http://www.tgfu.info/40th-anniversary-conference.html

The 40th Anniversary International Conference of Teaching Games for Understanding 2023

Programme and Abstract

Date: Saturday 28th January 2023

Venue: Online

Organised by: The Teaching Games for Understanding Special Interest Group

Endorsed by: AISEP Association Internationale des Écoles Supérieures d'Éducation Physique (The International Organization for Physical Education in Higher Education)

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INTRODUCTION FROM THE EXECUTIVE BOARD OF THE TGFU SIG

2022 marked the 40th anniversary of the landmark publication of the Teaching Games for Understanding (TGfU) model, introduced by David Bunker and Rod Thorpe in the 1982 edition of the Bulletin of PE. This sparked a global movement in research and practice within the field of game-based approaches.

The TGfU Special Interest Group (TGfU SIG) would like to welcome you to our 40th Anniversary conference to conclude our celebratory year.

Founded as a Taskforce in 2002 and further ratified in 2008 under the auspices of AIESEP, the TGfU SIG is an international collective comprised of leaders in the field of physical education and sport using game-based approaches. We aim to establish an epistemic community with networks stretching across disciplinary, geographic, and cultural boundaries.

This world-leading, inclusive, online international conference will take place on January 28th, 2023, and will host academics, teachers, sports coaches, and students from across the globe with an interest in game-based approaches.

The TGfU SIG calls for research and practice addressing the following themes and perspectives:

Child & Youth Sport

Teamwork, Fairness, and Equality, Diversity, and Inclusion (EDI)

Coach and teacher professional development

Game curriculum planning, implementation, and assessment

The history of the TGfU SIG has been closely associated with issues of social justice, fairness, and inclusivity. Inclusivity extends beyond issues such as disability, gender, religion, and culture as has been demonstrated by recent events. The COVID-19 pandemic has brought into sharp focus the importance of physical education, sport and the health of our young people, and also reiterated the lack of parity in access for all. The integration and implementation of inclusive sport is a foremost concern for teachers, coaches and academics. The event will provide opportunities for academics and practitioners to engage in discussions of evidence-based practice for overcoming the challenges to, and further advancing, game-based approaches within a range of environments.

OVERVIEW

Themes and Perspectives

The TGfU SIG has called for research and practice addressing the following themes and perspectives:

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COMMITTEES

Conference Organiser

The Executive Board of the Teaching Games for Understanding Special Interest Group (TGfU SIG)

Organising Committee

Linda Griffin	Ellen Gambles	Aspasia Dania
Francesco Sgro	Claudio Farias	

Chairperson of TGfU Special Interest Group

Dr. Linda L. Griffin

Scientific Committee

Joni Kuokkanen	Aspasia Dania	Naoki Suzuki
Jennie Petersen	Don Vinson	Philip Kearney
Gwen Weeldenburg		

Treasurer & Communications Coordinator

Ellen Gambles

Theme Room Facilitators

With special thanks to Kanae Haneishi and Guy Ginciene who helped facilitate two of our theme rooms

KEYNOTE SPEAKERS

Dr. David Guttierez

Professor in the Faculty of Education at Universidad de Castilla-La Mancha (Spain).

David has taught physical education at secondary-school and university levels since 1998. His PhD investigated the development of tactical knowledge in school-aged children. His main research focus is on pedagogical models, especially on TGfU and Sport Education Model. His current project hybridizes these pedagogical models with service learning to increase the well-being of students in sensitive periods such as school transition. At present David is also researching in Physical Education in early years and in the implementation of transdisciplinary methodologies that increase movement during the school day. As part of his academic work, David has been invited to universities in the USA, the Netherlands, Portugal, Canada and Finland. Former TGfU Special Interest Group chair, David is currently chair of the international board of this association, whose mission is to promote and support Game Based Approaches to teaching and coaching.

Dr. Claudio Farias

Senior Lecturer in the Faculty of Sport at the University of Porto (FADEUP) and a research member in the Centre of Research, Education, Innovation, and Intervention in Sport (CIFI2D).

He lectures on the Doctoral Program, on the Master (hons) of PE and sports training, and on the Bachelor (hons) program in Sport Sciences. He has conducted research in Sport pedagogy and Sport Coaching (physical education and teacher education, coach education) with a principal focus on student-centred, model-based practice.

INAUGURAL LEN ALMOND AWARD LECTURE

Professor Linda Griffin

Professor of sport pedagogy in the College of Education at the University of Massachusetts Amherst.

ORCID number: https://orcid.org/0000-0003-2573-680X

Her area of research and scholarly interests over the past 30 years have focused on a game-based approach to teaching and learning sport-related games. A game-based approach links tactics and skills by emphasizing the appropriate timing of skill practice and application within the tactical context of the game. The overall goal is to increase students' tactical awareness, which is the ability to identify tactical problems that arise during a game and to respond appropriately. Linda has numerous publications (i.e., textbooks, edited books, book chapters, peer-reviewed journal articles) and has been a keynote speaker, made presentations and facilitated workshops on this topic. Linda has received several awards and honors UMass Amherst Exceptional Merit Honor, 2015, Frostburg State University Wellner Scholar, 2012, AERA SIG: Research on Teaching and Learning in Physical Education, Exemplar Paper Award; 2008, and National Association of Sport and Physical Education, Council on Professional Preparation in Physical Education, Physical Education Teacher Education Honor Award, 2005. Presently, Linda is the Chair of the AIESEP International Teaching Games for Understanding: Special Interest Group. Over her career, Linda has been involved in a number of grant projects as well as project evaluations.

ROUNDTABLE PANELLISTS

Dr Tim Hopper

Professor at the School of Exercise Science, Physical and Health Education, Faculty of Education, University of Victoria, BC, Canada.

ORCID number: https://orcid.org/0000-0002-1347-5422

Dr. Hopper has been at the University of Victoria since 1998. He currently is a Professor in the School of Exercise Science, Physical and Health Education (EPHE). His scholarly work focuses on teacher education, physical education, and applications of complexity theory in teaching and learning. Dr. Hopper has taught at all levels of the school curriculum both in Canada and the UK. He is currently working on creating self-organizing systems of learning by applying ecological dynamics and complexity thinking to the teaching of games, with a particular emphasis in recent times on teaching tennis. He has published over 25 peer-reviewed articles and chapters on the TGfU ideas and practices. His current research projects focus on using digital assessment systems to promote student learning through competency-based, authentic, personal, and contextual based assessment. He has chaired the PHE Research council of Canada, has been president of the Canadian Association for Teacher Education, and was Chair and Past-Chair of the TGfU international SIG from 2010-2014.

Dr Karen Richardson

Professor and Department Chair in the Health and Kinesiology Department at Bridgewater State University, Bridgewater, MA.

Dr. Richardson has worked collaboratively with colleagues in her university and globally to create an undergraduate physical education teacher licensure program rooted in a student centered and game-based approach, a graduate professional stage licensure program in physical education in Teaching Games for Understanding, a graduate program in Tennis Professional Management and Coaching rooted in a GBA, and created collaborative online international exchange (COIL), student and faculty exchanges and institutional partnerships with colleagues in Japan. Her scholarly interests are in the areas of student-centered approaches to teaching and learning in physical education and in higher education (i.e., student partnership); Teaching Games for Understanding; technology in PETE; and the

development of tactical decision-making competence in gameplay. She is committed to promoting learner/game-based approaches in her teaching and scholarship.

Dr Luis M. García López

Full Professor at the Faculty of Education, Universidad de Castilla-La Mancha, Albacete (Spain)

ORCID number: http://orcid.org/0000-0001-5393-0090

Luis M. García López is with the University of Castilla-La Mancha since 2000. His research and teaching focuses on topics of physical education and sport pedagogy and social justice, both at schools and in community programs. His scholarly work focuses on teacher education, pedagogical models, and applications of salutogénesis and critical pedagogy in physical education. Luis has worked as a teacher in Primary and Secondary School, and as football coach for more than 15 years. He has published over 50 peer-reviewed papers, 15 chapters and 5 books, where TGfU is one of the main focuses. In his current research he is trying to implement salutogenic and activist programmes to promote health and wellbeing in youth, especially those from socially vulnerable backgrounds.

GENERAL INFORMATION

Admission and Participation

The 40th Anniversary Conference will take place as a virtual meeting hosted online using the Zoom software platform. Access to the online conference is via a shared link which will be available to delegates after registration.

Conference Communication

Delegates will be provided with an opportunity to interact with presenters through an online bulletin board (Padlet) to answer questions and network.

Email Communication

tgfu40thconference@gmail.com

Conference Website

http://www.tgfu.info/40th-anniversary-conference.html

Conference Etiquette

Delegates are respectfully reminded to mute their microphones during the duration of the presentations

Breaks

A number of breaks have been scheduled throughout the one-day conference, please refer to the events programme for details.

CONFERENCE FORMAT

ON DEMAND Sessions

These will be open prior to the LIVE dates and accessible afterwards for one year. They will also be accessible via the TGfU SIG members only portal.

Poster, Practical and Oral Presentations- Pre-recorded presentations based upon abstract submissions. Each presenter will be provided with an opportunity to interact with delegates through an online bulletin board (Padlet) to answer questions and network.

LIVE Conference Day Sessions

The live conference day will be Saturday 28th January 2023 (7am-3:45pm EST) using Microsoft Teams. All sessions will be recorded & then will be available on-demand and accessible for one year following. They will also be accessible via the TGfU SIG members only portal.

Conference Schedule Time Zone

Please note that all the timings given refer to Eastern Standard Time (EST).

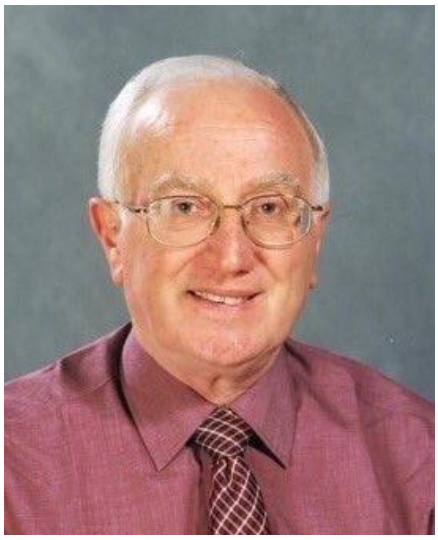
CONFERENCE PROGRAMME

Event	Time (EST)
Keynote 1 and Opening Ceremony	7:00 – 8:00
BREAK	8:00 – 8:15
TGfU SIG Town Hall Meeting	8:15 – 9:30
BREAK	9:30 – 9:45
Len Almond Award Lecture	9:45 – 10:45
BREAK	10:45 – 11:00
Conference Key Themes Discussions	11:00 – 12:00
Networking Opportunities	12:00 – 12:30
LUNCH	12:30 – 13:15
GBA Experts Roundtable Discussion	13:15 – 14:15
BREAK	14:15 – 14:30
Keynote 2	14:30 – 15:30
Closing Ceremony	15:30 – 15:45
Conference Close	15:45

INAUGURAL LEN ALMOND AWARD LECTURE

The TGfU SIG Executive Board are honoured to welcome to the conference Val Almond, wife of Len Almond, and members of their family on the occasion of the inaugural presentation of the Len Almond Award Lecture to mark his lifetime of dedication and achievements.

Background



The Len Almond Award was created by the TGFU SIG Executive board in commemoration of his lifetime commitment to curriculum issues of PE, physical activity and Health.

This award is presented to distinguished scholars in the field of Game-Based Approaches. All individuals present a keynote lecture at a TGfU SIG International Conference and receive a plaque to commemorate their achievement. This award was proposed by Ellen Gambles in 2022 as part of the 40th Anniversary Celebrations.

Presented by: Professor Linda Griffin (University of Massachusetts Amherst, USA)

Title: "Appreciation Matters: Sharing Recognition and Valuing Something Good"

Appreciation Matters: Sharing Recognition and Valuing Something Good

In this inaugural Len Almond Lecture, I will highlight the notion of appreciation. Appreciation is the feeling of gratitude for what has been received, whether it is material objects, relationships, or experiences. Based on this definition I will outline three ways in which I believe that appreciation matters to me as on reflect upon my games story. I will also share how appreciation should matter as we look ahead to the next 40 years. The purpose of this presentation is threefold. First, I will highlight Appreciation Matters #1: Appreciation for colleagues gone but not forgotten. Second, I will reflect upon Appreciation Matters #2: Never forget where you came from. Third, I will share musings on Appreciation Matters #3: Extending the original notion of appreciation in a games-based approach. Finally, I will conclude with some takeaway messages.

PRESENTATION OF RECOGNITION AWARDS

THE LEN ALMOND LECTURE AWARD

Professor Linda L. Griffin

Professor of sport pedagogy in the College of Education at the University of Massachusetts Amherst.

ORCID number: https://orcid.org/0000-0003-2573-680X

In special recognition as a distinguished scholar in the field of Game-Based Approaches and for their outstanding contributions to the AIESEP TGfU Special Interest Group

LEADERSHIP AS CHAIR

Dr. David Gutierrez

Professor in the Faculty of Education at Universidad de Castilla-La Mancha (Spain).

In special recognition for their leadership as Chair of the AIESEP TGfU Special Interest Group.

LEADERSHIP AND SERVICE

Ellen Gambles

Lecturer Faculty of Education & Society, University of Sunderland, England

ORCID number: https://orcid.org/0000-0002-5931-136X

In special recognition for their leadership and service to the AIESEP TGfU Special Interest Group.

40th Anniversary Conference Programme

Abstracts for

Keynote Presentations

and

Pre-Recorded Presentations

ABSTRACTS OF KEYNOTE PRESENTATIONS

Dr. David Guttierez

TGfU 3.0: moving globally to Game-Based Approach

This presentation will address the methodological richness included in the conglomerate of approaches that are grouped under the umbrella of Game-Based Approach (GBA), its origin and prospects. The situation of expansion of the GBA in different countries and the role of the TGfU SIG in the global movement that the GBA currently represents will also be exposed.

Dr. Claudio Farias

Keeping pace with the ever-evolving educational demands posed to physical education: expanding the pedagogical breadth of game-based approaches

This presentation offers a brief retrospective of the evolution of the educational goals required of physical education over the past 40 years; the lifetime of TGfU. In this 'journey', we touch lightly on the various pedagogical iterations of TGfU (Game-based Approaches) that have emerged, and what their unique features have added to the spectrum of realisation of the educational goals of physical education through game-based activities.

Keeping game-based learning as central building-blocks, in close articulation with the foundational idea of student-centred pedagogies, some possibilities for expanding the educational impact of GBAs are presented in the form of a learner-oriented perspective. The focus is placed on the learners' potential for social development through games as well as their increased active involvement in the experience of learning how to play and about games.

40th Anniversary Conference Programme

Pre-Recorded Presentations

Child & Youth Sport

Exploring the relationship between the youth afterschool sports and Social and Emotional Learning

Mark Urtel

Indiana University Purdue University Indianapolis, USA

While after-school programs have been around for over a century, the intentions and outcomes of these broad programs have been studied for less than 25 years (Coatsworth and Conroy, 2007; Hurd and Deutsch, 2017). Social and Emotional Learning (SEL) on the other hand is a relatively new research construct. Therefore, the more we learn about SEL and the more that is understood about afterschool sports the necessity of studying the impact of afterschool sports on SEL becomes convincingly clear.

Participants in this project included 3rd and 4th grade students in a metropolitan-based elementary school. The afterschool sports program had open enrollment and resulted in ~90 participants joining. We then identified a matching group who did not enroll in the sports intervention.

The intramural sports program emulated some key elements of the Games Based Approach as summarized by Kinnerk, Harvey, MacDonncha, and Lyons (2018). In particular, the current Intramural Sports program was built to promote social development. As important, it used varying game play progressions fostering consistent opportunities for student dialogue and reflection (Kinnerk et al., 2018). While (a) grade (b) gender and (c) program participation were the dependent variables, SEL score was the independent variable. SEL was assessed for all students through the DESSA-mini in a pre-test and post-test manner. The DESSA-mini was selected for a few reasons (a) efficiency for inventory completers (b) reliability to the larger DESSA inventory (c) strength for assessing elementary-aged students and (d) relevance for after-school programming (Naglieri et al., 2011; Shapiro, et. al., 2017). To explore the impact of afterschool sports on Social and Emotional Learning in an afterschool setting Oneway ANOVAs were utilized. The results indicated that overall, there was a statistically significant difference between program participants and a peer control group of non-participants. Factoring in grade, there was a statistically significant difference between 4th graders participating in the program, versus a peer control. Regarding gender, there was no statistically significant difference between males or females participating in the program, versus their peer control.

The significance of this work suggests after school intramural sports, following key tenets of best practice programming, has the capacity to significantly impact SEL scores of elementary-aged youth.

Coatsworth, J. D., & Conroy, D. E. (2007). Youth sport as a component of organized afterschool programs. New directions for youth development, (115), 57-74.

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Kinnerk, P., Harvey, S., MacDonncha, C., & Lyons, M. (2018). A review of the game-based approaches to coaching literature in competitive team sport settings. Quest, 70(4), 401-418.

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The Effects of TGfU and SET Pedagogical Model on Malaysian Aborigines' Primary Student in Coaching Context

Mohamad Nor Farihan Bin Sulong & Sanmuga Nathan K. Jeganathan

Faculty of Sports Science and Coaching, Sultan Idris Education University of Malaysia

Introduction: The implementation of GBA approaches such as the Teaching Games for Understanding (TGfU) and the Malaysian game-based model labelled as Style E Tactical Model has not been tested for the efficacy among Malaysian Aborigines' students with different cultural and emotion background compared to Malaysian mainstream students in football game play. The purpose of this study was to examine the effects of TGfU and Style E tactical (SET) pedagogical model on Aborigines' primary school students in 5 versus 5 small sided game play.

Methods and data: This study employed Quasi-Experimental design of pre-and post-test with two intervention groups. The study utilized intact samples of, n=20, male, aged 10±12 years old who were divided equally into two groups of TGfU, (n=10) and SET, (n=10). This study completed six weeks of interventions.

Players' game performance was evaluated in terms of decision making (attacking and defending), skill execution (passing, receiving the ball, dribbling, and scoring), adjust (movement to maintain the ball possession) as well as cover (assist their teammates in defending situations by helping their teammate who is trying to win the ball and marking the opponents who have no ball) in a modified game situation of 5 versus 5. The data was analyzed using One-way ANOVA.

Summary of findings: Findings indicated there was no significant difference in game component of decision-making between the TGfU (M/SD: 7.30±5.06) and SET (M/SD: 4.10±2.85), $F(1,18) = 3.04$, $p = .098$, $p > 0.05$) after intervention, skill execution between the TGfU (M/SD: 3.90±3.21) and SET (M/SD: 2.50±2.92), $F(1,18) = 1.04$, $p = .321$, $p > 0.05$) after intervention and adjust between the TGfU (M/SD: .40±.69) and SET (M/SD: .10±.32), $F(1,18) = 1.53$, $p = .232$, $p > 0.05$) after intervention. However, as for cover component findings indicated significant difference between the TGfU (M/SD: 2.10±1.59) and SET (M/SD: .40±.69), $F(1,18) = 9.53$, $p = .006$, $p < 0.05$) after intervention.

Conclusions: TGfU model seems to be a better model especially for cover components (assist their teammates in defending situations by helping their teammate who is trying to win the ball and marking the opponents who have no ball). Thus, further research has to be done to confirm the effectiveness of TGfU and SET models for Aborigine students by employing the same components or

other components of game play, integrating the physiological parameters and physical abilities. Apart from that, further research should pay attention to methodology aspects which are the maturation and selection and also the large number of samples by considering their needs and difficulties revolve around their sensitivities in terms of communication as well as cultural.

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Sierra-Ríos, J. V., Clemente, F. M., Rey, E., & González-Víllora, S. (2020). Effects of 6 Weeks Direct Instruction and Teaching Games for Understanding Programs on Physical Activity and Tactical Behaviour in U-12 Soccer Players. Int. J. Environ. Res. Public Health 2020, 17, 5008; doi:10.3390/ijerph17145008

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Group play and emotional intelligence of preschool children

Lydia Stagianni, Dimitra Striga & Aspasia Dania

School of Physical Education and Sport Science of Athens, National and Kapodistrian University of Athens, Greece

Introduction: Preschool age is a period of outstanding importance for children's overall development. In this period, children gain indispensable skills and experiences, which will help them build their personality and promote their life success. One of the most important abilities developed during this period is Emotional Intelligence (EI). EI refers to children's ability to perceive things accurately, estimate and express feelings and thoughts, and develop the capacity to understand and

regulate their emotions in ways that promote their holistic development. During this period, group play offers a valuable context for achieving the above, as games enable children to experience delight and happiness and learn about themselves and the world around them. Based on the above, the aim of this study was to examine whether and how group play influences the development of Emotional Intelligence in preschool children.

Methods and Data: A literature search was conducted for English, full-text articles from the last ten years, according to the following keywords: preschool, emotional intelligence, group play, empathy. Overall, the review included 20 studies that were chosen based on their relevance to the topic and the search criteria.

Summary of Findings: Results showed that through group play children experience and understand their emotions and learn how to manage them. Further, they develop their social ability and behaviour in order to be able to solve problems. Also, as group play assists children to realize that other people have emotions as well, it leads them to become less self-centred and to form safe interpersonal relationships. This happens because emotional development contributes to the formation of personalities with social and academic skills.

Conclusions - Key Contributions: In conclusion, pre-school education may not only aim at academic knowledge acquisition, but also at the emotional development of children. For that reason, the use of game-play in preschool curricula should begin as early as possible so that the benefits become greater for children's entire lives.

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Exploration of the Perceived Quality of a Football Teaching Games for Understanding Programme by Under-12 Learners according to their Gender and Ability Level

Carmen Barquero-Ruiz & José L. Arias-Estero

Departamento de Expresión Plástica, Musical y Dinámica. Facultad de Educación. Universidad de Murcia, Spain

Teaching Games for Understanding (TGfU) was originated to increase children's motivation and learning in physical education, independently of their gender or ability level. Literature has largely

shown the advantages of TGfU in terms of learning, performance, success, enjoyment, and perceived competence (Kinnerk at al., 2018). However, there is an unexplored path that could lead to know if TGfU programs minimize the differences between genders and ability level in terms of perceived quality. Considering that in sport contexts young players' voluntary decide to enrol, it is relevant to know the perceived quality of the sport programmes, as this perception is related to the loyalty of participants. According to TGfU objectives, it is expected that a sport programme based on TGfU would lead to higher levels of participants' perceived quality, minimizing the differences existing by gender and ability levels. This study aims to explore whether perceived quality of the program was different in terms of gender and ability level after a TGfU programme. The programme was randomly advertised in schools and sport settings. Twenty-five under-12 players enrolled voluntarily (14 boys and 11 girls). Three coaches were trained and mentored in TGfU. The programme involved eight 90 minutes TGfU sessions. Players' ability level was determined throughout Game Performance Assessment Instrument (12 low-ability and 13 high-ability). Players filled out the perceived quality scale of sports organizations (EPOD; Nuviala et al., 2010). Specifically, they completed technical staff (six items), activities (eight items), and satisfaction (six items) dimensions, rated on a 5-point Likert-type scale. A 2x2 ANOVA was used to compare between gender and ability levels. There were no significant differences between genders nor levels, except for technical staff ($p < .05$), because low-ability players showed higher scores. In conclusion, the aforementioned advantages of TGfU may be crucial to explain the findings, highlighting that the approach could help to minimize the differences between genders and ability level in terms of perceived quality. Since the relation between perceived quality and loyalty, TGfU could help to sustain interest in sport programmes, what becomes especially important for populations that commonly achieve less success.

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Developing perceived self-efficacy during sport participation in children through a Didactic Model of the Game Actions Competence

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Introduction: Perceived self-efficacy can be a predictor of motivation and behavior in sport and exercise (Bortolli et al., 2011). Traditionally the sport games are taught through Direct Instruction (DI). This Instruction model emphasizes learning technical skills. However, motivation, cognitive

abilities and game knowledge received very little attention. Motor skills do not develop sooner simply as a result of introducing them to children at an earlier age (American Academic of Pediatrics, 2001). Teaching or expecting these skills to develop before as a previous condition to play is more likely to cause frustration and early drop out. An alternative instruction model called Didactic Model of the Action Game Competences (DMAGC) might be a suitable alternative to ID for learning game competences and promoting perceived self- efficacy and thus increasing children`s motivation for long-term engagement in sport. In this study are compared the effects on perceived self-competence after learning basketball through an ID setting with those of learning basketball through a DMAGC setting.

Methods and Data: 30 children aged 8 (± 1) years participated in a 16-sesions teaching program of basketball. The children were assigned to a DMAGC group (n=15) or to a Direct Instruction (DI) group (n=15). The DMGAC group learned to play an adapted game mainly through game tasks. The DI group learned to play mainly by learning motor skills. Participants' perception of competence in sport was determined by using an adapted version of the Perceived Physical Ability (PPA) (Colella et al., 2008). The administration of the questionnaire was carried out in small groups of five children in a locker room without the presence of the coach. A researcher presented the instructions for completion to the children. They were told that there were no right or wrong answers and they were assured of the confidentiality of their responses. The researchers ensured that the children had understood the instructions, were familiar with the questionnaire, and responded to all items. To compare the scores of each group in the PPA, the Mann-Whitney U test for independent samples was used.

Summary of findings: Self-efficacy was significant greater ($p = 0.043$; effect size = 0.059) for the DMAGC group after finishing the teaching program and also two weeks afterwards ($p = 0.045$; effect size = 0.053).

Conclusions: Enhancing an individual's ability levels and promoting the learning of sport games through the DMAGC can result in improved physical self-efficacy and heighten motivation to participate in physical activity and sport programs.

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Social competence in Physical Education and youth sport. A review

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Introduction: Within Physical Education (PE), social competence is related with two determinant levels of players' successful performance: (a) the cognitive-perceptive and motivational-emotional level (e.g., knowledge to achieve goals, showing emotional stability), and (b) the behavioural level (e.g., communicating, resolving conflicts) (Wang & Chen, 2021). Although there is evidence to support the positive relationship between social skills and effective learning in various educational settings, there is limited evidence concerning the relationship between social competence and game performance within PE and Sport. The aim of this study is to conduct a review of research studies that have examined the concept of social competence within PE and sport settings, to propose directions for relevant studies in the field of Games Based Approaches (GBAs).

Methods and Data: A literature search for English, full-text articles was performed following inclusion criteria: social competence, games, physical education, and sport. Overall, the review included 32 studies that met the criteria, and these studies were analysed based on the two aforementioned levels of social competence.

Summary of Findings: Results showed that studies have examined the concept of social competence by: (a) adopting theoretical frameworks, that delineate the design and implementation of models for social competence analysis and evaluation, (b) testing didactical approaches, that focus on social skill development within PE, and sport settings, (c) providing empirical findings, that support the need of interventions purposefully designed to improve students' and athletes' social competence, and (d) specifying the characteristics of school and out-of-school programs to promote social and affective skills.

Conclusions - Key Contributions: Considering the fundamental role of social competence in diminishing low game participation and performance (Schüller & Demetriou, 2018), we believe that future GBA research should focus on the evaluation of players' social competence within varying PE contexts.

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No Stupid Questions? Using student's questions to deepen learning in games

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The session aims to introduce how question-based learning can support learning in PE related to gameplay and tactical understanding. Based on the findings gathered from a critical inquiry project with two primary schools in Singapore, conducted by the Physical Education and Sports Teacher Academy (PESTA), Ministry of Education, Singapore, the presenters will share how teachers can guide students to surface questions during game-based lessons and present key findings of the project. Question-based learning (QBL) is a type of inquiry learning where the student learns by formulating questions through the situations encountered (Walsh, 2021). In PE, the use of questions to move learning forward is a common pedagogical scaffold in games-based approaches, where the teacher uses questions to guide learners in terms of their tactical understanding or skills development.

Question-based learning empowers students to ask questions within a game-based lesson. Through their questions posed, students explore the possible solutions creatively, taking into account their existing knowledge, context, relationships and complexity unique to the game situation. By adopting a problem-solving stance, the learning focuses on the quality and effect of the questions they posed as much as the solutions gathered. According to Light (2012), the development of a language in a game-based approach encourages students to think critically about their skills and tactics in action. The findings supported that through this model of inquiry, students gain a greater awareness of their experiences through their questions and the development of their 'game language'. When their decision making is brought to a conscious level, as noted by Light (2012), the presenters observed that students learn to take calculated risks in their decisions, anticipate patterns and movements of other players, and play tactically within the game conditions. QBL embraces the notion that every student can be motivated to play games as a social, fun and empowering experience.

By the end of the session, participants will learn how teachers can progressively introduce the approach and experience samples of teaching episodes that they can adapt into their own lessons.

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Keeping the ball in play without keeping it: Teaching and understanding the flow of play in ball games

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Introduction: Play is the lifeblood of most game-based approaches. The presentation will argue that among the games which facilitate a smooth way into the flow of play are net games. After explaining what is meant by the flow of play, a brief overview will be presented of how we can make the most of play in child and youth sport, especially in games of volleyball and tennis which are often considered to be difficult to introduce into school curricula. By designing teamwork activities, which center on keeping the ball in play without keeping it, both beginners and advanced learners will be offered a chance in these games to get a feel for the flow of play through a collaborative effort.

Methodology: Based on extensive readings of the still growing literature on play, the presentation will argue that taking our starting point in the dynamic flow of play holds a great teaching and learning potential that can heighten the motivation and delight of young players. In his seminal work, Homo Ludens, Johan. This “essence” can also be found in youth sport. Len Almond has highlighted “the shape and flow of the game” as key to understanding games (p. 20), and Joy Butler has argued that “without the play element, activity becomes routine, predictable and lacking in possibilities” (p. 4).

The ball and net games, which share a basic game dynamics of keeping the ball in play without keeping it, are for example volleyball, badminton, tennis, table tennis, and paddle tennis. As mentioned, these games are, however, rightly considered to be difficult to introduce into school curricula because of the required technical skill and coordinated movement needed to play and participate in them which is one more reason why we need to think about how to make adaptations and shape these games so that all participants can be engaged in them, sharing, learning and enjoying themselves in fair, diverse and inclusive ways.

Findings:

- give young players a chance to get a feel for and understand the flow of play
- enjoy learning skills without interrupting the flow of play
- foster sustained attention, teamwork and the desire to continue playing
- engage young players to explore options and openings in game situations

Key contributions: In conclusion, the presentation will sum up how understanding the flow of play in games may feed into, but also challenge future research in this area. Play can easily get out of control and spoil any game, so it is important to create well-designed activities which children and young people can easily follow in order for them to raise their motivation, joy and attention in and outside play situations.

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Teaching and learning tactical fundamentals and developing decision-making in Basketball: the importance of the offensive structure (symmetric: 5 out [1-2-2] vs asymmetric: 4 out – 1in [2-2-1])

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TGfU's approach pursues to improve players' game performance by combining tactical awareness and game skills learning (Mitchell et al., 2020). This research project aims to exploit the effect of different offensive tactical structures in the game skills, game play interactions, and collective tactical behaviour of under-14 female basketball players. Thus, it is designed to examine how different offensive structures: symmetrical (5 out [1-2-2]) and asymmetrical (4 out - 1 in [2-2-1]), shape the time-space to act and interact (type, frequency, and variability), the game play options (individual and cooperative), and the "affordances of others and for others" within the team game actions (synergies between players) depending on the goal and dynamic situational constraints (Araújo & Bourbousson, 2016). Accordingly, this PhD project is composed of four interrelated studies, namely:

Study 1. Conceptions and practices in introducing and learning the official game (5vs5) at the under-14 level - The coaches' perspective;

Study 2. Game actions of under-14 basketball players and their relationship with the symmetric (5 out [1:2:2]) and asymmetric (4 out -1 in [2:2:2]) attack structure;

Study 3. Effect of symmetric (5 out [1:2:2]) and asymmetric (4 out - 1 in [2:2:1]) attack structure on the physical activity of under-14 basketball players;

Study 4. Exploratory study on the effect of the attack structure (1:2:2 against 2:2:1) on the occupation (wide and deep dimensions), the creation of the game space and the areas of greater activity of young basketball players (under-14).

Given the nature of the research question, we will apply a mixed methodology: A qualitative approach will be adopted in the first study, based on individual semi- structured interviews with expert coaches; a quantitative approach will be used in the following studies, based on notational analysis and positional data (ultra-wideband technology).

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40th Anniversary Conference Programme

Pre-Recorded Presentations

Teamwork, Fairness, and Equality, Diversity, and Inclusion (EDI)

Inclusive handball at PE classes: the soft ball effect

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The technical and academic community has been claiming for the adoption of key pedagogical game modifications in handball teaching: attackers-to-defenders ratio, court size, ball characteristics, goal size, goal area dimensions, organization, and action rules (Estriga, 2019, 2022). The main aim of this study is to explore the effect of ball characteristics (soft vs. standard) and different defensive behaviours on the teaching-learning process in handball over 24 physical education classes. The study enrolled 18 students from the 11th grade, ages 16–18, a pre-service teacher (PST), a teacher educator, and a handball didactic specialist. All the lessons were video recorded and used for remote analysis and reflection, however, only situations from the first (1) and last lesson (2) were considered. Similar game play situations, performed with both balls in a randomized order, were selected and analyzed by the PST: (1) "passing game" in a 3x3 situation with individual marking; and (2) distinct game forms (4vs3+Gk; Gk+4vs4+Gk, with different defensive constraints). The diagnostic evaluation grouped the students into performance levels (1: not proficient; 2: basic; 3: proficient), but heterogeneous groups and soft balls were preferably used during the unit. Notational analysis was used to quantify the number, type, and success of passes and receptions. The results showed that, in the first lesson, the usage of the soft ball, increased the number of effective passes and receptions particularly among the students from levels 1 and 2, compared to the regular ball. Still, in the last class, no significant differences were found relative to the types of balls used in the most worked game form (Gk+4vs4+GK), leading to the conclusion that the learning process was effective. The finding also showed that an aligned zonal defence allows a more participated attack, with more connecting passes and game play flow. In summary this study underlines that the use of soft balls helps to eliminate technical barriers and constraints, allowing access to game play and knowledge through more implicit learning.

Project funded by the Foundation for Science and Technology with the reference: 2022.09013.PTDC: Empowering pre-service teachers as practitioner researchers toward PE inclusive practices.

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Significance and Role of Sports for Coexistence with Foreign Workers in Japan

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Introduction: Currently, the world is moving toward achieving the goals of the Sustainable Development Goals (SDGs), and one of the key goals is to build an inclusive society. In Japan's context, the need to promote coexistence with foreign workers is emphasized due to the increase of foreign workers. Song (2017) said that there is a need to deepen communication and promote mutual understanding between foreign workers and residents. Sports and physical activities have been used to create an inclusive community and address the issues on coexistence between domestic people and foreign workers.

However, few sports and physical activity programs in Japan promote mutual understanding among diverse populations, especially foreign workers, and little research has been conducted to determine their impact. Furthermore, most of the sports that have been used for cross-cultural mutual understanding and interaction in the past have been sports such as soccer and basketball, which are greatly affected by the physical and skill levels of the target people.

Therefore, the purpose of this study was to determine the impact and the role of sports programs based on Game-Based Approach, GBA, (Bunker, & Thorpe, 1982) that promotes inclusivity with foreign workers in Japan.

Method and Data: Andragogy theory (Knowles, 1989) was applied for this study. The participants were 11 residents (4 Filipinos and 7 Japanese) who took part in the Gateball physical activity program held in Osaki town, Kagoshima, Japan in September 2022.

This program was held to deepen mutual understanding between residents. The participants were 40 Osaki-town residents, ranging from 4-year-old pre-schoolers to 65-year-old senior citizens, 31 Japanese, and 9 foreign workers. The program began with an introduction to Easy Gateball. Then, after a little practice, several exchange games were played. After that, each court had an exchange time. Then the tournament games were played. It was a three-on-three team match. The duration of the games was 10 minutes. Since a diverse group of people participated in the event, detailed rules other than the basic rules were discussed among the participants and decided upon by them. "Easy Gateball", a modified Gateball using GBA was adopted to ensure that all people, regardless of gender, age, ability, nationality, and other backgrounds, can enjoy the program. Easy Gateball is a universal physical activity with modified equipment, rules and grounds, including the use of hands to play. Semi-structured interviews were used for data collections, and the constant comparison method was used to analyze the data. The content was based on Andragogy's theory, including motives and objectives for participation, what they learned from the program, how they felt the Gateball program contributed to the interaction of a diverse group of people, and areas for program improvement.

Summary of Findings: Three emergent themes were: (a) suitable place for interaction, (b) modifications to the sport programs, and (c) continuation of similar physical activity programs. Participants noted that the rules and required techniques were fairly easy, so they were able to have fun and interact with a diverse group of people, including foreign workers, through sport.

These results resolved the previously mentioned issues of skill and physical fitness levels, and modified sports functioned as a common language that eliminated the boundaries between foreign workers and Japanese. In other words, the equitable and inclusive environment created based on

GBA made it possible for people from 4 to 65 years old to deepen communication without regard to differences in skill level, physical fitness, nationality, gender, and other factors.

The results demonstrated that the modified game, an important aspect of GBA, has the potential to be of great use at the community level, not only for school and sports coaching but also as a tool for solving local issues of inclusive community building and mutual understanding among residents.

However, it is difficult to capture this result as a community impact because of the one-event format of this program. Hence, further research is needed to understand the long-term community impact of GBA-based sports programs and how they compare to other existing sports.

Conclusions: This study has shown that sports and physical activity program based on GBA can be a suitable tool for interaction among diverse people in Japan since all people shared the enjoyable time together. This example certainly can apply to other communities that have similar demographics in Japan.

In order to sustain the inclusivity in the community, it is essential to continue similar physical activity programs so people in the community can deepen communication and foster inclusion and equity with diverse people in the community.

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Unlocking the potential of TGfU: Developing the whole child

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Teaching Games for Understanding (TGfU) was born out of a concern by a group of educators in the late 1970s that the traditional way of teaching over-emphasised techniques, leaving students not knowing what to do when playing the game (Bunker & Thorpe, 1982). TGfU's focus on developing students' decision-making, skill execution and tactical awareness through playing specially designed games with embedded game situations quickly gained popularity as an approach to teach games. Different versions of TGfU, now known as Game-Based Approaches, soon began to appear around

the world in the 90s and early 2000, like the Tactical Games Approach, Game Sense and the Games Concept Approach. While the various versions offered a slightly different take on game-based teaching, they largely follow the pedagogical principles of TGfU and the intent of developing thinking players who are able to solve problems they encounter in games.

40 years on, the world has become more connected and complex. Hyper-politicization of school curriculum content, injustice practices and oppression toward persons of minoritized backgrounds (i.e., race, gender, language, age, religion, socioeconomic status, ethnicity, nationality, ability, and sexual orientation) have challenged physical educators to expand the Physical Education (PE) learning environment and promote equitable and just practices. PE educators, thus, play a unique role in the social justice movement as they address human dynamics and complexity in our society during their lessons. The educational landscape has shifted, and so must our practice. We are reminded that learning cannot be compartmentalised into the cognitive, affective and psychomotor domain because human systems are nested and interconnected (Butler, 2016). But while the TGfU curriculum values collaboration, thinking critically and making democratic decisions as much as it does the performance of physical skills (Butler, 2016), it is implicit, and acquiring these important learning may be left to chance if PE educators are not deliberate in their planning and teaching.

By reframing the 6 key stages of TGfU, and making the implicit explicit, we believe that we can position TGfU as the approach that can truly develop the whole child and prepare them for the future. Watch how we reframe, analyse, unpack the key stages of TGfU and its pedagogical principles, and debate on the points, uncensored!

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Teaching Games for Relational Understanding: the Interactive for Life (IA4L) Project

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Introduction: The 5-year, multiphase SSHRC-funded InterActive for Life (IA4L) project aims at developing tactical, tactful and tactile awareness in partnered practices and what this implies for the joyfully affective and kinaesthetically effective teaching of games and sports. We focus specifically on the postural, positional, gestural and expressive conditions for promoting interactive flow.

Methods and Data: Stage one of this multi-phase IA4Lproject involves a motion-sensing analysis (Lloyd & Smith, 2021) of interviews, observations and video recordings of seven world-class experts in equestrian arts, salsa dance, martial arts and acroyoga. Each practice reveals essentially InterActive functions, forms, feelings, and flows.

Stage two mobilizes the knowledge gained in order to inspire teachers of games, sports and partnered fitness pursuits. A compendium of K-12 InterActivities, including instructional videos, were developed to show specific ways in which relational awareness and motional responsiveness to others can be enhanced (Nyentap, et. al., 2020).

Stage three tracks social media responsiveness to the IA4L resource and has PHE teachers applying the interactive game and sport design to their developing practices (Lloyd & Smith, 2022).

Summary of Findings & Key Contributions: We offer tangible, kinesthetic pathways for cultivating relational sensitivities so that cognitive, tactical understandings are enhanced by 'feelings' of relationality and knowledge of how one might be optimally responsive to others.

The outputs for the IA4LProject include:

- Introductory Video: https://function2flow.ca/the-interactive-for-life-project/
- 5 Video Documentaries of InterActive Expert Educators in Action https://function2flow.ca/phase-1-learning-from-experts/
- Open-Access resource with over 28 interactivities https://function2flow.ca/the-interactive-for-life-project/interactivities/
- 4 Video Documentaries of Physical Education teachers engaged with the IA4L project https://function2flow.ca/phase-3-interact-with-us/
- 5 Refereed articles
- Refereed Book Chapter
- Social Media Article for TGfU organization http://www.tgfu.info/blog)
- 50+ Social Media Posts: @IA4LProject

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40th Anniversary Conference Programme

Pre-Recorded Presentations

Coach and Teacher Professional Development

Connecting the missing link through pedagogical scaffolding: how can the facilitator balance learners' progressive (instructional) decision-making responsibility and their game-play development in game-based approaches?

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According to the recent game-based consensus statement issued by the TGfU-SIG, a game-based approach (GBAs) refers to a learner-centred teaching and coaching practice in which modified games establish the basis and framework for developing thoughtful, creative, intelligent, and skilful players. From a teaching and learning perspective, this multidimensional development perspective of knowing how to play and understanding sport and games necessarily implies that the teacher or coach acts as a learning facilitator with the respective active engagement of the learner in their learning and sport development experiences (Dyson et al., 2004). However, the process of transferring responsibility and decision-making to the sport learners in the various domains of the teaching-learning process in GBAs (skilful understanding and performance of games, goal-setting, collaborative problem-solving, learner-led game design and peer-coaching) requires the teacher or coach to perform efficient learner-oriented instructional support to the learners (Farias and Mesquita, 2022). Even so, there remains a dearth of pedagogical resources in the field that explicitly show teachers and coaches how to put scaffolding processes into practice that concurrently enable learners to have an augmented participation in their learning experience and a competent development of game-playing skills. Thus, we present a learner-oriented proposal having at its heart the concept of scaffolding to operationalize the facilitator's pedagogical intervention. In agreement, firstly, we will map the fundamental principles of scaffolding (diagnosis, contingency, transfer of responsibility, and support fading). Secondly, we present a frame of scaffolding settings and operations through which to progressively sustain learners' active engagement in the learning process. Finally, and to fill in a particularly striking gap in the literature, we clearly show how the transfer of decision-making responsibility to learners can be integrated into the content and task development of GBAs in a progressive and sustained manner by the application of scaffolding settings and operations.

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Critical Thinking in Sport Settings Model

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Critical thinking underlies the ability to make decisions. Critical thinking in sport can be defined as "reflective thinking that is used to make reasonable and defensible decisions in movement tasks" (McBride, 1991). If we want to develop the tactical ability of athletes and therefore both their ability to make decisions, it is reasonable to try to improve the ability underlying this ability (Greháigne et al., 2001). GBAs have gained popularity and break the traditional paradigm in the teaching of collective sports where proposals based on technical acquisition were based, migrating from this contemporary perspective to reflective methodologies. These raise questions about what to do and not how to do it. However, most research on tactical ability and decision making in sport refers to aspects superficial and is preferably oriented towards the presentation of tasks with cognitive requirements without delving into the factors that enable the adequate resolution of these tasks (Rico et al., 2021).

Critical thinking can be learned. Players can be taught to better use their cognitive resources to decide more quickly and more creatively, spend more time analyzing the content or structure of a problem, be more flexible, and be willing to modify decisions based on new information, and being able to explain, defend, and transfer thinking to other situations more effectively.

Underwater rugby is a relatively new team sport that had its origin in German diving clubs as a training methodology to improve performance in dives. Except for its name, it is very similar to English rugby. Underwater rugby has a characteristic that makes it unique, it is played in a three-dimensional field in a pool. Two baskets of stainless-steel lie on the floor of the pool that has a depth between 3.5 and 5.0 m. It is played with a plastic ball filled with a saline solution so that it has negative flotation. Two teams composed of twelve players, six of them always in the water with their respective active relay have as objective to score goals with the ball putting it inside the basket of the opposing team. The player in possession of the ball, and always using mask, snorkel, and fins, can be taken and take other players which implies that the ball must be passed quickly to avoid the struggle. As in other team sports, the players in the water have a specific position, forwards, goalkeepers, and defences (Gaviria, S. 2019).

We propose a didactic model for Critical Thinking teaching and learning. The Critical Thinking in Sport Settings Model (CTSS) intends to develop the ability to solve game problems through sounded logical and rational decisions. It explores deep in the cognitive processes which support decision taking to promote the acquisition of critical thinking skills such as interpretation, analysis, inference, evaluation, explanation, and self-regulation. The CTSS applies IDEAS, a 5-steps critical think problem solving process: Identify, Determine, Enumerate, Assess and Scrutinize.

In an exploratory qualitative studio, we implement the model to teach critical thinking skills to young underwater rugby players. There was a control group, which continued with its traditional training sessions, and an experimental group that carried out the 14 sessions based on the CTSS. The 14

training sessions were established by the basic principles of underwater rugby (7 principles; 3 defensive tactical principles, containment and concentration, defensive coverage, and recovery, and 4 offensive principles, penetration, offensive coverage, space and mobility, and offensive unity). The practices were raised to work two of practices by principle for a total of 14 practices. The measurement was carried out through the RUSTAC test, which consists of a game in a reduced space of two periods of time. The evaluation of the actions during the game was performed by three experts. The evaluation of the discussions was carried out through interviews.

Results indicate a successful learning of critical thinking skills showed in the verbal expressions of players as they explain its decisions in interviews and focus groups discussions after games. Another successful change was reported in the annotation variable, the most determining variable to meet the objective of winning matches, showed percentage changes above 10% positive for the experimental group and falls greater than 10% for the control group, thus validating that the intervention had a positive effect on this variable.

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Barriers to Teaching Games for Understanding: Teachers' Engagement and Implementation in England

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Teaching Games for Understanding (TGfU; Bunker & Thorpe, 1982) has 40 years of research and practice but has continued to meet resistance in its full integration in schools (Almond, 2010; Harvey & Pill, 2016). This study aimed to evaluate the impact of a teacher training session to address five perceived barriers (11- sub barriers) to the implementation of TGfU. The five barriers were highlighted in a previous study as lack of time, lack of understanding, lack of knowledge, lack of support and reluctance to change. A pre-post design study was used to examine and evaluate the success of 17 PE teachers across five high schools in the North of England delivering TGfU as a part of a 6-week scheme of work. A 2-hour continuing professional development (CPD) session was conducted with PE departments which included information on TGfU, theoretical and practical lesson plan examples and an opportunity to reflect and change their existing schemes of work to be TGfU-centred. The teachers practiced the TGfU approach for a minimum of 1-hour per week for 6 weeks. Quantitative and qualitative data were collected using questionnaires and focus groups.

The inferential statistics showed five sub-barriers were reduced in the post test results. This included lack of time (planning TGfU lessons; within lessons to teach TGfU), lack of understanding (needing to teach skills first before teaching TGfU; unsurety in how to apply TGfU in practice) and their lack of knowledge (lack of training in how to apply TGfU). The teachers expanded upon these findings during the focus groups, discussing the three main barriers that were reduced and the reluctance to change barriers. The focus groups revealed that while some barriers were significantly reduced, all barriers remained in place, to varying degrees. Recommendations for overcoming the barriers included an initial CPD event, the availability of a facilitating expert to assist with implementation, and continued support after the CPD event with time available to plan and practice. Teachers suggested TGfU resources were needed in a central location for ease of access allied with support and endorsement for the approach by their senior leadership team.

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Using ecological dynamics in game centred tennis instruction in the USTA PTM program: Creating DrTimTennis YouTube channel

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The graduate level Professional Tennis Management (PTM) program was initiated by the USTA on five campuses across the US. Launched at the graduate level the intent was to enhance the coaching and teaching of tennis by applying advances in coaching philosophy such as, but not limited to, the application of play-practice-play, biomechanics, and ecological dynamics. This presentation will highlight a 3-year collaboration between Faculty at Bridgewater State University (BSU) who launched the PTM program, and Dr Tim Hopper hired to teach in the program based on his tennis professional coaching qualifications, playing standard, PhD in physical education and scholarly reputation on the application of game centered approaches. This session will focus on their collaboration in creating a YouTube channel, http://youtube.com/@DrTimTennis.

This presentation will highlight video clips from the channel that explain how ecological dynamics, tactical concepts, skill fundamentals as phases with critical features, and team games designed to rotate opponents, all can be combined to create the ideal conditions to learn how to play tennis, and train to more advanced levels of play.

To parallel the development of the YouTube channel two articles have been published in the US Strategies journal that capture the core concepts taught in the PTM program at BSU (Hopper & Rhodes, 2022a; Hopper & Rhodes 2022b). These articles explaining ecological dynamics in coaching tennis promoted by the International Tennis Federation (ITF) rescaling of courts, rackets and ball compression to children and beginners (ITF, 2013), and how enactivist insights on teaching tennis allows skills to emerge from tactical interactions among players of diverse ability enabled by modification by adaption game design (Hopper, 2011).

The practical video will show how this play-first approach, adopted by Tennis Canada (see Tennis Canada, 2015), and with a focus on tactical concepts that lead to skill development, by the International Tennis Federation (ITF, 2019). This video will highlight how a “play–practice–play approach can” promote action spaces for players where the (1) affordances in game design promote tactical concepts, (2) skill learning emerges concerning tactical problems, and (3) games are designed to create opportunities for optimum challenge” (Hopper and Rhodes, 2022b, p. 11).

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Systematic review of sport coaches' and teachers' perceptions and application of game-based and constraints-led pedagogy: A qualitative meta-study

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Introduction: While there have been reviews on the game-based approach (GBA) and constraints led approach (CLA) literature (Harvey & Jarrett, 2014; Ramos et al., 2020), there has yet to be a review on sport coaches' and teachers' perceptions and application of GBAs and CLA. Therefore, this is the first comprehensive qualitative systematic review and meta-study to analyse sport coaches' and teachers' perceptions and application of GBAs and CLA.

Methods: A protocol was initially developed following the PRISMA-P (2015) guidelines (Moher et al., 2015). Twelve academic databases were searched from 1982-2019 using a range of search terms affiliated to GBAs and CLA (e.g., "game-based approach" OR GBA, and "game-centred approach" OR GCA, and "nonlinear pedagogy" and "constraints led approach"). Once all twelve databases were searched and the duplicate papers had been removed, 18,087 papers were screened.

Findings: Twenty-nine papers met the eligibility criteria and were included in the review. Twenty-seven focused on GBAs with eighteen including teachers and nine with coaches, while only two were on CLA with trainee PE teachers. The meta-method analysis revealed studies were conducted in several countries (e.g., UK, USA and Hong Kong) and focused mainly on invasion games. Interviews where the most common method applied, while a purposeful sampling strategy was mostly administered. However, the sampling strategy in fourteen studies was either not stated or unclear. While the meta-theory analysis found constructivist learning theories were mostly administered, the theoretical perspectives underpinning thirteen of the studies was not stated. The meta-synthesis revealed perception of learning, pedagogical knowledge and skills, content knowledge and support to be impacting coaches' and teachers' perceptions and application of GBAs and CLA.

Conclusion: The review found several factors to be influencing coaches' and teachers' perceptions and application of GBAs and CLA; however, further research examining the experiences and use of these pedagogies with female educators and coaches from other game categories (e.g., target)

would be a welcome addition to the literature. In addition, future studies may also want to consider addressing some of the methodological considerations highlighted from this review.

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Using Characteristics of Models-Based Instruction to Centralize Conceptions of the Tactical Games Model: Professional Teacher Learning

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Physical educators are challenged by and show resistance to Games-Based Approaches. Teachers are persistent to use the traditional approach to teaching games, which includes isolated drills, large-sided games, and the profound nature of teacher control (Garcia-Lopez, Gutierrez, Sanchez-Mora & Harvey, 2019; Pearson, Webb & Mckeen, 2006).

Reflecting back on 5-years of teaching a graduate-level course on the Tactical Games Model (TGM; Mitchell, Oslin & Griffin, 2021), we have continuously needed to justify the approach to gain buy-in. Previously, in this one-week, intensive course, we have included landmark readings and research in an effort to show the benefits of TGM. In addition, in-class experiences where teachers utilize the approach and teach lessons were used. This structure was effective at gaining modest, but temporary buy-in. With such a short timeframe within the course, and a wide array of teacher misconceptions and experiences within the model, a more effective means to set the stage for deeper and impactful learning was needed.

The purpose of this presentation is to share a revamped course design. In addition, we will share graduate students' reflections on their learning, after a one-week intensive course on TGM, framed in Models-Based Instruction.

Results showed that initiating the course with "advantages/characteristics of models-based instruction" (Metzler & Colquitt, 2021, p. 16), and "aligning learning activities with instructional models" (Gurvitch & Metzler, 2013) legitimized the TGM at the onset. Key points of the TGM, typically gained through landmark readings, were more condensed with the perspective of Metzler and Colquitt (2021) and aided to build the argument for the strength of the TGM as situated within a field of other models. The idea that each model is designed to promote certain learning outcomes

for students, and each addresses different combinations of National Standards were key factors in setting the stage and allowed for a deep dive into major working aspects of the TGM. Full days were used to engage with and experience game design, questioning, and assessment. In conclusion, situating TGM within the larger framework of Models-Based Instruction centralizes teachers' conceptions and facilitates a capacity for a deep-dive into TGM structures and concepts.

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The use of game-based approaches in Italy: primary results and future development trajectories

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Introduction: In Italy, the use of the game-based approaches (GBA) is yet extremely limited. The following reasons support this situation: the lack of training on this approach during university studies for PE teachers and sport coaches and the lack of resources and books in the Italian language. On the basis of these elements, the current purpose is to disseminate the use of GBA within physical education contexts. For this aim, case study and longitudinal research designs are used.

Methods and data: Three are the main strategies used to promote GBA in Italy: training, research, and dissemination. First, GBA are presented as a strategy for developing curriculum and instructional plans. Among GBA, the Tactical Games Model (TGM) has been discussed in depth and has been suggested as a model for designing and delivering practical learning sessions related to games and sports skills.

Second, research projects have been developed during physical education lessons in primary and secondary schools. These projects aimed to teach gameplay skills, support the development of a good level of tactical awareness, and increase the level of students' enthusiasm and involvement in PE learning processes. The development of specific instruments for assessing the level of tactical knowledge in school-age players is another ongoing project.

Third, GBA are presented through seminars to grassroots coaches of some sports (ie., soccer, tennis, basket) for improving their training projects.

Summary of findings: A growing number of PE students with knowledge and expertise related to physical activity and sport sciences knows GBA and, as a consequence, have decided to further this model in their future works. Some evidence of this matter already appears. TGM was proposed to teach net games skills to primary school students (Sgrò et al., 2021) and volleyball gameplay skills to secondary school students (Sgrò, et al., 2022). Furthermore, the effect of GBA on the level of enjoyment and involvement throughout PE process has been also verified (Schembri, et al., 2021). Studies are also proposed about the assessment methods related to tactical knowledge, both practical and procedural.

Conclusions: GBA are becoming a resource also in Italy. The challenges for the future are: 1) extend the level of knowledge about GBA; 2) increase the use of GBA in PE and youth sport contexts; 3) develop research on the relationship between GBA and tactical knowledge.

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Supporting PETE students to implement an alternative pedagogy on Professional Experience (practicum)

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Introduction: Student-centred, games-based physical education teaching approaches have been promoted within PETE courses around the world for around 40 years. However, learning to implement such approaches and then applying this learning in an authentic school environment has

proven to be a significant challenge for preservice teachers (Silva, Farias, and Mesquita 2021). A systematic review of research by Valerio et al. (2021) found that there is a notable dearth of knowledge about professional development that best supports PETE students' learning and implementation of student-centred approaches on school practicum. A recent study by Moy, Rossi, and Russell (2021) investigated a collaborative professional development model widely recommended by researchers. They found that providing PETE students with an opportunity to work together in small groups in collaboration with a pedagogical expert to explore the implementation of an alternative pedagogy in an authentic physical education context, was effective in supporting their learning and authentic implementation of the student-centred constraints led approach (CLA). The aim of this study is to follow these same PETE students on their journey as agents of pedagogical change and investigate how this learning influenced their teaching practice while on their subsequent school practicum.

Methods and Data: The study sample consisted of 36 of the 40 PETE students who participated in the study by Moy, Rossi, and Russell (2021). Participation involved undertaking a 4-week block of supervised professional experience at an Australian secondary school, and then reflecting upon how their practice was influenced by the university teaching experience. Data from students' written reflections were analysed to identify repeated patterns of meaning.

Summary of Findings: The enhanced knowledge and understanding gained through the university teaching experience enabled PETE students to successfully design and implement learning experiences that authentically represented the CLA on practicum.

Conclusions: This research study has provided robust evidence of the effectiveness of a collaborative professional development model on enhancing the quality of PETE students' teaching. This model could be used to inform the design and delivery of preservice and in-service professional development programmes aimed at improving teaching quality. This has enormous potential for enhancing student learning outcomes in schools.

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Is TGFU an effective teaching model for teaching team games? Initial views of elementary school in-service PE teachers

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Introduction: Teaching Games for Understanding (TGFU) is suggested as an alternative instructional model with many advantages, for teaching games in Physical Education (PE) [1]. A large number of studies examining teachers' views of TGFU have focused on pre-service teachers and secondary school in-service PE teachers' views [2]. This study aimed to investigate a) the difficulties that the teachers experienced in applying the model and b) the views of in-service PE teachers of elementary schools on the model's effectiveness for teaching team games.

Methods: This study was conducted at six public elementary schools in Greece. Participants were six in-service PE teachers, one from each school. Participants followed an in-site training in which they were introduced to the TGFU model structure and informed how to apply this model. They taught a unit of eight ready-made lessons of team handball based on the TGFU. Data were collected through individual semi-structured interviews that took place one week after the end of the intervention. A thematic analysis was used [3].

Findings: PE teachers reported the better preparation that is required from them to deliver the lesson, the lack of sports equipment and sports facilities, and the 45 minutes class duration was stressful for them to deliver the lesson, as factors that affect teaching with TGFU.

Participants stated that despite the aforementioned difficulties they were very satisfied with the effectiveness of the TGFU to deliver team games. The model helped them to improve their teaching skills in delivering team games and achieving lessons goals. They also argued that the model application improved their classroom management skills and their communication with their students.

Conclusions: The participants' viewpoint on the efficiency of the TGFU model was so positive that everyone expressed their intent to recommend it unconditionally to their PE colleagues for teaching team games. The examination of in-service elementary PE teachers' views on TGFU and intervention studies that take place in a real PE environment under the conditions of real lesson delivery is significant and rare.

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In-service Teachers' Perceptions during a TGfU Mentoring Programme Supported by Motivational Strategies in Elementary Physical Education

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Since Teaching Games for Understanding (TGfU) emerged, studies have shown teachers' difficulty to implement it (Harvey et al., 2015). Consequently, TGfU reviews proposed the use of long-term mentoring programmes focused on teachers' support and the design of interventions in authentic settings (Miller, 2015). According to the self-determination theory, there are three psychological needs (competence, autonomy, and relatedness) to engage in interesting activities. Thus, the present work aims to examine the perceptions of in-service physical education teachers during a TGfU mentoring programme based on teachers' difficulties and supported by motivational strategies. Three in-service teachers (M = 32.54 years old, SD = .78) were trained and mentored in TGfU to enact an intervention in elementary physical education. They had an average of 8 years of experience teaching traditionally. Two researchers, with 10 years of TGfU experience, trained and mentored the teachers in the approach. The training consisted in explaining the TGfU pedagogical features, sharing insights about the context, explaining the expected teachers' and students' behaviours, and designing eight 60-minute lessons. The mentoring was characterized by being prolonged in time, sharing experiences, receiving feedback to improve or reinforce the behaviours, allowing active learning, reflection, and follow-up. Data were collected including day-by-day reflections, field notes, and a semi-structured group interview after the mentoring. Data were analysed using open and axial coding. Teachers perceived mentoring as an important process to improve their TGfU theoretical and practical learning. They underscored the relevance of support while they implemented the lessons. However, teachers acknowledged their difficulties in adapting the questions to the students' level and in designing the tasks according to tactical principles of play. Nevertheless, they said that mentors helped them to solve those difficulties, improving their self-confidence and autonomy to implement TGfU. They valued very positively their opportunity to share experiences with other teachers and agreed about their intention to continue using TGfU. In conclusion, teachers perceived ongoing assistance during mentoring as a necessary procedure for feeling self-competence, autonomy, and social support while enacting their TGfU units. The mentoring programme, based on motivational strategies, could be crucial for dealing with barriers and difficulties to implement TGfU.

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Tactical Periodization and the Game-Based Approach to Coaching Soccer/Football

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Vitor Frade´, a former member of the sports faculty at the University of Porto in Portugal, is recognized as the father of tactical periodization. Developed more than a decade ago for elite level soccer/football players, tactical periodization is a holistic approach to planning and training with the main methodological and pedagogical principles based on the four main moments of the game: Principles of attacking, principles of defending, transition from attacking to defending, and transition from defending to attacking. Consequently, all training exercises must be scenario based and contain at least one of the four main moments of the game at all times – known as the principle of specificity. The word 'tactical' is not limited to the traditional notion (team organization) but includes all of the components of training and playing soccer/football: technical, tactical, physiological, and psychological. According to Delgado-Bordonau and Mendez-Villanueva, all game actions in all of the four main moments in the game include "a decision (tactical dimension), an action or motor skill (technical dimension) that required a particular movement (physiological dimension) and is directed by volitional and emotional states (psychological dimension)." The 'Game Model' is defined as the way the coach wants the team to play and consists of principles, sub-principles, and sub-sub-principles of play that characterize different moments of the game.

The game-based approach (GBA) is a non-linear methodology developed to improve both technical skills and decision-making ability. The use of games increases the number of tactical scenarios under random and variable conditions and has been shown to increase transfer of learning to the match. Furthermore, decision-making ability has been shown to be a differentiating factor among expert and novice athletes. Elite-level soccer/football players are required to continually process information and adapt to a consistently changing environment under pressure. Consequently, players must acquire effective technical and decision-making skills and act autonomously throughout the game.

A key tenet of tactical periodization is the principle of specificity where all training exercises represent some part of the game and the game model i.e., games-based approach. More specifically, according to the methodological principles of tactical periodization, all parts of the training process are focused on a tactical feature that translate to the 'game'. This approach is unlike the traditional pedagogy model where technical development is the focus and tactics are introduced after technical competency is achieved. The technical dimension is only one part of the principle of specificity within the tactical periodization model and not a pre-requisite for learning. Therefore, the main objective of this presentation is to demonstrate how a GBA is central to a tactical periodization methodology to training, skill acquisition, and performance in soccer/football.

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Implementing a Game-Based Approach (GBA) Methods Course for a United States Physical Education Teacher Education Program

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In the United States, physical education teacher education (PETE) programs are responsible for educating and preparing pre-service candidates. PETE programs are essential for producing future professionals who teach quality physical education. SHAPE America Initial Physical Education Teacher Education (PETE) Standards are designed to develop pre-service candidates' teaching competencies. Pre-service candidates enrolled in a PETE program are expected to demonstrate content and foundational knowledge, skilfulness and health-related fitness, planning and implementation, instructional delivery and management, assessment of student learning, and professional responsibility.

SHAPE America also provide guiding documents for K-12 physical education teachers. SHAPE America Grade Level Outcomes for K-12 Physical Education identify student performance expectations in games and sports at the middle school level, grades 6-8. SHAPE America categorize games into invasion and field games, net and wall games, target games, and fielding and striking games.

An effective teaching approach that facilitates teaching games and sports within and across game categories is the Game-Based Approach (GBA). GBA is a learner-centred approach using modified games to develop successful game players. Over the past 40 years, reputable GBAs have positively impacted physical education and sport pedagogy such as teaching games for understanding,1982, game sense,1996, play practice, 2001, tactical games model, 2006, and U.S. Soccer Federations developmental model play-practice-play, 2018.

Teaching a GBA methods course, as part of a university PETE program, can introduce pre-service candidates to the content and foundational knowledge required to effectively teach games and sports within and across game categories. However, the literature identifies teaching physical education using GBAs can be challenging and complex for pre-service candidates familiar and comfortable with a teacher centred, technical, approach. Lack of content knowledge, planning, designing games, and questioning are barriers and difficulties candidates face when teaching using GBAs.

The purpose of this presentation is to explain the why and how a GBA methods course was implemented into a PETE program. Attendees will learn how this course was delivered over a 15-week semester. Qualitative data addressing candidate course comments and feedback will be discussed. Presenters will also share the course syllabus, assignments, assessments, and resources for program implementation consideration.

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40th Anniversary Conference Programme

Pre-Recorded Presentations

Game Curriculum Planning, Implementation and Assessment

The challenge of improving students' game play participation in a handball teaching unit

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Introduction: Team sports have an important place in the physical education curriculum in several countries, justified by their uplifting power as a moral, cultural, and social practice (Graça & Mesquita, 2015). However, the didactic treatment continues to be marked by superficiality and inconsequence. The teaching process was designed following the Competency Model in Invasion Games guidelines and an operational model to teach handball (Estriga, 2019). The main purpose of this study was to analyze students game play participation and game skills learning during a handball teaching unit.

Methods and Data: Sixty-one students from three secondary school classes participated in 10 handball classes. The game form considered was the GR+3x3+GR. All classes were video recorded and 3 different moments of 5 minutes each were selected. The first moment in the first class, the second moment in the fifth class and the last moment in the tenth class. A systematic analysis was carried out to quantify the number of ball possessions, passes, shooting attempts, goals and the number of lost balls caused by a "bad" pass/reception, defensive behaviour or lack of attention. The recorded data were analyzed using descriptive measures and inferential statistics. Moreover, representative videos of each class were sent to three specialists for qualitative analysis, who were asked to place them in chronological order according to the observed game performance.

Summary of findings: Despite the fact that the percentage of positive offensive action variables increased and the percentage of negative ones decreased, significant differences were found only in offensive lost balls caused by defensive behaviour ($p<0.04$). An improved game play quality was reported by the experts as they placed most of the videos of the classes in the correct order of alignment with the teaching sequence of the handball teaching unit.

Key Contributions: The planification based on the students' level, with clear aims and learning tasks adjusted to the students' needs, seems to be effective in improving the students' level of play in handball PE classes.

Project funded by the Foundation for Science and Technology with the reference: 2022.09013.PTDC: Empowering pre-service teachers as practitioner researchers toward PE inclusive practices.

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Game-based approaches as context of Social and Emotional Learning

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Social and emotional learning (SEL) has become one of the fastest-growing concepts in education in recent year (Bartlett, 2019). While SEL is not a defined subject, it can be woven into a school's curriculum. In fact, the Physical Education (PE) class can play an integral role in this long-term goal. Particularly, the use of games has been shown to facilitate social and emotional learning but not much is known about adopting SEL practices into Teaching Games for Understanding (TGfU) approach. The aim of the present study was to examine research that has been undertaken on the relationship between SEL and TGfU in PE. Two databases were selected: Scopus and Google Scholar. The search terms selected and entered into each database were the following: "Social and Emotional Learning" AND "Teaching Games for Understanding" AND "Physical Education". In each case, the search terms were sought in the full text of articles. Search limiters were set to ensure the searches retrieved only articles published in English between 2000 and 2022 and that special education was not included. The search indicated 21 studies (6 quantitative, 5 qualitative, 9 literature reviews, and 1 book) but only one was relevant to the search and refers to the combination of TPSR and TGFU. The results showed that there is an absence of research combining SEL with TGfU. But it is emphasized that SEL is enhanced through play as SEL games use strategies such as discussion, role play, problem solving and social dilemmas with the aim of developing insight, empathy and social skills (Hromek & Roffey, 2009). Since TGfU is a pedagogical approach based on game play it can promote SEL. The cognitive elements of learning such as decision making, tactical understanding and teamwork, lie at the cross over between SEL and the TGfU model. Given the above, it is important to research this topic further in PE and create tools for assessing game performance in this way.

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A pilot experience teaching through Teaching Games for Understanding and Gamification in Secondary Physical Education

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Currently, one of the biggest social problems is physical inactivity in adolescents, which is associated with health problems in adulthood (WHO, 2022). Physical education (PE) can play a key role in enabling adolescents to be more physically active and to maintain this habit as adults (Trigueros *et al.*, 2019). Therefore, PE has to enable students to learn and be motivated. Applying different pedagogical models and methodological strategies in PE together, such as Teaching Games for Understanding (TGfU) and Gamification, can promote meaningful learning, high levels of motivation and adherence to physical activity. Consequently, this study aimed to explore whether secondary school students improved their game knowledge, game performance and increased their motivation after an intervention combining TGfU and Gamification. The research was carried out throughout eight sessions, involving 19 students, aged 12-14 years (10 boys and 9 girls) and the teacher. The teacher had one year's experience as PE teacher and had never used TGfU and Gamification, although he had been trained in them. Moreover, he was trained in both methodologies for 40 hours on purpose. This is a qualitative study, in which the teacher's perceptions about students' game knowledge, game performance and motivation were collected. These perceptions were obtained through a semi-structured interview at the end of the intervention. The authors analysed the data using open and axial coding. The information provided by the teacher supported the hypothesis that the implemented pedagogical strategies could improve students' game knowledge and performance thanks to the progression of the contents and the structure of the session (Arias-Estero et al., 2020). According to the teacher, "The group reflection after the modified game made it clearer to the students what they had to do and why. The reflections and the rules helped a lot". In addition, motivation also improved thanks to a more positive student–teacher relationship, gamified elements and increased game performance (Sotos-Martínez et al., in press). In conclusion, combining the TGfU structure and the Gamification elements could have improved game knowledge, game performance and increased motivation.

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Does the grouping of students in persistent heterogeneous or homogenous learning teams affect student game-play according to their ability level? A study with preservice teachers in teaching badminton

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Game-based approaches emphasize game modification, collectively or individually, as a means of providing equitable learning opportunities for students with different ability level. However, research has shown (e.g. Hastie et al., 2017) that game modification may be insufficient on its own. Teachers additionally need to define different lesson dynamics that enable heterogeneous/homogenous relationships (mixed-ability and ability-level grouping) among students (e.g. learning from more able peers) while also posing competition situations and challenge appropriate for students of different ability levels (e.g. graded competition). Therefore, this study aimed to examine the effect of grouping students of different ability levels (higher- and lower-skilled) into persistent teams in the mixed-ability or same-ability level (all lower-skilled or all higher-skilled) conditions throughout a 10-lesson (50-min) badminton unit. Four preservice teachers (PSTs) participated together with their respective 68 students (38 females, 30 males) from four 10th-grade classes (one per each PST). Two classes were randomly allocated to each condition. Students' pre-test and post-test game-play performance was computed by using the GPAI (Oslin et al., 1998) adapted for net games (Farias et al., 2022) while each student played one game against a similar ability level opponent and another game against a different ability opponent at each assessment

point. The lower-skilled girls in the mixed-ability classes had higher scores than lower-skilled girls in the same-ability classes and then lower-skilled boys in the mixed-ability classes. Higher-skilled boys showed higher scores than the other groups (lower-skilled boys/girls and higher-skilled girls) in both conditions. In higher-skilled vs higher-skilled games, the same-ability level classes showed the highest scores in both assessment moments; in higher-skilled vs lower-skilled games, pre-test and post-test scores were higher in the mixed-ability classes as in the lower-skilled vs lower-skilled games. Overall, the mixed-ability condition benefits the game-play of lower-skilled boys and girls while the condition is irrelevant for higher-skilled students.

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A Report on Game Unit in which Students Create Play While Thinking -For lower elementary school students

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Keywords: Game-Based Approach, Target Game, Shooting Game, Student-Centered Approach

Introduction: The purpose of this study was to report on students' learning in a unit developed to allow students to enjoy movement without being constrained by form, by choosing a method that suits the way they exercise their bodies, and by creating and changing it while engaging in discussion with their peers. The game introduced in this unit was "Great Adventure to Get treasure. "

Method: The game was played for one minute, with three to four players per team competing against each other. The court was a double circle, and the defending team (the islanders) was asked to defend in the outer circle (in the ocean) and the inner circle (the treasure island). They could not go outside the outer or inner circle to defend themselves. In this study, it was decided to analyze the students' activities in the unit in which this play was introduced based on their reflective descriptions and the video recordings of the class.

Results and Discussion: As a result, many students focused on the increase or decrease in the number of people, space, or time and wrote down suggestions and improvements to the rules based on the results of trying them out. In addition, during the discussion, some students judged that the rules and devices that were effective in the previous unit's devil's play were not suitable for the ball game and voiced the need for improvement. Simple and easy-to-understand games were effective for students to think about how to perform the exercise on their own.

Conclusions: As the game progressed, the students changed to cooperating with their peers as they felt the joy of taking the treasure with their peers. As a result, sharing the movements with peers effectively and setting up a place for trial was effective. Through the trial activities, the participants were seen to be thinking about whether they could make the best use of the moves in their team or their own moves.

Reconciling Approaches- Using The Spectrum of Teaching Styles to highlight the decisions of students during guided discovery episodes.

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Introduction: Game Based teaching (of which a TGfU approach is one) frequently mention the use of problem solving, reflection and inquiry processes and has been described as a guided discovery (Breed & Spittle, 2011; Hopper & Kruisselbrink, 2001; Light, 2014; Pill, 2006). However, guided discovery is also associated with another teaching approach that emerged in the 1960s, Style F of Mosston's Spectrum of Teaching Styles. In this presentation we suggest, from a non-versus perspective, that the guided discovery often suggested in GBA literature is often more so recall or elaboration, and not the multi-layered questioning leading to the discovery of new knowledge described by Mosston & Ashworth (2008).

Method: Using the Spectrum of Teaching styles as a 'lens' we examine two Game Based learning and teaching episodes and identify the decisions being made between the teacher and student/s. This will then allow these two Game Based learning episodes to be placed on the Spectrum of Teaching Styles. By doing this it will detail important pedagogical concepts and unify pedagogical decision making that take place when sport and games teaching is taken across the 'discovery barrier' and into an intentionally designed space to develop 'thinking players'. We will illustrate a guided discovery – Style F teaching episode and contrast it to the use of questions as guided exploration of understanding.

Findings: We suggest that there is a difference between guided exploration of understanding and guided discovery in a game based pedagogy. Frequently, the questioning illustrated in GBA examples is likely to mostly involved students using the cognitive process of recalling (and thus showing the decision making structure associated with Practice Style – B (Mosston & Ashworth, 2008) or Convergent Discovery Style – G.

Conclusions/Contributions: The insights we share are from a non-versus perspective (in line with Spectrum philosophy) and aim to bring teachers and coaches attention to the cognitive operations their questioning elicits from their students. Our intention is to highlight the behaviours required by teachers and coaches to align their objectives with their teaching behaviours towards their desired learning outcomes. We demonstrate the distinction between guided exploration of understanding and guided discovery in a game based approach.

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The effects of TGfU, NP and Skilled-based approaches in badminton learning process among Malaysian secondary school students

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Introduction: Numerous studies have been conducted to elicit the efficacy of TGfU as game-based approach as well as Nonlinear pedagogy (NP), and skilled-based models in terms of game performance outcome (Nathan, 2016; Chow, David, Burton, Shuttleworth, Renshaw & Arujo, 2007). Namely these studies investigated game performance outcomes such as skill execution, tactical decision making and enjoyment attributes in Physical Education (PE). However, not many studies have been carried out about student engagement in the learning process that takes place in PE or coaching environments. Especially in terms of student's engagement in the learning process of warming-up content activities, general class management, technical or skill practice, tactical decision making in small-sided game play and full game play which directly influence the game outcome often being neglected.

The purpose of this study was to investigate the effectiveness of TGfU, NP and skilled-based approaches in learning and teaching process behaviours of Malaysian school secondary students in Badminton PE lessons. The effectiveness of these pedagogical models in terms of learning process engagement were investigated in terms of warming-up activities, general class management, technical skill practice, tactical decision making in small sided game play (SSG), and full game play activities.

Method and data: This study employed quasi experimental time series design to investigate three different pedagogical interventions of TGfU, NP and skilled-based to elicit badminton learning process among Malaysian students in badminton PE class. The learning process of dependent variables includes warming-up content activities, general class management, technical skill practice, tactical decision making in small sided game play (SSG), and full game play activities. Each badminton lesson interventions are adapted from Malaysian Standard Based school PE curriculum. As for participants, three intact classes (10 students from each class) of one male student aged 13 years old were chosen and observed their learning process via intact sampling technique. As for interventions, TGfU badminton lessons were dwelled based on TGfU original model, while NP lessons were organised adjusting areas, equipment based on Constraints-led theory. Meanwhile skilled-based approach badminton lessons centred around the teacher with skill demonstration, skill drills and full game at end of the lesson. As for learning process measurement each lesson of three different pedagogical approaches were videotaped and analyses at three different points of time viz post-test one (1), post-test two (2) and post-test three (3). The dependent variables were analysed using the SOTG-PE instrument by Robert and Fairclough (2011). Data were collected three times, post-test 1, post-test 2 and post-test 3 immediately after each teaching intervention of TGfU, NP and skilled-based through video recording and coded quantitatively by three teachers. The teachers and coders were trained to uphold the fidelity of the experiment. The elicited data were analysed descriptively, inferentially using ANOVA repeated measures.

Summary of findings: As for warm-up content related activities, TGfU indicated significant improvement, $F(2,27) = 66.636$, $p=0.01$. As for technical or skill practice, NP followed by TGfU indicated significant improvement, $F(2,27)=35.730$, $p=0.01$. While for small-sided game play, NP followed by TGfU indicated significant improvement $F(2,27)=86.74$, $p=0.01$. In contrast as for full game play, skill-based showed significant improvement compared to the other models, $F(2,27)=41.74$, $p=0.01$.

Conclusion: The present findings encourage teacher to adopt GBA such as TGfU and NP for students to engagement actively in learning process of badminton. However, to support the present research future research may replicate this study for other games. As well as future study can undertake other dependent variables such verbal technical and tactical action in game learning process.

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Learning Tactics in Children's Football: Didactic Model of the Game Action Competences

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Introduction: In Colombia, the time for Physical Education (PE) at school is very limited at most; children have only 90 minutes a week of physical education class to cover all the contents, and at public elementary schools, there is not a formal PE teacher. Nevertheless, football is a very popular sport. Many children are enrolled in football clubs and practice twice a week after school and participate in a competitive game on weekends. Most of the football clubs use a Didactic Model of Direct Instruction (DMDI) (Aburachid et al., 2013; Fernández, 2014). Since, at competitive sport contexts, it is believed that the learning of technical skills is the essential prerequisite to being a good player, and cognitive development and tactical skills are not considered since their development is difficult and takes time, coaches prefer to deliver verbal instructions that contain the solution for tactical problems; thus, the children would only have to execute, without any cognitive implications, a logical solution as indicated by the coach. In competitive football contexts, there is no place for innovative didactics; the main goal is to win the match next weekend, and the DMDI is the best way of telling the children what they should do to play without risking a defeat. Moreover, with this model, the coaches attain results without having the children learn to play since the competitive game is dominated by the physically stronger due to advantages in maturation. Thus, the present study takes into account the recommendations made by Stephen & Kendall (2014) when conducting a review of the studies between 2006 and 2014, about the game-based approach to teaching where they recommend expanding studies that contemplate new alternative didactical models, use longitudinal designs and extracurricular context as in sports clubs.

So, the present study analyzes a new teaching model, the Didactic Model of the Game Action Competences (DMGAC) (Sánchez & Arias, 2021) through a longitudinal design that is intended for extracurricular sports settings. It attempts a step-by-step implementation without abruptly changing the coaching routines and proposes the learning of sport-specific contents, such as the tactical principles.

Purpose: The aim of this study is to determine the learning effects of the Didactic Model of Game Action Competences (DMGAC) compared with the Didactic Model of Direct Instruction (DMDI) on tactical performance in young football players.

Methods and Data: A study design that allocates participants into experimental and control groups at random. 37 children (U11 yrs.) took part in the study. According to the participant classification framework, this corresponds to Tier 2, Trained/Developmental (McKay et al., 2022). During 16 sessions (90 min per session), the DMGAC and DMDI models were used to teach the fundamentals of football, and their effectiveness was assessed pre- and post-test with the System of Tactical

Evaluation in Football (FUT-SAT). DMGAC had five didactic strategies: small side games, psychokinetic games, situations of one against one, learning self-directed technical skills, and global game. DMDI has three didactic strategies: technical skills, simulated game situations, and global game.

Summary of findings: The results indicate that a constructivism-based model was more effective in teaching children the fundamentals of football (DMGAC).

Conclusions: The children who took part in a teaching program through the DMGAC achieved a higher index of performance in a tactical game than the children who took part in a teaching program through the DMDI.

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Game-Based Approach and Creativity in Primary Physical Education

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Over the past decades, there has been increasing debate on creativity in education, but little research has addressed the relationship between creativity and physical education (PE) (Welch, Alfrey, & Harris, 2021; Pickard & Maude, 2014).

Based on the psychological theoretical frameworks and evidence that considers creativity as a multidimensional construct, three macro-operations identified in creative thinking were integrated within a PE program: expanding perspective, combining elements considered far away, and reorganizing the schemas through which we interpret reality (Antonietti, 2011). Furthermore, there are few resources to assist educators in capturing the complexity and broadness of how creativity can be conceptualized, carried out and evaluated in PE teaching and learning (Pickard & Maude, 2014).

In a previous study, Nicolosi, Greco, and Ancona showed that the game-based and creativity-based teaching approaches turned out to be more effective than the drill-oriented teaching approach for the improvement of object control and locomotor skills. This study assessed the effects of two 12-week interventions (2 hours a week) on gross-motor skills and perceived physical competence, in a sample of 75 Italian children (M= 39; F=36), from 7 to 9 years old (M=8.40; SD=0.30). Pupils were divided into an experimental group (EG n=37) and a control group (CG n= 38). The EG took part in PE lessons conducted through a game-based approach, aimed to promote creative thinking. The CG participated in PE lessons conducted through a drill-oriented teaching approach to perfect skills and procedures.

Practical examples carried out in this intervention will be presented. Game activities were implemented to expand the movement vocabulary, combine original movement sequences, and explore a motor situation in a meaningful context of a story.

Insights on how to incorporate key aspects of creativity-based activities into a game-based approach will be discussed.

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An exploration of high-performance team sport coaches practice activities across a season: A mixed methods case study approach

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Introduction: The coaching environment is the primary teaching and learning medium for the development of players' technical and tactical skills (Ford et al., 2010; Partington and Cushion, 2013). However, there is limited understanding of the specific practice structures and pedagogies

coaches use across a range of sports, contexts and phases of the season (Cope et al., 2017; Kinnerk et al., 2019). A mixed methods case study approach was used to investigate the selection and sequencing of practice activities as well as the rationale used by high performance Gaelic football coaches.

Methods and Data: Two high performance Gaelic football coaches participated in a season long study. Sessions (n = 52) were analysed for the proportion of time spent in and sequencing of training form activities (isolated skills, drills, fitness), playing form activities (applied skills, phase of play, small-sided games, conditioned games, full-sided games), inter-personal interactions (freeze, coach-player huddle, player huddle, activity introduction) and inactivity (transition, water break). Semi-structured interviews (pre-observation, three in-season and post-observation) were used to explore beyond the what and how of coaching to examine the underlying rationale that guides practice across a season.

Summary of Findings: Both coaches spent the greatest amount of time in playing form activity (45%) with conditioned games, full sided games and fitness being the three most used activities. Coaches applied a combination of linear and non-linear sequences. There were decreases in the proportion of time spent in activity introduction for both coaches, but other changes were more coach- and session-specific. Interview data revealed that coaches' practice design is driven by player learning which they propose is best developed by playing form activities with appropriate levels of challenge supported by relevant inter-personal interactions.

Conclusions: This mixed methods, season long study provides a nuanced understanding of coaches' practice in a high-performance team sports context which, until now, has received little attention in the literature. High performance team sports coaches value the importance of player learning in a representative environment when selecting and sequencing practice activity. This information may potentially provide coaches with a stimulus for reflection on effective practice design in their own contexts.

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A Survey of New York State Physical Educators Use of Game-Based Approaches in K-12 Physical Education

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Introduction: Despite the emergence of Game-Based Approaches (GBA) over the past forty years, there is little evidence regarding its reported use in K-12 physical education in the United States (U.S.). Conversely, the Multi-Activity curricular model in K-12 physical education continues to dominate around the world (Kirk, 2009; Lindauer & Seymour, 2021). According to the National Center for Education Statistics, the State of New York is among the top five in the U.S. for public school enrollments and could serve as a promising location to explore this issue further (Digest of Education Statistics, 2022). Therefore, the purpose of this study was to investigate New York state physical educators' self-reported use of GBAs in their respective K-12 physical education programs.

Methods: The study was conducted during the 2020-2021 and 2021-2022 academic school years in New York State. Approximately 2,000 members of the New York State Association of Health, Physical Education, Recreation, and Dance (NYS AHPERD) were emailed a survey link requesting their participation in the study. While 170 PE professionals responded, only 88 answered all questions up to and including questions about GBAs. A proportional analysis (Grice, 2016) indicated respondents were representative of male, female and White PE professionals, and those working in rural and suburban communities located in the central and western regions of the state.

Survey items polled participants regarding their self-reported GBA use in their respective K-12 physical education programs. Data were collected on the demographic characteristics of respondents and their game-related knowledge, instructional attitudes, beliefs and practices.

Data were analyzed using Observation Oriented Modeling software (version 5.4.2022; Grice, 2011; 2016). Observation Oriented Modeling (OOM) does not rely on traditional aggregate statistics such as measures of central tendency and variance. Inspired by Exploratory Data Analysis, OOM relies primarily upon techniques of visual examination to detect and explain dominant patterns within a set of observations.

Findings: Physical educators reported awareness and confidence with various GBAs. Teaching Games for Understanding (TGfU) was commonly identified by respondents with 84% indicating being "confident" or "very confident" using this approach (M = 3.15; SD = 0.82; 1-4 scale, 4 being "very confident"). Respondents also identified spending most of their physical education lessons teaching invasion games and "other non-game activities" (such as "dance, fitness, yoga, track/field, swimming"), and the least amount of lessons teaching field/striking and target games.

Upon further investigation, 74 of 88 participants listed the typical sequence of their games lessons ("1st activity," "2nd activity," and so on), beginning with: Activity 1 = Warm-up/Instant Activity;

Activity 2 = Skill Focused Practice (c-value < .001). Participants also reported spending the highest percent of time on the psychomotor domain (M = 50.44, SD = 16.81), while the cognitive domain received the lowest percent of time (M = 23.42, SD = 9.54).

Conclusions: While physical educators in NYS report their awareness, use, and confidence in GBAs like TGfU, findings from this study indicate respondents' games lessons may not be typically representative of GBAs. Intentional professional development including conference training and coursework would help practitioners to become more pedagogically fluent with GBAs. Targeting sample populations of NYS physical educators in more urban settings such as New York City is recommended for future studies.

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Differences between Performance and Learning after a Teaching Games for Understanding Unit in Elementary Physical Education

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Teaching Games for Understanding (TGfU) interventions studies have shown the positive association with game performance, knowledge, and psychological variables, normally, after an immediate assessment of such variables (Morales-Belando et al., in press). However, several current theoretical perspectives make the crucial distinction between short-term performance and long-term learning (Soderstrom & Bjork, 2015). Whereas performance refers to the temporary fluctuations in game behaviour or knowledge assessed immediately after instruction, learning reflects the permanent changes in game behaviour or knowledge that support retention and transfer. The purpose of the study was to explore whether there were differences between outcomes (decision-making and skill execution) measured as short-term performance and long-term learning after a TGfU intervention. Participants were 20 students in their fourth year of Elementary Physical Education (12 boys and 8

girls; M = 9.73, SD = .66 years old). The design was pre-test and post-test with a re-test. A TGfU floorball intervention of eight lessons was enacted between pre- and post-tests. The retention test took place after six weeks during which students continued attending their normal Physical Education lessons of typical childhood games. Decision-making (appropriate [ADM] and inappropriate [IDM]), and skill execution (efficient [ESE] and inefficient [ISE]) were collected from 5-minute floorball games, which were filmed and observed using the Game Performance Assessment Instrument. From pre-test to post-test, there was only an increase in ESE ($F = 24.24$, $p = .000$). However, from pre-test to re-test, there were increases in ADM ($F = 7.23$, $p = .001$) and IDM ($F = 4.52$, $p = .011$). In addition, from post-test to re-test, results showed increases in ADM ($F = 7.23$, $p = .001$) and ISE ($F = 8.72$, $p = .000$). In conclusion, in accordance with current theoretical perspectives, there were differences between short-term performance and long-term learning. Although the participants improved their performance in skill execution immediately after the intervention, they did worse in long-term learning. Besides, their long-term learning in decision-making was impacted because there were higher scores in ADM and IDM. Practitioners and further studies should consider this distinction between performance and learning when analysing participants' outcomes after a TGfU intervention.

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Design questionnaires for assessing declarative tactical knowledge in youth football and tennis players.

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Introduction: Learning is a complex process that stems from the interdependence of three domains of learning (Hoque, 2016): cognitive (knowledge), psychomotor (ability) and affective (attitudes). In physical education and sport, the assessment of the cognitive domain of learning is yet miscalculated (Hodges et al., 2006). Knowledge tests, however, are often underestimated compared to skill tests and other psychomotor measures (Metzler, 2011). This phenomenon leads teachers to develop their own tests in an empirical but non-standardized way. This study aims to discuss the development

of two tools for assessing declarative tactical knowledge in the field of football and tennis. These two sports have been chosen as elective forms for the assessment of declarative tactical knowledge as they correspond respectively to the most practised team individual and individual team sports in Italy during 2022 (ISTAT).

Rationale: The more tactical players' knowledge, the more players can perceive and select relevant stimuli from the environment and ignore less useful information (McPherson, 2008). This allows positively influence the sport technique, as a result in less energy and nervous expenditure (Williams et al., 2012). In this regard, game-based approaches (GBA) contribute significantly to the development of the cognitive components of sport and the use of adequate tools for assessing these aspects is needed.

Methods and data: Two federal football and tennis coaches with a minimum of ten years of experience took part in the questionnaires as reviewers. For each sport, 30 questions were selected for 5 different domains Technique (n=12), Rules & Scoring (n=6), Strategy (n=6), Safety (n=3), Terminology (n=3) among those proposed by McGee and Farrow (1987). McGee and Farrow (1987) are pioneers in using and developing questionnaires to study tactical knowledge in sports (Barca et al., 2022).

We select only 30 questions among those proposed by the previously cited authors to meet the following targets: adequate for the learning level of Italian middle school students and for avoiding a decline in students' attention during the test with a higher number of questions (ie., >30), as recommended by Bunce et al. (2010). The questionnaires will be administered to athletes aged 14-19 years of the school and sports sector. The Kuder-Richardson 21 Coefficient (KRC-21) will be used to determine the reliability of each application and the instrument as a whole, with a cutting point of 0.60. The degree of difficulty and the index of discrimination will make it possible to outline the validity of the questionnaires.

Expected outcomes: If results will show that the questionnaires have satisfactory levels of KRC-21, they can be used to standardize the declaratory tactical knowledge of the sport being analysed. Alternatively, applications presenting a degree of difficulty, or an invalid discrimination index should be amended until the levels will be acceptable.

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A preliminary validity result of a questionnaire developed to assess the level of tactical knowledge in volleyball youth players.

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Introduction: The ability to make appropriate decisions in team sports concerns the processes of declarative tactical knowledge (DTK), which is identified with "knowing", "knowing what to do", and refers to the knowledge that athletes need to understand tactical skills, game strategies, and game itself. Although DTK in sport is essential for achieving a good level of sports competence, the assessment of the level of skill and competence in games and sport is often and still strictly oriented to technical aspects, leaving out the tactical component; on the contrary, evaluating the DTK is relevant for assessing the development of tactical knowledge, both in school and out-of-school sports context (Barca, Quinto, & Sgrò, 2022). The purpose of the study was to show the construct validity results of a specific tool developed for evaluating the levels of DTK in youth volleyball players.

Methods and Data: This study started with the analysis of 386 questions from the text "Test Questions for Physical Education Activities" (McGee & Farrow, 1987), whence we were able to define a questionnaire of 30 multiple-choice items for investigating DTK in volleyball youth players. A group of 20 experts was initially asked to verify the correctness of the questions asked. Based on expert feedback, some questions were reformulated and then the questionnaire was administered to a sample of 222 athletes. Construct validity was carried out by considering the level of complexity and the discrimination property of each item.

Summary of Findings: According to the indications provided by McGee and Farrow (1987), the level of complexity and the discrimination property of each item were assessed, and the results were found to be in an optimal range. Therefore, the tool seems to be adequate for the aim it was developed.

Conclusions: Preliminary results were positive, therefore future developments will involve the extended distribution of the questionnaire to a group of experts and players for also assessing the reliability and the discriminant validity of the tool.

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A Tactical Games Model lesson plan to teach net games skills in elementary school

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Introduction: Several studies have highlighted the strengths of the interventions based on the Game-Based Approach (GBA) to develop tactical knowledge, game performance, and motivation of students (Silva, Farias, Ramos, & Mesquita, 2021). Sgrò and colleagues (2021) had also shown that assessing the initial level of students is essential for improving the efficacy of a GBA intervention for developing on-the-ball skills. Therefore, the purpose of this study was to examine the effects of an instructional plan, developed according to Tactical Games Model (TGM) principles, on the global performances of elementary school students, taking into account their initial skill level.

Methods and Data: 36 fourth-grade students participated in a physical education plan developed according to the TGM. Overall, the study was six months long and accounted for 24 TGM-based lessons. Game Performance index was estimated by using decision-making (DM), skill execution (SE), and Adjusting indexes according to the formula proposed by the Game Performance Assessment Instrument (GPAI). Data were collected, in three times, by means of adapted volley matches played 4vs.4: before the plan (pre-test), after the plan (post-test), and at the end of the summer vacation. A non-hierarchical k-means cluster method was used to determine three skill levels groups (Lower-Medium-High) by means of the DM and SE data at the pre-test assessment. RM ANOVA was used to compare the students' performances across the three assessments.

Summary of Findings: Within- and between-groups, and interactions effects resulted significantly, with medium effect for each result. Post-hoc analysis showed significant effects, ranging from very high to medium, for the intervention throughout the study. Interaction significant improvements were estimated for Lower- and Medium-skilled students from pre- to post-intervention, but these improvements were reduced in amplitude after the summer vacation. A ceiling effect was recorded for the learning process of High-skilled students.

Conclusions: Teachers need to consider students' skill levels when designing their lessons to promote the development of all students. Furthermore, they must reflect on the decrease in skills during the summer vacation to agree with families and the third sector about the educational offer typically organised in these months away from the school context.

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The 6-Step TGfU model viewed through the Spectrum Lens.

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Introduction: In this presentation we use The Spectrum of Teaching Styles (The Spectrum: Mosston, 1966; Mosston & Ashworth, 2008) to identify the teaching styles used to implement the 6-step TGfU model (Bunker & Thorpe, 1982) as a cluster of teaching styles to show that TGfU requires use of more diversity of teaching styles than guided discovery, problem solving, or discovery teaching styles.

Method: We use The Spectrum as a lens to view the 6-step TGfU model examining the decisions being made by the teacher and the student at each step or stage of the model. Through the identification of who is making the decisions, about 'what' during each stage of the 6-Step Model, it will allow us to draw conclusions regarding the teaching style being used from The Spectrum. Highlighting the complexity of the 6-Step TGfU model.

Findings and Conclusions: We clarify TGfU as a model directed at student discovery and problem solving by explaining that asking students questions may not be guided discovery, or any other type of discovery process. Depending on the objective of the teaching episode, and the instructional language used by the teacher, discovery of new understanding may not be the operant behaviour the teacher is seeking, requesting, or being used by the player. We believe that TGfU and game-based approaches (GBA's) generally are a cluster of teaching styles, and not a style (SueSee et al., 2016; SueSee et al., 2020), as lessons and coaching sessions using a GBA are episodic (Pill et al., 2021). A detailed discussion of this presentation is available in the highly anticipated upcoming book, 40th Anniversary of TGFU.

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How different football game formats affect the physical demands of high school students in physical educational teaching

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This study is integrated in a broader project1 focused on exploiting the potential of team sports teaching to promote and encourage inclusive and innovative approaches in the physical education, aligned with the guideline for Quality Physical Education.

The carrying out of dynamic, active and estimating practices is one of the main objectives of teachers (García-Ceberino et al., 2022), so the planning and quantification of practice exertion are important to modulate and improve the fitness of students (Lazăr, 2019). The study aims to understand which game formats affect the most of the students' kinematic and physiological demands (Joo et al., 2016). In this study, 13 students between 14 and 16 years old participated in a physical education class and the team sport chosen was football. Four small-sided game formats were used in a competitive framework between three teams and a total of six six-minute games were played. Whenever a new game started, the game format changed, and one of the teams was different. All teams played at least one game at each game format, nevertheless, not all students played all game formats because the teams outnumbered the maximum of players allowed in some game formats. Data were collected with a system comprised of ultra-wideband local positioning upper-back vest-worn sensors and wireless heart rate chest-worn bands. The values of heart rate (bpm), player load (u.a.) and total distance covered (m) were analysed. A Shapiro-Wilk test was done to uncover the normality of the data. Consequently, a Kruskal-Wallis test ($p < 0.05$) was performed, and no significant differences between the game formats were found. The data demonstrated that the goalkeeper's physical effort is lower compared to other players. Likewise, the game formats with an advanced goalkeeper seem to be more adequate, as the physical demands between the advanced goalkeeper and the field player positions seem similar. However, the applied metrics were ineffective to differentiate the game formats. This study suggested that it is necessary to apply other

metrics and to compare the game actions between game formats, so that we can find their impact on the students' game participation and inclusiveness.

Project funded by the Foundation for Science and Technology with the reference: 2022.09013.PTDC: Empowering pre-service teachers as practitioner researchers toward PE inclusive practices.

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Pre-service teachers' influences, beliefs, and barriers to implementing Teaching Games for Understanding in England

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Introduction: While there has been extensive research focusing on the implementation of Teaching Games for Understanding (TGfU) with pre-service teachers (Li & Cruz, 2008; Wang & Ha, 2009, 2012), there are limited UK studies underpinned by Occupational Socialisation Theory (Lawson, 1983a, b). Therefore, this study examined the socialising influences which affect UK pre-service teachers in their understanding and practice of TGfU.

Method: The study utilised semi-structured interviews to identify the teacher's influences during the three phases of Occupational Socialisation Theory (acculturation, professional socialisation, and organisational socialisation) and the barriers to implementing TGfU. 10 pre-service teachers (four male, six female) enrolled on teacher education courses in England, each participated in a 30–45-minute interview in May to August 2021 and data were thematically analysed.

Results and Discussion: Two major Occupational Socialisation influences in the findings were early work experiences and the impact of COVID-19 pandemic on the participants' teaching development and practice. Early work experiences prior to enrolment on a teacher education course provided socialising influences which affected their perceptions of the requirements of being a teacher. The COVID-19 restrictions had a detrimental impact on the participants' development of becoming

teachers due to placement school closures and changes to online teaching, and their ability to engage with TGfU in schools. The main barriers to the teachers implementing TGfU were lack of knowledge, lack of understanding, lack of time within lessons, lack of support from mentors and colleagues, reluctance to change, fear of loss of control and lack of confidence with GBAs. Key recommendations to overcome the barriers were suggested across each phase of Occupational Socialisation Theory including early exposure to TGfU in childhood and in teacher education programmes, increasing PE provision in Primary initial teacher training with greater opportunities to embed TGfU and an increase in the number of PE specialists in primary schools. Additional recommendations were provision of Continuing Professional Development (CPD) courses, support from colleagues/mentors with delivery of TGfU and the availability of reasonably priced resources.

Conclusion: Continued explorations of the socialising influences in teachers' lives is necessary because of the development of UK teacher training routes and changes within school educational systems. An understanding of the main barriers to TGfU in the UK will aid teacher educators and teachers in how to adapt their practice to best implement game-based approaches in schools.

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Adopting TGfU Principles into Adolescent High Performance Soccer – An Explorative Study

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Introduction: Although Bunker and Thorpe's model (1982) with its path-breaking idea of connecting the teaching of tactical behaviour and skill execution was published 40 years ago this approach only matters marginally in coach education in Germany. This is critical because successful talent development requires creative and intelligent behaviour in game situations (Memmert & König, 2019). Additionally, the international competition puts pressure on talent development to keep pace

with other nations. Before this background we conducted an explorative study with players and coaches to find out if applying the teaching principles of TGfU are appreciated and which advantages are associated with it.

Methods and Data:

In our study both coaches and players were asked to watch an exemplary videotaped training unit on "offering and releasing", which was designed according to the central principles of TGfU. Subsequently, we interviewed all participants by using semi-guided interviews, which were transcribed and analysed applying Kuckartz's (2016) technique of Qualitative Content Analysis (QCA).

Summary of Findings: Our findings show that all coaches regard Bunker and Thorpe's approach as gainful. The same holds true for players who attributed a high potential to the short reflections because they believe that these lead on to improve game appreciation. This again causes mainly positive experiences and a greater motivation, a result that corresponds with Uppal & Vaconcelos (2012), who described a positive influence of TGfU on cognitive and affective factors. Additionally, the pedagogical structure of TGfU was regarded as an indicator for enhancing joy of playing; this was mainly attributed to the issues of perceived game reality and functionality of interlinking games and exercises.

Conclusions and Key Contributions: With regard to the professional development of coaches, we can conclude that by implementing TGfU into adolescents' soccer practice coaches will be able to enhance their players' cognitive parameters and will get more motivated athletes. Furthermore, communication and reflection might enrich talent development.

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Practical recommendations in order to apply Game-Based Approaches with students with intellectual disabilities

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In spite of practice and research of Pedagogical Models in physical education has increased over the last decade, "several reviews highlighted that pedagogical models have been scarcely implemented, and consequently researched in groups of individuals with special educational needs" (Fernández-Río & Iglesias, 2022, p. 8). Additionally, Block et al. (2021) warned that these have not been designed with students with disabilities in mind. Particularly, Game-Based Approaches have born with the aim avoid the sport learning using the isolated skill learning way, while his main axis tactical learning. However, few experiences have been designed and developed in contexts with students with special educational needs, and in particular students with intellectual disabilities. For this reason, this work aims to increase knowledge about why and how to start in the application of Game-Based Approaches with students with intellectual disabilities in special school placements. For it, authors present a sport teaching pedagogical proposal based on main principles and practices features of Game-Based Approaches. In addition, the theoretical frameworks of the Universal Design for Learning and Task Adaptation are included as part of the design. The following were taken into consideration: i) the choice of game, choosing target games unopposed because of easiest tactical complexity, favouring learning and its adaptation to students; ii) modified games that allow adaptation to different characteristics of the students (Task adaptation; Universal Design for Learning); and iii) questioning in small groups, allowing all students' participation regardless of their learning level. The proposal was carried out during compulsory physical education lesson (one 90-minute weekly session) at one special school located in central Spain. The school was private in nature and attends to a total of 12 students belonging to the locality in which it is located and its surroundings. All students participated in the program. Additionally, some reflections of the physical education teacher on her first experience applying game-based approaches are included. Finally, future practical implications are discussed.

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Transmission and transformation of ball games as pedagogic discourse within physical education teacher education

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Introduction: The impact of teacher education programmes on pre-service teachers' preparation for future teaching has been questioned and one explanation is teacher occupational socialisation (Lortie, 1975). However, research on how PETE can matter is growing. One line of research focuses on pre-service teacher's learning to teach content in the transition from university courses to school placement, a process concluded to be both complex and non-linear (Hordvik et al., 2019). Similar research on game-based approaches (GBAs) has shown that different factors, such as conceptual, pedagogical, cultural and political dilemmas constrain the use of GBAs in practicum (Harvey et al., 2015). In this study, drawing on concepts from Bernstein (2000), the aim is to explore the re-contextualisation of ball games as pedagogic discourse in the transition from university to school placement.

Methods and Data: The context is a five-year PETE programme in Sweden and the participants are six pre-service teachers in the middle of the programme. The empirical material consists of written assessments from a Ball games course, 17 observations of lessons at school placements and individual interviews made after the school placement course.

Summary of Findings: The pedagogic discourse of ball games at the university was aligned with the learning outcomes of the course and included the need to communicate goals with the students, adapt and modify teaching for all students and the use of both GBAs and a technical approach. The pedagogic discourse at school placement implied transformation and included: traditional ball games; learning outcomes related to curriculum seldom visible in practice; progression in two or three lessons – basic skill movements to adopted play; and inclusive teaching combined with having fun.

Conclusions - Key Contributions: We conclude that the study provided valuable insights about the transference of the ball games education in PETE to school placement. Factors that regulated the discourse were (1) knowing the students and the group; (2) the conceptualizing of inclusive teaching; (3) the ball games culture in school PE; (4) expectations from pre-service teachers that ball games lessons must be fun for the students; and (5) the framing of ball games education in PETE.

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APPENDIX

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Registration Fees:

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Academic	£35
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Student *	£20
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*To confirm you are entitled to a student rate, please register using your university email address.

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- Access to a members' only section of the TGfU SIG website with exclusive resources, webinars etc. for a year.

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