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THE IMPACT OF GIVING CHILDREN WITH SPECIAL NEEDS A VOICE USING THE TEACHING GAMES FOR UNDERSTANDING MODEL IN PHYSICAL EDUCATION

Damien Dimmick[i]
Department of Physical Education,
Trinity Academy New Bridge,
England, UK

Abstract:
The impact of the teaching games for understanding model (TGfU) in education has mainly focussed on mainstream children who have not been diagnosed with having an additional or specific educational need (SEN). The purpose of this study was to evaluate the impact of the TGfU model by focussing on the feedback of the children about their learning journey. The activity of Table Tennis was used as the teaching medium in which to enact this student's voice and then the children reviewed their learning by completing a questionnaire after each lesson. The questionnaire was adapted from the previous research of Cervelló et al., (2007) who originally devised a twenty-four-point questionnaire which was shortened to twelve questions for the purpose of this study. The research problem was whether the TGfU model and its principles could be adopted and adapted after giving the SEN students a greater sense of ownership of their own learning. In total, twelve children aged 11-16 from one special school institution were involved in this study and they all had additional learning needs. After a comprehensive literature review, there have been very few research papers which have looked at this specific topic with only one article on this subject coming from Malaysia (Ibrahim, 2021). The findings of this study show that there was a positive change in the levels of communication and control over the learning, social interaction and activity levels as a result of using a models-based approach to learning physical education with SEN children.

Keywords: special needs, physical education, Teaching Games for Understanding (TGfU), student voice

1. Introduction

Teaching games for understanding (TGfU) has been extensively researched over the last three decades dating back to the original research by Bunker and Thorpe (1982). Bunker

[i] Correspondence: email d_dimmick@hotmail.com

and Thorpe (1982) suggested a pedagogical model teach physical education through a games-based approach because they did not consider a teacher led skills-based approach the most appropriate model for applying isolated skills into games-based activities.

They intended their students to learn the tactical elements of the game before applying isolated skills and techniques into practice. It is the intention of the teacher-researcher to share what he has learned about using the TGfU model in an 11-16 Secondary School with other physical education (PE) teachers to give them the confidence and knowledge about how to apply and adopt a models-based approach to teaching PE with children who have special educational needs (SEN).

The main aim of the study is to take the principles of the TGfU model and investigate these in a special school setting, where all of the students have additional needs and specifically in this study, where all of the students have a diagnosed social, emotional or mental health condition (SEMH). Although the literature review includes research on TGfU in a variety of settings, there is still a lack of research on the use of TGfU outside of mainstream schooling.

Therefore, this study further aims to provide a novel insight into how the principles and practice features of the TGfU model can be adopted by teachers teaching children with special educational needs. The lack of research beyond mainstream education is what has inspired the teacher-researcher as there is a distinctive gap in this field apart from a study by Ibrahim (2021). This study was undertaken in Malaysia and has shown there are some possible benefits of using the TGfU model with children who have additional needs.

The TGfU model uses games to aid learning by teaching tactics and introducing problem-solving into a game situation according to Singleton et al (2009). The model focuses on six phases that include game form, game appreciation, tactical awareness, skill execution, decision making and the overall performance and outcomes (Webb et al, 2006). Webb et al (2006) also suggest that by asking students a number of clear questions throughout the lessons can draw a lot of this information out of the students naturally without having to specifically teach each of the components above as discreet lessons.

This research underpins the final aim of the study which is to focus on the student voice aspect of the TGfU model and through a series of questions, to improve the engagement and activity levels of the students using the TGfU model within their PE lessons. The questions will be delivered through the use of a questionnaire given to students at the end of their PE lessons.

2. Literature Review

Kirk, (2010) O'Leary et al, (2014) and Wang and Ha (2009) have analysed the TGfU model and attempted to re-design its components and principles. However, they all acknowledge that using the TGfU model-based approach in a school setting has both positive and negative components. These range from practical issues such as limitations

on the physical setting and facilities of the school to the experience levels of the teachers using a games-based approach.

A number of studies have highlighted the positive benefits of using the TGfU model, including authors such as O'Leary (2014) and Oliver and Neives (2017) about how the model can improve aspects such as physical literacy, behaviour, general interactions between students by improving social skills such as teamwork and communication. Additionally, Wang & Collins (2014) also identified the positive benefits of critical thinking and engagement levels could be improved using this model and these are two further important considerations for this research. If the students are passionate about their learning is this because they have a clear understanding of what they are learning and can articulate this through feedback.

Furthermore, there have also been several studies that suggest there are clear limitations to the TGfU model such as how it requires an experienced teacher to be able to implement the model during PE and how it's potentially not suitable for student or Early Career Teachers (O' Leary, 2014). Previous research has also shown that by using a traditional skills-based approach to teaching it can turn off a student's enjoyment and ability to remain engaged in their learning over a period of time (Wang & Wang, 2018).

There are other less positive research reports about how the model does not allow the students to develop and make enough progress with certain isolated skills and that the students can miss out on some elements of a traditional curriculum model (Webb et al, 2006). O Leary et al, (2014) also highlighted there was a clear practice to theory gap in the use of the TGfU model because less experienced teachers do not have the technical subject knowledge to teach to a higher level of tactical awareness across several different activities or sports until they have built up a greater level of experience by learning from more experienced colleagues.

Casey (2014) said that local level modifications are too complex for teachers and that the intricacy of these MBP models is such that only "*the best of the best*" can use them. This was to be the starting point for this paper because there has been an overwhelming amount of support (Haerens & Kirk, 2011), Kirk & Macdonald, 2001), and Lund & Tannehill (2010) for MBP that very few teacher-researchers have taken on the challenge of planning a new learning topic with this approach especially when the students involved all have SEN.

The overall description of the TGfU model could be summarised by the work of Goodyear et al (2016) who refer to these combined approaches as the '*practice architecture*' central to the TGfU model which is an overarching idea that captures the focus of the model. Also, through the work of Kirk (2017) and Metzer (2005), they describe a series of non-negotiables which any TGfU research model should be based on. For example, Kirk (2017) stated that all pedagogical models contain three key features, "*a main idea, critical elements and learning outcomes or aspirations*".

The focus of this research is based on one of these *critical elements* which is the *student voice*. The student's voice gives learners choices about what and how they learn individually and together (Kirk, 2017). A student voice can be described as an opinion

taken from a student which allows the participants to understand and take ownership and responsibility for their learning. Also, a way of giving students an opportunity to share and reflect on their learning experiences while continuing to influence decisions, and practices (Cook-Sather, 2014 & Lynch & Curtner-Smith, 2019).

3. Material & Methods

3.1 Sampling Procedures

A total of twelve students were selected to take part in this study and all of the students had an Education and Health Care Plan (EHCP) because of an additional need they were supported within school. Every student was from Key Stage 3 which meant that the age range was from 11-13 years old. All of the students who were asked to take part in the study agreed to their involvement voluntarily in the research project and the teacher-researcher was about to start teaching a new unit of Table Tennis in PE. The lessons were timetabled for 45 minutes, and each student had two timetabled lessons per week as PE was a core subject.

3.2 Sample Description

All of the students chosen to take part in the study were from one 11-16 Secondary School in the United Kingdom and none of the students had a physical disability. The students were all White British in terms of their ethical background and a high proportion of them were on Free School Meals (82%). The sample was taken over two smaller groups, each containing six students in each class, and this was how they would normally attend their PE lessons. The teacher-researcher in the study was an experienced teacher of PE with over 15 years' experience of teaching PE in several different schools.

3.3 Ethics

The permission from Trust CEO was obtained to carry out the study ensuring there were no students named in the research for safeguarding purposes. The next step in the process was to ensure that an informed consent form was collected from all of the participating students' parents and then the students completed a questionnaire anonymously at the end of their PE lessons. The safeguarding of children with special needs is incredibly important and especially true with those students who have an EHCP.

The teacher-researcher encouraged the students to answer the questions as honestly as possible and I assured them that their answers would not affect their grades in PE. The students and their families were told about the project before it started, and they were aware they were going to complete a questionnaire after each lesson. After each lesson, the students were given a questionnaire which allowed them to reflect on their attitude, engagement, behaviour, learning and progress.

3.4 Data Generation

Each lesson started with a warm-up rally and stretching, before moving on to a games-based approach to playing, using ideas such as weekly leagues, ladders and knock-out competitions. All of the students were able to grip, hold and play a number of shots including the push and serve as a starting point from a previous period of learning Table Tennis. Throughout each lesson, the teacher-researcher observed the group and asked a range of questions based upon topics such as skills they were showing, rules, tactics and how they were playing. This type of study was chosen because it would not be the type of activity which would drive predicted change, it would be other important factors such as the questionnaire responses in the form of the student voice to enhance curriculum learning.

3.5 Data Analysis

Each student completed a questionnaire immediately after each lesson of Table Tennis. This allowed the students to reflect upon their learning straight after it had happened before they left PE and moved on to another lesson. The reflections were compiled, percentages of results were drawn up based upon the twelve responses to each question by each of the students. The results from the questionnaires were collated, analysed, and then shared with the students at the end of the investigation. The questionnaire was designed to provide the author with a 'sweet spot'. A five-item scale that assesses a representative cross-section of a student's experience should improve measurement (Gehlbach & Artino Jr, 2018).

The author used a five-point Likert Scale as a method of best practice for designing a well-respected questionnaire. This would agree with the views of Carifio and Perla (2007) who view the Likert Scale as a way of measuring multi-items responses and that the scale is helpful and supportive to provide a unified result. However, there are some authors who think the scale is more autonomous and independent and that the scale does not allow the reader to link their choices together and that the results are not best turned into a statistical measurement (Dawes, 2008). The scale was based on five sections from strongly agree to strongly disagree using the following statement at the beginning of each questionnaire. "*Please state how much you agree or disagree with the following statements*" … The teacher-researcher used an adapted version of a motivation questionnaire as described by Cervelló et al., (2007). Originally the questionnaire consisted of 24 items that measured two dimensions firstly the task climate and also the ego climate. All 24 of the questions started in the same way – "*In my physical education (PE) lessons…"* and then moved on to ask the students about how their motivation levels had changed because of the introduction of the TGfU model into their PE lessons.

The teacher-researcher decided that 24 questions would be too demanding for the SEN students and therefore adapted this by removing 12 of the questions and only focussing on those regarding feedback and student voice. An example of the type of questions includes, "*In my PE lessons I usually carry out all of the tasks*?" Previous research

by Amado et al (2014) and Arias et al (2013) has demonstrated the internal reliability of this type of questionnaire.

3.6 Limitations

To ensure there is a broad and balanced review of the TGfU model within this paper the teacher-researcher acknowledges that not all of the elements of the model had been investigated. The study was only a small-scale one with a limited number of children with special needs and therefore this could be increased over a number of schools or age groups.

It should also be noted that because of the experience levels of the teacher-researcher the study could have been strengthened and this would agree with the work of Forrest (2014) who argues that this development could be linked to the skills, experience, and confidence of their teacher and that if there was a less experienced teacher leading the lessons the results might not have been as significant. This would also agree with the findings shared by Wang & Ha (2009) who recognise that pre-service teachers are less likely to use this approach and prefer a more skills-based approach.

4. Results & Discussion

The results also show that the students felt more in control of their own learning and that they had enjoyed the lessons more. With 88 per cent of students feeling more positive after using the TGfU approach to learning Table Tennis. This finding would agree with the research conducted by Wang & Ha, (2013) who also found that by using the TGfU model had increased the positive engagement of the students in their study as well.

Also, another 75 per cent of the students felt that they were more in control of their learning because they were asked more questions in the lessons than they have previously been asked. The questionnaire responses noted that the students enjoyed answering questions as a way of thinking about their skills and tactical development and this is one of the named critical elements named in the TGfU model suggested by Kirk (2017) and supported by Forrest et al (2006).

Furthermore, 92 per cent of the students strongly agreed with the statement about being more active in using a games-based approach to learning. This is significant because only one of the students did not strongly agree with the statement and therefore the results are conclusive in that using the TGfU model with SEN students does promote high levels of physical activity. This would be an important area to further investigate because physical activity levels of the human body can lead to a positive active lifestyle (AfPE, 2015).

The students felt in more control of their learning is an important result from the study because it shows that the students had the opportunity to reflect upon their learning which is a clear sign showing that if students are given a voice in their learning, they enjoy it more and it gives them a greater sense of engagement. This would agree with the research by both Cook-Sather (2014) and Lynch & Curtner-Smith, (2019).

Also, because the students were given the opportunity to reflect upon their learning after each lesson, they felt more ownership of their learning and as a result of this were more active in their PE lessons. As the students were more active and on-task this would agree with the research by AfPE (2015) who highlighted all students needed to be more active in their learning and this would produce better outcomes.

5. Recommendations

One key recommendation would be to further analyse the qualitative data used in the study to fully appreciate and determine how much more the students could articulate about their learning journey using a models-based approach.

A further recommendation would be to develop and adapt the questionnaire further to provide the students with a range of open-ended questions which would allow any future work to consider a greater level of depth to the responses from the students.

6. Conclusion

In conclusion and based upon this study it was clear that the communication skills of the students had improved along with their ability to feel in more control of their own learning by ensuring they were given a *voice* in which to speak with the teacher about their learning outcomes.

It's also clear from the statistics above that student engagement, enjoyment and physical activity levels had also improved through the excitement of being taught using a models-based approach to learning. Follow-up research should focus on the behaviour of these students using either a different model of learning or the same model within a different subject area or activity area in PE.

Conflict of Interest Statement
The author declares no conflicts of interest.

About the Author
Damien Dimmick is a Lead Teacher of Physical Education at an 11-16 Special School in England. His research focus is on children with special needs and how they respond to being taught Physical Education through a models-based approach such as the Teaching Games for Understanding Model.

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