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# TEACHING GAMES FOR UNDERSTANDING (TGFU) AS A POSITIVE AND VERSATILE APPROACH TO TEACHING ADAPTED GAMES

**Kendall Jarrett***
Canterbury Christ Church University
**Serge Eloi**
Universite Paris-Est Creteil
**Stephen Harvey**
West Virginia University

*Corresponding author: Kendall Jarrett, Department of Childhood Studies, Canterbury Christ Church University, Canterbury, Kent UK CT11 1QU, E-mail: kendall.jarrett@canterbury.ac.uk, Phone: +44 1227 767700 ext 3284,

This paper presents a small scale research project that focused on pre-service physical education (PE) teachers' and sports coaches' considerations of using Teaching Games for Understanding (TGfU) to teach games. A research design akin to action research was adopted whereby pre-service PE teachers and sports coaches (n = 72) completed a one-off 90 minute introduction to wheelchair rugby league utilising a TGfU approach. Data were generated through end of session whole-class reflections, semi-structured individual interviews undertaken (n = 3), and post session first-author/primary practitioner reflections. Data analysis was conducted via inductive coding procedures and revealed three themes: 1) TGfU as a positive pedagogy; 2) TGfU as a versatile approach, and 3) significance of content within a PE Teacher Education programme.

*Key Words: Adapted sport, TGfU, pedagogy, curriculum, physical education*

## INTRODUCTION

The teaching of games in primary and secondary school physical education (PE) has been described as a 'central part of school life for pupils of all ages' (Ofsted, 2013). Such a statement places considerable responsibility on the shoulders of future physical educators and sports coaches to maintain and (where required) develop the quality of games teaching provided to pupils. Arguably, it is also the educators and trainers of future PE teachers and sports coaches that share this responsibility. Programmes that educate and train those that will be involved in the teaching of games to pupils, thus, should be committed to developing awareness of effective instructional practices that ultimately continue to challenge the status quo of games teaching in schools. As tertiary educators of the next generation of PE teachers and sports coaches, the authors of this article agree with comments made by Zhang, Ward, Li, Sutherland and Goodway (2012) in that 'providing evidence of effective instructional practice is an important obligation that researchers owe teachers' (p. 71). In light of this statement and in recognition of the responsibilities the authors have as educators and trainers, this study focused upon developing pre-service PE teachers' and sports coaches' awareness of Teaching Games for Understanding (TGfU) as a pedagogical model to be used when teaching games.

According to Johnson (2012) experiencing different pedagogical models when undertaking different activity courses (e.g. using a TGfU approach to teach a volleyball activity course within a physical education teacher education (PETE) programme) is vitally important to the overall development of pre-service teachers and sports coaches' pedagogical knowledge. Of equal importance is that new instructional strategies offered within PETE programmes are subject to empirical verification within different teaching and

learning contexts (Zhang et al. 2012). Without this dedication to research and relevant dissemination of findings, advancements in PETE programmes (and the up-skilling of future physical educators and sports coaches) may be restricted.

As intimated by Harvey and Jarrett (2013) research exploring the use of TGfU (and other game based approaches to teaching games) within specialised and unique contexts is extremely limited. For example, there is a lack of empirical research exploring the use of a TGfU approach when teaching adapted sports. This lack of association between TGfU and teaching adapted games is highlighted within Hodge, Lieberman and Murata's (2012) text *Essentials of Teaching Adapted Physical Education*. Although an entire chapter was devoted to curricular models and instructional methodologies, the appropriateness and/or use of game based approaches was not mentioned. This lack of scholarly activity devoted to exploration of game based approaches to teach adapted sports, however, reflects an overall lack of research into pedagogical approaches within the adapted physical activity field. For example, in their review of adapted physical activity (APA) literature between 2006 and 2010 Karkaletsi, Skordilis, Evaggelinou, Grammatopoulou and Spanaki (2012) highlight that out of 99 articles reviewed only two had a scientific area of focus relating to pedagogy. Arguably this lack of text-based guidance and/or empirical research relating to the use of game based approaches within specialised and unique contexts can have significant impact upon PETE programme content as well as pre-service PE teachers' and sports coaches' development into effective and resourceful games teachers.

Although it is beyond the scope of this research project to make judgements on the lack of pedagogical research within the field of adapted physical activity, this article is intended to be a starting point for further discussions about the use of a TGfU approach to teach games in a variety of specialised and unique contexts (e.g. teaching adapted sport as part of general PE provision in schools) as well as the teaching and learning of pedagogical models within PETE programmes.

As an integral part of any commitment to the provision of an effective and inclusive learning environment, an understanding of inclusion protocols (such as the planning of developmentally appropriate learning experiences suitable for *all* pupils) should be an important and routinely developed aspect of PETE programming (Crawford, O'Reilly & Flanagan, 2012). Yet, as numerous research articles have stated, many PETE graduates do not feel competent and/or adequately supported when teaching students with a range of abilities (Klavina & Kudlacek, 2011; Haycock & Smith, 2010). The adequacy of PETE programmes in developing competent and effective physical educators continues to attract research attention (see Fletcher, Mandigo & Kosnick, 2013) but according to Konza (2008) newly qualified physical educators are still continuing to 'struggle with the tension between accommodating the special needs of some students and disadvantaging other students' (p. 43). It has been suggested, however, that by developing PETE programmes that include a focus on the use of more constructivist pedagogies e.g. TGfU (Culpan, Draper & Stevens, 2011), deficiencies in PETE programmes can be addressed.

Johnson (2012) has also suggested that by providing a greater emphasis within PETE programmes on the significance of PE curriculum content, a more diverse and inclusive curriculum may result e.g. greater pupil access to adapted sports such as wheelchair basketball or sitting volleyball within general PE curricula. **Historically, such opportunities to engage in adapted sport have been limited** with anecdotal evidence reflecting minimal incorporation of non-traditional games (e.g. tchoukball) and/or adapted sports into general primary, secondary and tertiary (i.e. university) PE curricula. Arguably this strong commitment by PE teachers to prioritise traditional team games within a general PE curriculum has the capacity to limit overall pupil inclusion. Yet there is evidence suggesting that engagement in a diverse curriculum can have a number of physical, psychological and affective benefits ranging from increased levels of physical activity (Mears, 2008) to increasing pupils' motivation,

enthusiasm and participation (Sutliff & Ottrando, 2006). In the United Kingdom proposed changes to the England and Wales National Curriculum of Physical Education outlined by the Department of Education (2013) support pupils' access to a diverse range of games/activities within general PE curricula. Thus, in the United Kingdom at least, PE teacher educators and sports coach trainers (and the PETE programmes they provide) have an ever increasing responsibility to prepare graduates capable of offering (and teaching/ coaching) a diverse curricula.

**Teaching Games for Understanding**

Learning that focuses on 'how' a skill should be performed has arguably been a recurring theme within PE learning environments for generations. However, it has been argued by scholars such as Bunker and Thorpe (1982) and Deleplace (1979) that a traditional technique or skill-focused approach (also known as a teacher-centred approach) 1) offers a focus on performance which can alienate a large proportion of learners from experiences of achievement, 2) leaves learners knowing little about games, 3) develops limited decision making capacity, and 4) develops instructor-dependent performers. Such admissions led to the development of globally contextualised game based approaches to teaching games, such as Deleplace's Pédagogie des Modèles de Décisions Tactiques (Tactical Decision Making Model) in France and Bunker and Thorpe's development (in England) of the Teaching Games for Understanding (TGfU) model.

Developed and refined over the past three decades, TGfU is a step-by-step six stage procedural model designed for use by physical educators and sports coaches to develop skilful games players (Griffin & Patton, 2005). The model places the 'student in a game situation where tactics, decision-making, problem solving and skill is developed at the same time' (Webb, Pearson & Forrest, 2006, p. 1). The essence of utilising the TGfU model 'allows teachers to place skill development tasks within the context of games' and that the facilitation of dialogue opportunities amongst and after game play 'enables pupils to intellectualize the concepts and strategies inherent in games and even transfer concepts from one game to another' (Wright, McNeil & Butler, 2004, p. 47). Of significant importance in the delivery of learning opportunities within a TGfU structure is the notion of 'getting the game right' so that pupils 'think more about, and within, the game' (Harvey, 2009, p. 7). This then has the potential to enhance development of psychomotor, cognitive, affective and social skills relevant to game play.

According to Gréhaigne, Godbout and Bouthier (2001) student centred approaches to learning (such as TGfU) have the capacity to enhance engagement in peer discussion and in-turn promote development of cognitive aspects of performance. The questioning of participants in relation to their understanding of performance is a key pedagogical feature of TGfU and is designed to support learning by getting participants to recognise and acknowledge experiences of success and to formulate action plans for future practice.

When utilising a TGfU approach four pedagogical principles also help shape game design. Griffin and Patton (2005) offer the following explanations for each principle: Sampling - exposure to different game forms to help learners transfer their learning from one game to another; Representation – the use of condensed games that have a similar tactical structure to the advanced form of the game; Exaggeration – the changing of specific rules to overstate a specific tactical problem (e.g. changing the dimensions of the playing surface); and Tactical Complexity – the use of developmentally appropriate games to match learners' abilities. Using these principles to shape pupils' learning of games can be challenging, especially if those charged with teaching games (e.g. PE teachers and sports coaches) have limited contextualised experience of being taught the same way (Collier, 2009). Thus, the effective modelling of pedagogical practice within PETE programmes should be considered vitally important to both teacher, coach and pupil games learning.

This article's focus on TGfU and its use within a PETE programme seeks to continue the tradition of effective modelling of pedagogical

practice in PETE provision but also responds to calls made by Collier, Oslin, Rodriguez and Gutierrez (2010) for the inclusion of a more holistic approach to teaching pre-service PE and sports coaching students. As research by Light and Georgakis (2007) suggests, the modelling of TGfU (and other game based approaches such as Game Sense) within PETE programmes can have significant impact upon pre-service teachers' confidence when teaching games. Thus, by sharing associated research into pedagogical practice within a PETE programme the authors of this article hope to 'bring into focus' further consideration of TGfU as a model to teach games.

**Wheelchair Rugby League (WRL)**

Conceptualisation of WRL began in France in 2000 as part of a 'Téléthon' event designed to raise money for research into combating muscular dystrophy organized by the French Association against Myopathy (AFM). As a sign of solidarity amongst athletes with and without disabilities, a weekend of sports challenges was organised. As a result two rugby league players, Robert Fassolette and Wally Salvan, from the Vichy Club developed the idea of WRL - a sport created as a competitive meeting place for two populations of athletes with the primary goal of developing a sport for *everyone*. From the beginning, WRL was thought of as an open activity for males and females of all ages, with and without disabilities.

Contrary to 'murderball' or 'quad rugby', WRL is played with a size 4 rugby ball which may only be passed by hand backwards. The aim of game play is to score a try by grounding the ball in the opposition's in-goal area or on the goal line. Faithful to the parent running game, any player tackled (in WRL this means striped of a shoulder tag attached by Velcro to either sleeve) must restart the game with a 'play of the ball'. Each team is allowed six 'tackles' in each phase of attack (or when in possession of the ball) to score or gain territorial advantage. Conversions, penalties and drop goals can be scored by striking the ball with the fist. The game is played in a gymnasium, 5 against 5, on a handball court with mini-rugby posts.

After the Téléthon in 2000 participation in WRL grew. In December 2002 the 'Trophée de France' was held in Vichy with six teams from four different regions represented. In 2004 and 2005 international tours by the Vichy Rugby League Club (VRLC) to Australia and England introduced the sport to a new audience of future players which ultimately led to the submission of the first draft of WRL rules (in French and English) to the Rugby League International Federation (RLIF). Following the first WRL World Cup in Sydney in November 2008 the official rules were written and published in February 2009 and finally ratified in March 2011. Since 2010 official national or state competitions have existed across France, England and Australia with international test matches also played periodically. The 2013 World Cup took place in London (England) with France crowned champions.

**METHODS**

**Participants and Context**

Seventy-two (n = 72; f = 35, m = 37) participants from a university in the North of England engaged in a one-off 90 minute practical learning experience. To help provide a more manageable learning environment and to support opportunities for effective engagement in meaningful discussion, three separate sessions were delivered accommodating 24 students in each session.

Participants were pre-service PE teachers (n = 45) and sports coaches (n = 27) enrolled in their final year of an undergraduate sports and PE degree course with a mean age of 21 years. The one-off session was offered as part of a module (or unit of learning) that focused on developing pupils' understanding of game play across a range of teaching and coaching contexts (e.g. adapted sport teaching/coaching). The session was aligned to and supported by a classroom based lecture that introduced theoretical assumptions underpinning key aspects of participation and performance orientated pedagogy. The session was delivered in a sports hall by the first author (who also acted as primary practitioner for the study) who has experience teaching participation-

focused wheelchair rugby league (WRL) at tertiary level. All participants had experience of being taught using a TGfU approach in other practical modules previously during their degree, although depending on individual elective choices their depth of understanding varied greatly. All participants in this study consented to their involvement in accordance with University ethical research practices.

**Procedure of Sessions**

The practical session was designed to be a high impact one-off practical learning experience aimed at maximising time spent engaged in game related action and discussion (see Table 1). The session consisted of participants' engagement in a series of progressive games and/or skill improvement activities commensurate with the TGfU model and aligned pedagogical principles (e.g. sampling, exaggeration, representation, and tactical complexity) which were designed to encourage appreciation of rules, game play strategies and teamwork. Commensurate with the constructivist principles that inform the use of a TGfU approach (Kirk & Macdonald, 1998) each activity or game within the session was adjusted (adapted) based on the responses/needs of the participants e.g. additional time provided to students to engage in reflective discussion when challenged by specific game related teamwork requirements. WRL was chosen as the focus of learning due to limited participant knowledge of the existence of the sport (thus providing a more even spread of game play abilities), the popularity of the parent running game across the north of England, and the international representation opportunities available for players both with and without disabilities.

**Data Generation**

Similar to other action research projects focusing on development of teaching practice in PE (e.g. Casey, Dyson & Campbell, 2009) a research design akin to action research was used for data generation in this study. Evans and Light (2008) state that action research is situated in practice and involves an intervention or change programme introduced by the primary researcher/practitioner. In recent years there has been increased use and recognition of the benefits of using action research to explore practitioners' and pupils' perceptions of game based learning interventions in the field of PE (e.g. Gubacs-Collins, 2007). Use of an action research design to explore change programmes associated with teaching an adapted sport, though, are less prevalent with Weber (2008) highlighting the potential for further use of the method in adapted sport teaching settings to extend practitioner knowledge.

The change programme utilised in this study was the use of a TGfU approach to structure learning. Yet with only a one-off learning session undertaken with each group of participants, adherence to what Evans and Light (2008) describe as a 'change programme' is debateable. However, a one-off change in teaching practice that has the flexibility to adapt and accommodate to changes in pupils' learning requirements may, for some educators, be the most practical way to initiate action research and in-turn pedagogical change - even though issues with results generalizability relating to behaviour change may be apparent.

**Post session reflections (practitioner)**

Practitioner engagement in reflective practice has long been associated with the development of effective teaching practice in PE (Jinhong, 2012). A recent review of reflective practice research relating to the teaching of PE also highlights the association apparent between engagement in practitioner reflection and development of teaching capability (Standal & Moe, 2013). For this study first author observations of participants' practical experiences were noted during and after each of the three sessions. During each session brief notes were hand written on a notepad in response to observations of participants' engagement e.g. 'whole group discussion continuing after gameplay'. Notes made within sessions were expanded upon post session providing further contextual information as well as first author's reflective responses to observed behaviour e.g. 'The group dynamic was

obvious here. They appeared to have developed a closer bond since the beginning of session as they now worked together to discuss how they could improve their team performance before their next game involvement'.

**Table 1: Overview of Session Content**

| Game/ Activity | Content<br>(All activities run with 10 wheelchairs. When not actively involved in game play participants were active observers) |
|---|---|
| Tag | **Space:** Half a volleyball court<br>**Description:** Players required to move around the space in the wheelchair capturing and removing as many tags as possible from any/all opponents. Tags are thrown directly onto floor immediately after capture. When both tags removed from an individual they rotate out of game and became an observer. |
| Ball Tag | **Space:** Half a volleyball court<br>**Description:** Players with either of two rugby balls are 'it'. They must cradle ball in lap as they move to try and remove tag of any other player without a ball. If successful the ball then transfers to the 'caught' player and the game continues. If ball falls at any stage 'caught' player retrieves and game continues. Introduction of additional ball if appropriate. |
| Team Possession | **Space:** Half a volleyball court<br>**Description:** Team with ball must maintain possession. If tagged in possession or move out of bounds whilst in possession then the ball is turned over to opposition. If ball dropped or it hits ground as a result of an attempted pass then possession is lost. Players begin to pass ball to available team mates to avoid being tagged. Introduction of additional ball if appropriate. |
| 3 vs 2 (Attackers vs Defenders) | **Space:** Half of basketball court<br>**Description:** Team of 3 in attack with the aim of trying to score a try (placing of ball on floor of try area). Team of 2 in defence. Players rotate teams periodically. Attacking team has 6 opportunities to make way down court to try to score (known as having '6 tackles'). First tackle is 'passive' and staged i.e. player with ball pushes out to meet stationary defender who makes the tackle. Defenders retreat 5 yards. Attacker then taps ball on ground, passes to team-mate and play continues with 'active' tackling and pursuit of try scoring opportunities. |
| Skill Development | **Space:** Full sports hall<br>**Description:** Two players in wheelchair work together to move ball down a 4m wide channel. At designated intervals along the side of the channel a support thrower passes the ball to attacker A who catches ball, places ball in lap, completes two forward pushes, then passes backwards to attacker B. Attacker B places ball in lap, completes two forward pushes, then passes backwards to the second support thrower. Both attackers stop at designated try line, push backwards for 5 yards, turn 180 degrees, then repeat actions in opposite direction. |
| Full Game | **Space:** Full sports hall<br>**Description:** 10 players on court at any one time (5 vs 5). Initially, unlimited tackles leading to full application of rules. Players rotate periodically with reserve team members. Players on observing team also taking turns to act as a second referee or linesperson. |

**Post session reflections (whole class and individual)**

End of session whole-class reflection opportunities were used to generate a portion of the data. The inclusion of such reflection opportunities into the design of the session supports key values associated with the use of a TGfU approach e.g. that the learner should be 'active and involved in the learning process' (Griffin & Patton, 2005, p. 1). Post-session semi-structured interviews with one participant from each session (n = 3) were also undertaken. The three interviewees were the first from each session to volunteer to be interviewed. Questions asked during both the group reflection opportunity and the semi-structured interviews were formulated according to the events of each session and could be grouped into four main categories: 1) participants' perceptions of TGfU, 2) understanding of WRL, 3) perceived effectiveness of using a TGfU approach to teach WRL, and 4) perceptions relating to the inclusion of WRL in general PE curricula.

Engaging pre-service PE teachers and sports coaches in structured reflection was used by Harvey and O'Donovan (2011) as a means to not only enhance learning but also provide valuable access to learner discourse and insights into perceptions of developing teaching capacity. To facilitate group discussion the first author remained active throughout all post-session whole class reflections urging debate through the asking of open questions and invitation for comment (synonymous with use of a TGfU approach). In response to concerns by Fitzgerald, Jobling and Kirk (2003) and others about the lack of student 'voice' when discussing aspects of curriculum design, specific individuals within the whole class reflection opportunities were asked questions to help provide input opportunities. For example; 'Ben, can you please give me an example of how today's session challenged your understanding of adapted sports and their place in the National Curriculum?' Furthermore, the incorporation of individual reflection opportunities (e.g. the semi-structured interviews) into the research design was used as a means to not only verify data generated from whole-class reflection opportunities, but to emphasize the importance of providing learners access to their 'student voice'.

To help support and verify initial observations, each session (including all group and individual reflection opportunities) was video-taped and utilised to complete verbatim transcriptions of group and individual reflections required for analysis. A two video camera system was utilised during participants' practical engagement. The first camera was stationary and elevated one storey up 'at distance' from the indoor playing surface to capture all participant engagement throughout the session, whilst the second camera was positioned courtside and operated to follow distinct sequences of play within each activity/game. Metzler's (2005) benchmarks for tactical games teaching were used as a guide to shape session planning. The use of these benchmarks offered some degree of verification that the approach utilised within each session exhibited an 'acceptable degree of faithfulness' (Metzler, 2005, p. 420) to the TGfU model. An example of benchmark use to guide session planning meant the programming of end of session review opportunities that focused on discussion of tactical problems participants encountered.

**Analysis of Data**

Analysis of generated data was based on the inductive methodology of grounded theory. As data was generated, analysis and coding procedures were conducted systematically and sequentially offering a transparent insight into the development of key themes (Corbin & Strauss, 1990). The first author's field notes, group discussion transcripts and individual semi-structured interview transcripts were analysed inductively from which comments were divided into 'meaningful units' defined as a segment of text containing 'one idea, episode or piece of information' (Tesch, 1990, p. 116). Meaningful units were then compared and grouped to form distinct sub-categories. A comparison of sub-categories was then conducted whereby key themes were identified. An example of this process is included in Table 2.

## RESULTS

This section triangulates data generated from end of session whole-group discussions, individual semi-structured interviews and first author field notes to present an informed picture of participants' perceptions of learning and experiencing an unfamiliar sport through utilisation of a TGfU approach and their considerations of using the approach to teach/ coach the adapted sport of WRL. Data were analysed and categorised into three emergent themes; 1) TGfU as a positive pedagogy; 2) TGfU as a versatile approach, and 3) significance of content within a PETE programme.

### Teaching Games for Understanding as a positive pedagogy

A high proportion of participants responded positively to use of a TGfU approach to promote learning. Participants' responses and the first author field notes suggested engagement in and enjoyment of sessions highlighting TGfU as a positive pedagogy. In addition, field notes contained comments relating to participants 'planning', 'bonding' and 'exploring' in a perceived effort to understand the sport, improve performance and succeed. These comments reflect experiences discussed in existing research into pre-service teachers perceptions of learning through game based approaches (for example, see Light & Georgakis, 2007). Recognition by participants of opportunities for social 'bonding' may also be attributed to use of a TGfU approach and further highlights its potential for positive affective development (Roberts, 2007). Feelings of 'success' and 'enjoyment' could also be attributed to use of a TGfU approach as comments made within group discussions suggested:

> I think we all enjoyed it actually because it was different and interesting and not the usual type of new [adapted sport] experience that might concentrate just on using the chair or health and safety. We could just get on with learning how to play the game. (Respondent A)

Questions asked during individual semi-structured interviews inviting comment on perceptions of TGfU received similar positive responses. For example:

> I liked the flow of the session, it made sense. We all got better at moving in the wheelchair by the end [of the session]. Same with our passes, we succeeded in keeping hold of the ball longer and didn't turn it over. (Respondent B)

The above recognition by a participant of personal (and team) psycho-motor development and improved game play familiarity reflect conclusions made by MacPhail, Kirk and Griffin (2008) that learners' active engagement in the game is embedded in physical, social and institutional contexts. Thus, through opportunities provided during the session to engage in the physical-perceptual and social-interactive elements of game play (MacPhail, Kirk & Griffin, 2008) the authors argue that this had an

**Table 2: Data classification example - meaningful units, sub-categories and theme**

| Raw Data (meaningful units) | Sub-categories | Theme |
|---|---|---|
| 'The structure of the session made sense. It flowed from one activity to another. Even the breaks were good…' | Pedagogy – session structure | TGfU as a positive pedagogy |
| 'The games were good…' | Pedagogy – session structure | |
| 'That feeling of success throughout all the games was important…' | Pedagogy – affective response | |

overall positive effect on learners' success making game play more enjoyable.

Participants' responses also highlighted an appreciation of game/activity design and how effective activities were in promoting both skills and knowledge of the game simultaneously. One particular exchange of comments during an end-of-session group discussion focused on a collective appreciation of learning opportunities offered within an exaggerated game:

> Respondent C: 'I didn't see the point in narrowing the field during the 3 on 2 activity. It just made practicing the hit and chase more difficult and it didn't work once.'
>
> Respondent D: 'But that wasn't the point. The point was working out *when* to use it.
>
> First Author: 'Didn't you use it in one of the games and your team scored?'
>
> Respondent C: 'Yes.'
>
> Respondent D: '*How* did you know when to use it… *why* did you use it then?
>
> Respondent C: 'We were going nowhere and pinned back.'
>
> First Author: '*Why* did you try it in the 3 vs. 2 game then?'
>
> Respondent D: 'Because we couldn't get past them… ohh, yeah! [I realise what you mean now]

The provision of interaction opportunities between the subject and the environment (as highlighted in the group discussion above) supports not only the constructivist principles that underpin the use of TGfU (Richard & Wallian, 2005), but highlights the importance of effective game design as well. Although Respondent E's understanding of her technical and tactical game play development was made aware to her through question asking and discussion, simultaneous development of techniques and tactics was facilitated via considered game design; specifically the exaggeration of a tactical problem (Griffin & Patton, 2005). Appropriate game design in this instance also led to positive social interaction and the sharing (and arguably the development) of tactical understanding. This emphasis on providing social interaction opportunities was also noted within first author field notes with specific comment highlighting participants' engagement in technical and tactical dialogue at multiple stages throughout the session:

> The team dynamic is obvious within this group, not so much within their game play but within their willingness to communicate post-game play involvement. All group members seem to be active participants, either speaking or listening with intent, with discussion focused on both what [e.g. tactical] and how [e.g. technical] to improve performance. (First Author)

The authors believe that the different forms of perceived engagement highlighted in the first author reflection above (e.g. 'doing', 'thinking', 'listening', 'speaking') begins to respond to calls by Collier et. al. (2010) for the inclusion of more holistic approaches to learning within PETE programmes. Recognition of TGfU as a holistic approach to learning also provides further support for Light and Fawn's (2003) belief that 'the TGfU lesson can be seen as a holistic learning process' (p. 167). Engagement in speech, thought and action to enhance learning is arguably a key learning objective in most PETE programmes. Thus, perceptions of engagement highlighted above provides further support for consideration of TGfU as a positive pedagogy.

**Teaching Games for Understanding as a versatile approach**

Within both end of session whole-class reflection opportunities and semi-structured individual interviews participants indicated their increased consideration of TGfU as a 'versatile' approach. The modelling of a specific pedagogical practice to structure learning of a unique and 'new' sport experience heightened participants' awareness of how a TGfU approach might be utilised to aid curriculum development:

> 'I can see TGfU being the link between traditional sports and adapted sports. It makes sense that if I was teaching a unit [in a general PE curriculum] on rugby league I could also programme some sessions on wheelchair rugby league and use TGfU to deliver both.' (Semi-structured interviewee 1)

The perceived versatility of using a TGfU approach was also made apparent by comments indicating surprise over the inclusion of a technique-focused activity within the session to accommodate a range of different participants' abilities. Although TGfU and other game based approaches are often referred to as 'tactical approaches' to teaching games, provision is also made within the TGfU model for focus on technical skill development to enable progression of game play:

> 'I needed the skill drill as I was struggling a bit with the 3 vs. 2 game and moving forwards whilst having to pass the ball backwards. It was good because we all needed a bit more skill training, even though some players were obviously better than me. I think they appreciated it as well.' (Semi-structured interviewee 2)

First author reflections also highlighted an appreciation for how a TGfU approach can be used to structure learning of an adapted sport:

> 'Having made the decision to utilise a TGfU approach to frame learning I was mindful of research [see Verellen & Molik (2011)] suggesting that pedagogical and educational aspects of learning constitute key determinants in the quality and the successfulness of teaching adapted sport. Yet on reflection I think using a TGfU approach offered both a pedagogically appropriate structure to learning a new sport (e.g. appropriate game/activity progressions) as well as an opportunity to broaden participants' educational experiences of an adapted sport through a focus on game play involvement.' (First author)

Participants were also asked within the end of session whole-class reflection opportunities to comment on their perceptions of 'if' and 'how' they envisaged teaching WRL within general PE curricula. Fresh from completing of a TGfU-structured experience of learning WRL it was unsurprising that participants' responses highlighted use of a TGfU approach as a means to teach the sport. However, of significance were comments that supported the use of a TGfU approach to teach an array of non-traditional games and/or adapted sports in general PE curricula:

> 'I'd like to try to teach a unit of beach volleyball with TGfU.' (Respondent E)
>
> 'It's [use of a TGfU approach] set up to be used to teach a whole theme as well… you could teach how to spread a defence or even other adapted sports.' (Respondent F)

Recognition of TGfU as an approach that can be used to teach a range of different themes/concepts pertinent to game play (e.g. maintaining ball possession or defending space) continues to reflect key considerations already associated with the model e.g. the teaching of 'concepts' (see Griffin, Mitchell & Oslin, 1997). The authors believe that the participant comment above further supports consideration of TGfU as a versatile approach to teaching games that provides a structured means to expanding general PE curricula.

**Significance of content within a physical education teacher education programme**

In providing participants an opportunity to experience TGfU in a specialised and unique context (e.g. the teaching of the adapted sport WRL) a key barrier to curriculum diversity was often recognised:

> 'I understand what TGfU is all about but didn't really think to use it with adapted sports.' (Respondent G)

Recognition of 'self' as a barrier to curriculum diversity was discussed at length during all three end of session whole-class reflection opportunities. Participants also spoke of a lack of exposure to adapted sports during their schooling which had continued on through to their school placement experiences:

> 'We never played anything like this [an adapted sport]. We did the same sports every year.' (Respondent H)
>
> 'Even at the school I was at [for teaching practicum] it was only hockey or basketball the entire time… even I was getting bored [teaching it].' (Respondent I)

Participants were asked to describe an aspect of the session they considered significant to their professional learning and career development. The majority of participants' commented on their appreciation of being able to play a

'different sport'. As pre-service PE teachers and sports coaches, participants' responses also acknowledged appreciation of a learning focus on an unfamiliar sport to revisit previous experiences of learning about TGfU:

> 'It was good to see it [TGfU] utilised with an unfamiliar sport. I got more out of today's session than last year [e.g. previous year's module on models based instruction]. I understand the sequencing of progressions a bit better… I might try it in my volleyball unit but also include some sitting volleyball.' (Respondent J)

Furthermore, the comment above highlights a participant's own experiences of a diverse curriculum within a PETE programme which led to a heightened awareness of offering more diversity in future curriculum delivery (e.g. including opportunities for pupils to play sitting volleyball in their volleyball unit). Thus, the opportunity cost of a lack of engagement by pre-service PE teachers and sports coaches in a diverse PETE curriculum can have significant implications for sports/games/activities included in general PE curricula.

## DISCUSSION

Light's (in press) conceptualisation of TGfU and other game based approaches as 'positive pedagogy' recognises the potential of game based learning to facilitate consistently positive learning experiences. Through question asking, provision of dialogue opportunities and meaningful reflection, TGfU aims to provoke an enjoyment of learning through positive engagement in game form experiences (Griffin & Patton, 2005). Thus, with a focus on active engagement, holistic understanding and learner empowerment, the level of success a learner achieves makes learning positive (Light, in press). This relationship between success and understanding within the learning process is further highlighted by Gréhaigne and Godbout (1995) who suggest that learning involves 'understanding in order to succeed and succeeding in order to understand further' (p. 500). Evidence presented in this article highlighting participants' own feelings of success (initially as learners themselves then as 'future' teachers/coaches considering use of a TGfU approach) help support the use of a TGfU approach to facilitate learning within a PETE programme. In addition, the modelling of a TGfU approach to teach an adapted sport within a PETE programme was positively received by participants supporting its subsequent description as a holistic, positive and versatile approach.

Through the questioning of participants throughout each session and the provision of opportunities for participants to discuss and debate ideas, participants' individual and group 'voice' became an integral part of the learning process. Providing participants with opportunities to shape their learning experience recognises one of the key features of TGfU and was a crucial element of participants' learning experiences within all three sessions of this study. Recorded group discussions throughout each session outline what the authors believe were positive debates of ideas as they consistently included constructive comment aimed at achieving desired personal and group outcomes. It is conceivable then that participants' engagement in these conversations (and each session as a whole) may have contributed to not only the development of pedagogical content knowledge associated with reflection on experience (e.g. using TGfU to teach WRL), but also their recognition as pre-service PE teachers and sports coaches of TGfU as a versatile approach to teaching games. However, further research into the use of game based approaches to teach adapted sport is required.

In her role as first author/practitioner working with pre-service PE teachers, Gubacs-Collins (2007) wrote that through use of a TGfU approach 'I learned to listen to the opinions and responses of my students during our continuous interchange of action and reflection' (p. 123). For Gubacs-Collins use of a TGfU approach provided her participants with a 'voice' to comment on their learning. Taking this notion further, this study provided participants with a 'voice' to reflect upon the content of their PETE curriculum. The authors hope that through engagement in and observation of such discussions, participants will reflect upon the diversity of curriculum they offer

pupils once they begin their formal PE teaching and sports coaching careers. Gubacs-Collins also stated that through her reflective experience she was brought closer to her students 'both as a professional and as a fellow teacher' (p. 123). Reflecting aspects of this study the authors argue that through the modelling of a TGfU approach within a PETE programme, not only is reflection and debate encouraged and supported amongst students, but also between students and teacher. As a result, this encouragement of in-depth reflection can help challenge the status quo of content delivered on PETE programmes as well as how general PE curricula is considered by future PE teachers and sports coaches.

In 1995 Chandler and Green's research into the examination of curriculum content suggested that teachers of general PE spent the majority of teaching time on sports skills and traditional games. Over a decade later Hardman's (2008) analysis of data from international PE provision surveys reiterated the limited change that had occurred in PE curricula content. Thus, in order to achieve 'broader educational objectives' within PE as called for by Hardman in 2011, any increased inclusion of adapted sport into general PE curricula has the potential to be viewed as a positive curriculum response. Through the diversification of content included in PETE programmes and a focus on developing pre-service PE teachers' and sports coaches' pedagogical content knowledge, the teaching of adapted sport in general school curricula has the potential to become the norm instead of the exception. In addition, recent changes in England and Wales to the National Curriculum of Physical Education (Department of Education, 2013) and the shift away from an activity explicit curriculum have meant greater opportunities to incorporate the teaching of adapted sports within appropriately resourced PE curricula. Consequently, sports such as goalball, sitting volleyball and WRL have the potential to become more prevalent in general PE curricula. Arguably, WRL is uniquely placed to achieve such inclusion due to its design (e.g. to reflect as closely as possible the rules associated with the parent 'running' game) and incorporation of players both with and without disabilities - even at international level. The refocusing of curricula away from traditional programmes of learning set within PE, however, does have its challenges; especially when considering many PE teachers hold strong ideological (traditional) views of sport and sports performance (Haycock & Smith, 2010). Thus, the pressure on PETE providers to effect positive change on school pupils' experiences of PE (e.g. access to a diverse and inclusive curriculum) not only rests with learning experiences they provide their pre-service PE and sports coaching students, but also the pedagogical and curricula decisions made by physical educators already 'in post'.

**Limitations**

When asked about possible changes to the session that might improve both understanding of TGfU and WRL some participants perceived limitations with the design of games and indicated a desire for more time and additional progressions to facilitate learning. As highlighted by Webb, Pearson and Forrest (2006), the premise behind TGfU effectiveness as a model for learning is the simultaneous development of tactical and technical game performance through a focus on game play over a considered time frame. Harvey and Jarrett (2013) have stated that typically the considered timeframe for TGfU interventions ranges from between 4-8 weeks. Unsurprisingly then the limited timeframe of a one-off session may not satisfy each learners' development requirements.

**Implications**

Implications of research findings relate in part to the suggested consideration of pedagogy adopted when teaching or coaching an adapted sport. The use of a game based approach such as TGfU when teaching an adapted sport in general PE curricula has the capacity to promote pupils' engagement and enjoyment and in turn may offer practitioners a more inclusive pedagogical approach to facilitate learning. The use of a TGfU approach may also help to increase curriculum diversity through the inclusion of WRL into general PE curricula.

Initial access to sport chairs suitable for WRL may be a barrier to curriculum inclusion for some teachers and coaches, however, collaborations or partnerships with local education authorities or specific community groups may help to facilitate appropriate access requirements. Implications also relate to the content of PETE programmes and the modelling of pedagogical practice so that our next generation of PE teachers and sports coaches have experience in offering diverse and inclusive learning experiences.

Finally, with the advent of change associated with the introduction of a new National Curriculum of Physical Education in England and Wales in 2014, the authors contend that the inclusion of more adapted sport in general PE curricula has never been more accessible.

**Perspective**

The study's focus on pedagogical practice associated with delivering/learning an adapted sport contributes to a very limited field of empirical research. Research into the use of a game centred approach (e.g. TGfU) to teach/coach an adapted sport is even more scarce (Harvey & Jarrett, 2013). In 2011 Kudláček & Barrett highlighted the need for additions to current education programmes to support the development of 'professional competence and quality service delivery across the inclusion spectrum' (p. 10). Thus, it is hoped this small scale study plays a part in contributing to staff room and university faculty discussion around the planning and teaching of adapted sport in general PE curricula and PETE programmes.

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