positioned between the target games and the fielding/run-scoring games categories.

Furthermore, there is an extra reason why teachers should consider including moving target games in their physical education classes. If they do not teach “dodgeball-type” activities, students will play them, anyway, during their free time, and without appropriate safety considerations. Therefore, teachers not only have the duty of showing their students how to use those games securely, they must do it through a developmentally appropriate approach. Many universities hold intramural competitions of tag ball games such as dodgeball. Moreover, countries like England have professional leagues of this same game.

In the second section of the article, we will review the main features of this type of games to show the reader how to implement them in physical education settings.

Key elements of the Moving Target Games category

There are several key elements that constitute the essence of these games. Let’s take a look at them:

Equipment. Traditionally, deflated balls from other sports such as volleyball or soccer were used to play these games. Nowadays, gatorskin balls or foam balls are being used to minimize the possible harm. Furthermore, specific equipment for dodgeball or rock-it-ball is also being commercialized. Finally, teachers could also have students build their equipment using

recycled materials (paper, tape, cardboard, bubble wrap, etc.). In the rock-it-ball game, a stick-like instrument with baskets on both ends is used. It is very similar to the one used in lacrosse or intercross, and players use it to pick up the ball from the floor, pass it to a teammate or shoot it.

Target. It could be a specific object (balls, cones, baskets, etc.) or a person (any part, or a specific part). There could be just one or several targets in the same game to expand the possibilities of the game. The targets could be fixed during the whole length of the match, during a limited period of time or switch continuously.

Playing field. Both teams can share the same field or they can be separated in different fields. Moreover, in rock-it ball, both teams start in separate fields, but they end up sharing the same field. Finally, in gaga-ball the playing field is surrounded by walls 1-meter high that can be used to make the ball bounce off them.

Players. These games are usually played in teams. The exact number of individuals on each side depends on the specific rules of each game.

Duration. Some games finish when one team has scored a certain number of points, while others do it when the scheduled time comes to an end.

Rules. All participants share the same two roles: pursuer and pursued. Both of them can take place simultaneously or alternatively. Similarly, a player can switch from one role to the other during the same game or stay with just one role until the end.

Skills. Different types of skills can be developed through these games. Basic locomotor skills such as walking, running, hopping, jumping, sliding, skipping or galloping are involved. Specific locomotor skills such as dodging, faking, or balancing, and manipulative skills such as throwing and catching or dribbling are also worked on.

Tactical principles. We believe that moving target games share four basic tactical principals: being balanced and ready to move, using a variety of fakes, changing speed and direction suddenly and quickly, and being alert (Belka, 2006). Furthermore, there are several offensive tactical principles: finding the best position to shoot, deciding the best type of throw to be used, shooting with accuracy or with power, passing to a teammate that holds a better position, or placing oneself to encircle the opponents. Similarly, there are a few defensive tactical principles: moving away from the pursuer quickly, finding the best route to avoid being hit, changing directions and speed, and deciding to run, dodge the ball, use it as a shield or catch it.

Facilitating learning through game modifications

Several authors (Belka, 1999; Deutsch, 2007; Townsend et al., 2006) consider that there is a real need to modify certain games that have been placed in the “physical education hall of shame” to be banned from educational contexts (Williams, 1992, 1994). Tag games, precursors of Moving Target Games, have been questioned because they favour highly-skilled students, they embarrass certain students, and they do not provide enough participation for the students that are eliminated. Nevertheless, if we take a close look at what happens in many physical education classes with sports such as basketball or volleyball, we could see favouritism, embarrassment, and elimination, too. Maybe, it is not a question of avoiding or banning a game, but rather modifying it to make it educative. There is a true need for modifying activities such as dodgeball to make them enjoyable and beneficial for everybody. Let’s see how a teacher can modify Moving Target Games to reach their full educational potential.

Equipment. One of the key aspects of these games is the usage of materials that diminish the impact on the opponents in order to avoid any pain, damage, or harm. As we have stated earlier, commercialized soft balls (foam, gator-skin) work really well, but teachers have the chance to help students build their own soft equipment. They can use recycled materials such as paper, cloth or sponge to make smooth balls. Moreover, during the process of constructing their own material, students will be able to develop a linkage to the game, and lose part of the fear of the game. On the other hand, the size of the ball is crucial. It is essential to find the right size for the students that are going to use it, and for the goal that the teacher is trying to achieve. Homemade balls can facilitate this process. Generally, small balls make the game more challenging, while bigger balls make it easier.

Implement. Once again, homemade equipment opens a window to the students’ creativity. They can build their own implement just like the original one, or they can create variations according to their needs and interests (Fernández-Río & Méndez-Giménez, 2012).

Target. This is the focus of all the critics to these games. Therefore, it should be modified to increase students’ safety. The first option could be to select the part or parts of the body that can be the target (for example: below the waist, the legs, the back). The second option could be to substitute a body part for something that the student carries (for example: a basket on the back, see fig. 4). The third option could be to set the target outside the student’s body (for example: a towel with holes of different sizes carried by

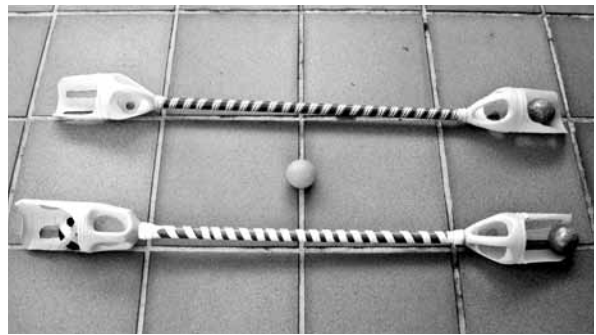


Figure 3. Rock-it-ball homemade equipment.

two students). Finally, the students could wear a shirt with a piece of velcro, and throw balls covered with the same type of material.

Playing field. Its dimensions should be adjusted to the uniqueness of the students that are going to play. Larger spaces make the target more difficult to achieve. On the other hand, in smaller spaces or with a high density of students teachers should try to lower the speed of the players’ movements (for example: allowing walking only instead of running).

Players. This is another traditional negative element of tag games. To avoid “competent bystanders” (Tousignant & Siedentop, 1983) or to increase the academic learning time (Metzler, 1979), the number of students participating in a game should be reduced. Teams should be equally balanced regarding strength, endurance, or speed of their members. The numbers of students chasing or being chased should also be adjusted to avoid endless, boring, or too strenuous games.

Duration. Teachers must control the length and/or the progress of a game to make students experience both types of roles (pursuer and pursued). Students’ participation in both types of roles during the game should be balanced to avoid negative feelings.

Rules. Their revision is one of the key elements that can turn these games from banned to suitable for physical education contexts. Some possible changes could be: throwing the ball underarm, rolling on the floor, and/or bouncing before it reaches the opponent, penalizing hard throws, and, very importantly, avoiding elimination. The goals should be to minimise the possibility of humiliation and the risk of harm, to restrict violent behaviour, and to generate a climate of respect among contenders.

Skills. Teachers should force students to change the type of skills that they generally use while playing any of these games. Instead of running and/or walking, they should use hopping, sliding, or skipping. Instead of the simple over-arm throw, they should use under arm, bounce, or roll throws. Finally, they could hit the

ball with the hand or implement instead of throwing it to the target.

Tactical principles. One way of helping students enjoy these types of games and progressively achieve an appreciation of them is to limit the number of tactical elements that they must consider while playing. A small number of players, a bigger ball, or the rule of walking instead of running will help students learn how to play the game with fewer tactical principles to attend. On the other hand, one way of increasing the level of complexity of certain games is to convert them from two-team games into three-team games (Navarro, 2006). This way, participants should be forced to attend to several sources of information while playing, which makes things much more difficult.

Summary

The moving target games category comes to supplement Almond's taxonomy (1986), while expanding the target games genre. These games do not produce negative or positive effects in students by themselves. It is the way they are delivered by teachers that makes them educational or not. This contribution has clear pedagogical and curricular implications. Teachers should design developmentally appropriate tasks to include this type of games in their physical education programs. The goal should be to develop dodging and evasive skills in students that they could use in more complex games, while practicing basic skills such as throwing or catching.

REFERENCES

- Almond, L. (1986). Reflecting on themes: A games classification. In R. Thorpe, D. Bunker & L. Almond: *Rethinking games teaching*. Department of Physical Education and Sport Science (pp. 71-72). University of Technology: Loughborough.
- Belka, D. (1999). Games to consider avoiding. *Teaching Elementary Physical Education*, 10(3), 12-14.
- Belka, D. (2006). What do tag games teach?. *Teaching Elementary Physical Education*, 17(3), 35-36.
- Bunker, D. & Thorpe, R. (1982). A model for the teaching of games in the secondary schools. *The Bulletin of Physical Education*, 18(1), 5-8.
- Casey, A., & Hastie, P. (2011). Students and teacher responses to a unit of student-designed games. *Physical Education and Sport Pedagogy*, 16(3), 295-312.
- Deutsch, J. (2007). From hall of shame to hall of fame: transforming traditional elementary activities. *Missouri Journal of Health, Physical Education, Recreation, & Dance*, 17, 48-52.
- Ellis, M. (1983). Similarities and differences in games: a system for classification. Paper presented at the AIESEP Conference, Rome, Italy.
- Fernández-Río, J. & Méndez-Giménez, A. (2012). Innovative practices through the use of self-made materials. The cooperative learning model in Spain. In Dyson, B. & Casey, A. (2012). *Cooperative Learning in Physical Education: A research-based approach*. (pp. 42-56). London: Routledge.
- Hanrahan, S.J. & Carlson, T.B. (2000). *Games Skills. A Fun Approach to Learning Sport Skills*. Champaign, IL: Human Kinetics.
- Hastie, P. A. (2010). *Student designed games: Strategies for promoting creativity, cooperation, and skill development*. Champaign, IL: Human Kinetics.
- Jackson, S.L. (2001). *Dodge ball vs. dodge ball activities*. SportaPolis. <http://www.sports-media.org/Sportapolisnewsletter6.htm> <http://www.sports-media.org/Sportapolisnewsletter6.htm> [Last visit May 2008]
- Kirk, D. (2010). *Physical Education Futures*, London: Routledge.
- Lawson, H.A. (2009). Paradigms, exemplars and social change. *Sport, Education and Society*, 14, 77-100.
- Locke, L. (1992). Changing secondary school physical education. *Quest*, 44, 361-372.
- Maurer, M.R. (2006). What if dodgeball had its own national standard? *Teaching Elementary Physical Education*, 17(1), 6-7.
- Méndez-Giménez, A. (2003). *Nuevas propuestas lúdicas para el desarrollo curricular de Educación Física* [New games proposal for the curricular development in Physical Education]. Barcelona: Paidotribo.
- Metzler, M. (1979). *The measurement of Academic Learning Time in physical education*. Doctoral dissertation, The Ohio State University. Ann Arbor, MI: University microfilms, No 8009314.
- Mitchell, S., Oslin, J. & Griffin L. L. (2003). *Sport foundations for elementary physical education: A Tactical Games Approach*. Champaign, IL: Human Kinetics.
- Navarro Adelantado, V. (2006). Del juego al deporte. Discusión estructural, antropológica y pedagógica, en *Juego y deporte en el ámbito escolar: aspectos curriculares y actuaciones prácticas*. [From game to sport. Structural, anthropological and pedagogical discussion, in *Game and sport in schools: curricular and practical actions*] (pp. 67-107). Madrid: MEC-Instituto Superior de Formación del Profesorado.
- Siedentop, D. (2002). Content knowledge for physical education. *Journal of Teaching in Physical Education*, 21, 368-377.
- Tousignant, M., & Siedentop, D. (1983). A qualitative analysis of task structure in required secondary physical education classes. *Journal of Teaching in Physical Education*, 3, 47-57.
- Townsend, J. S., Mohr, D. J., Waronsky C. C., & Grana, M. M. (2006). Non-elimination tag: A multidisciplinary approach. *Teaching Elementary Physical Education*, 17(1), 35-36.
- Werner, P., Thorpe, R., & Bunker, D. (1996). Teaching games for understanding. Evolution of a model. *The Journal of Physical Education, Recreation, and Dance*, 67(1), 28-33.
- Williams, N.F. (1992). The physical education hall of shame, part I. *The Journal of Physical Education, Recreation, & Dance*, 63(6), 57-60.
- Williams, N.F. (1994). The physical education hall of shame, part II. *The Journal of Physical Education, Recreation, & Dance*, 65(7), 17-20.