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Review Article

Unveiling Current and Future Trends in the Implementation of Teaching Games for Understanding in Primary School: A Bibliometric Analysis

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Authors' Contribution: A – Study design; B – Data collection; C – Statistical analysis; D – Manuscript Preparation; E – Funds Collection

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Abstract

Background. Physical Education (PE) often focuses on sports skills through command-based teaching methods, which can lead to students struggling to understand and effectively play games. To address this issue, Teaching Games for Understanding (TGfU) has been introduced as a more effective approach to enhance tactical comprehension and gameplay skills, while also increasing student engagement in physical activities.

Objectives. This study aimed to identify current research trends and future potential for TGfU implementation in elementary school PE through a bibliometric analysis.

Materials and methods. A bibliometric approach was used by analyzing 977 documents from the Scopus database published between 2015 and 2024. The data was analyzed using VOSviewer to map bibliographic networks and conduct keyword analysis. A science mapping approach was applied to identify emerging research trends and predict the future of TGfU implementation.

Results. The analysis revealed that TGfU implementation effectively improves physical activity, motor skills, and the well-being of elementary students. However, further research is needed to fully understand and validate these findings. Current trends emphasize the importance of PE in enhancing physical activity, motor skills, and student well-being through the TGfU approach. Future trends point towards developing PE curricula that undersore the integrated use of TGfU and holistic approaches.

Conclusions. Implementing TGfU in elementary schools holds great potential for improving physical engagement, tactical skill development, and students' psychological well-being. Challenges include optimizing the role of teachers as facilitators and adapting the curriculum for broader TGfU application. Further research is required to validate the application of the TGfU model in PE curricula and to develop approaches relevant to the needs of elementary students.

Keywords: physical education teaching, teaching game for understanding, primary school, future research trends.

Introduction

PE has traditionally been taught using a command-based teaching style focused on sports content, but it is now shifting towards the application of decontextualized sports techniques (Kirk, 2016). As a result, many students struggle with learning, and they also find it difficult to play during games (Harvey et al., 2018). This traditional paradigm centers PE instruction around multi-activities and sports techniques, which leads to students developing fewer skills, with short teaching sessions and pursuing benefits that cannot be achieved by all student profiles (Casey & Kirk, 2020). In response, experts have introduced an alternative model for teaching team games in PE, known as Teaching Games for Understanding (TGfU). This model allows students to learn games by focusing on their understanding of how to play and on skill development (Papagiannopoulos et al., 2023).

TGfU is described as an alternative to content-oriented learning models, using an actual gameplay approach in its implementation (Memmert et al., 2015) and enhanced students' ability to identify tactical problems that arise during games and to respond appropriately (Mitchell et

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al., 2020). This is recommended as an effective approach to promoting motor skills (Dania & Harvey, 2020). This model is particularly effective in primary schools (García-López et al., 2019) as students are still developing fundamental movement skills, and playing games provides an engaging way for them to learn (Goodway et al., 2019). Furthermore, its can be used as a method to enhance motivation in students who may be less engaged with physical education lessons (García-González et al., 2020).

Several studies have demonstrated its effectiveness in developing tactical knowledge, the ability to evaluate game situations, and in fostering tactical reasoning (Harvey et al., 2020). It has also been shown to increase engagement, motivation, and enjoyment (Batez et al., 2021), as well as improve moderate physical activity levels during lessons (Wang & Wang, 2018). The application of TGfU has also been found to enhance decision-making, skill execution, successful game performance, the number of decisions made, game involvement, and the intention to remain physically active (Barquero-Ruiz et al., 2021). It further aids in the acquisition of students' critical thinking skills (Barnabè et al., 2023) and considered more suitable than direct instruction for increasing light physical activity (PA) levels during sessions (Sierra-Ríos et al., 2020). These advantages provide a strong basis for teachers to consider using the TGfU model in PE lessons, particularly in primary schools.

The main challenges for teachers still revolve around planning, developing the role of the facilitator to support learning, and providing sufficient time for applying knowledge during games (Thomas et al., 2013). Additionally, studies have often focused on secondary classes rather than primary classes and have primarily aimed at improving motor skills without assessing students' understanding. On the other hand, PE teachers continue to face challenges or difficulties when using the model (Harvey, 2016; Papagiannopoulos et al., 2023), as well as a lack of widespread adoption of TGfU by teachers (García-López et al., 2019). Many PE teachers still fail to teach games effectively and comprehensively, remaining focused on students' skill development (Ward & Griggs, 2011) and improving tactical understanding and decision-making (O'Connor et al., 2017). The practice of implementing TGfU remains limited and must be adapted to the PE curriculum in each school (Harvey, Cope, et al., 2016) and should be designed to suit the context, aligning with the characteristics of students and the school environment (Morales-Belando et al., 2022).

Given the challenges faced by teachers, it is crucial to conduct studies to understand the factors influencing these issues and to identify alternative solutions for resolving them, as well as to explore current themes surrounding TGfU implementation. Several studies have been conducted to examine the implementation of TGfU using systematic review methods. Ortiz et al. (2023) reviewed 13 articles on the effects of it interventions on game performance and psychosocial variables. Robles et al. (2020) reviewed 13 studies on the impact of technical and tactical approach interventions on skill performance and decision-making, including an assessment of how the management style of the teacher or coach affects these outcomes. Furthermore, Morales-Belando et al. (2022) reviewed 20 studies from a practice-based perspective on how researchers documented their interventions, focusing on the characteristics of teaching and learning implementation and their connection to learner outcomes. Yan et al. (2023) reviewed 17 studies on the impact of game-based approaches on game performance, fundamental movement skills, health-related measures, and PA outcomes in children aged 5 to 12 when implemented in primary school PE settings. These studies highlight important content related to it implementation, the approaches used, the results obtained, and gaps for further research.

However, based on the author's understanding and knowledge, no studies have yet been found that use bibliometric analysis. To bridge this gap, bibliometric analysis is employed to complement traditional literature reviews through an objective approach to understanding the current research landscape and future trends (Saini et al., 2022). This bibliometric analysis study comprehensively examines the scientific literature on it. The aim of this bibliometric study is to explore the literature on TGfU implementation using bibliographic coupling analysis and to identify potential current and future research trends through co-word analysis. The study explores emerging and trending themes while predicting future trends. It presents network visualisations in cluster analysis using science mapping techniques, producing a temporal structure and topology of topics. The results are expected to reveal the intellectual structure by understanding its development over time and the richness of research streams.

Materials and Methods

Bibliometric Approach

The bibliometric approach is a scientific method that assists academics in analysing literature by summarising and synthesising it (Donthu et al., 2021). Additionally, bibliometric analysis serves as an essential tool for systematically investigating publication patterns based on existing literature by combining quantitative data and qualitative interpretation (Paul & Barari, 2022). Furthermore, bibliometric analysis is used to complement the analysis of the evolution, current state, and future trends in scientific fields (Mulet-Forteza et al., 2022) and supports the prioritisation of research, processing, and analysis at various levels of complexity (Mejia et al., 2021).

Bibliometric analysis is conducted using two approaches: performance analysis, which examines the number of publications, citations, and publication productivity, and science mapping, which identifies the knowledge structure based on relationships between studies through network visualisation (Tiberius et al., 2020). In this study, bibliometric analysis is carried out using a science mapping approach to identify potential current and future research trends through co-word analysis. This involves interpreting the current state and forecasting future trends in published literature through bibliographic coupling and co-occurrence analysis.

Research Design and Data Collection Procedure

The Scopus database was utilised to search for relevant documents related to the implementation of TGfU. The reason for using Scopus is that it is a popular database among researchers globally (Khan & Muktar, 2020) and allows

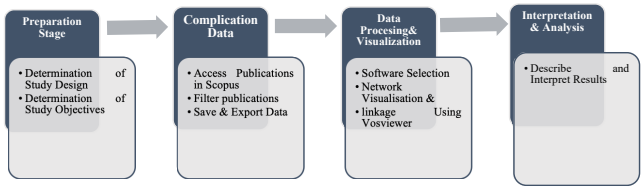

Fig. 1. Flowchart of Study Design

for the export and analysis of documents for bibliometric studies (Zyoud et al., 2024). The search results were analyzed using the publication mapping tool VOSviewer version 1.6.20 to create publication maps based on text corpora or citation networks, providing key insights into the content of the documents (Sinkovics, 2016). Therefore, in this study, VOSViewer was used to visualise the bibliographic coupling and co-occurrence network maps, as illustrated in Figure 1.

The document search was conducted on 4 September 2024, following the criteria outlined in Table 1. The search yielded 1,899 documents. These were then screened based on the publication date range of 2015-2024, document type as articles, finalised publications, published in journals, and written in English. After screening, 977 documents were obtained and further processed by exporting them in CSV format.

Table 1. Document Search Criteria

Criteria	Description
Source Database	Scopus
Search string	("physical education" OR "movement education") AND ("teaching games for understanding" OR "tactical games model" OR "step-game approach" OR "invasion games competence model" OR "game sense" OR "tactical decision learning") AND ('elementary school" OR "primary school"))
Search in	Title, abstract, & Keywords
Source & Document type	Jurnal & Article
Publication Language	English
Publication stage	Final
Dokumen yang diperoleh	977

Results

General Information

An overview and key insights from the documents obtained are presented in Table 2 and serve as the foundation for subsequent analysis. The documents related to the implementation of TGfU in primary schools were sourced from 319 publications, with an average annual growth rate of 3.35% and an average of 11.33 citations per year. The publications involved a total of 3,058 authors, with a collaboration index of 4.21, meaning that more than four authors contributed to each published document. Additionally, there were 88 single authors responsible for publishing 99 documents. In total, the documents referenced 39,710 sources, and 2,181 unique keywords were used by the authors.

Bibliografic Coupling Analysis

Bibliographic coupling analysis is an extension of co-citation analysis, assuming that two publications share a connection if they reference the same sources (Donthu et al., 2021). Bibliographic coupling is a technique that assumes two publications share a connection if they cite the same references, with the degree of bibliographic linkage indicating the more references they share, thereby offering insight into current trends (Donthu et al., 2021). In this study, bibliographic coupling analysis was conducted using the same database of 977 documents, with a minimum citation count of 35 for each document, resulting in a threshold of 66.

Table 2. General Information

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2015:2024
Sources (Journals, Books, etc)	319
Documents	977
Annual Growth Rate %	3.35
Document Average Age	3.98
Average citations per doc	11.33
References	39710
DOCUMENT CONTENTS	
Keywords Plus (ID)	1922
Author's Keywords (DE)	2181
AUTHORS	
Authors	3058
Authors of single-authored docs	88
AUTHORS COLLABORATION	
Single-authored docs	99
Co-Authors per Doc	4.21
International co-authorships %	24.67
DOCUMENT TYPES	
article	977

The visualisation of the bibliographic coupling network, resulting from this analysis, is presented in Figure 2. The network visualisation reveals five clusters, represented by different colours: Cluster 1 (red), Cluster 2 (green), Cluster 3 (blue), Cluster 4 (yellow), and Cluster 5 (purple). Each cluster is interconnected. A qualitative interpretation was then conducted by the author, assigning labels to each cluster based on the emerging themes.

Cluster 1 (red) consists of 21 items labelled "the role of PE in enhancing PA to support healthy child development". PE plays a role in promoting healthy child development by increasing moderate-to-vigorous PA (MVPA) (Mooses et al., 2017). Therefore, it is important to boost MVPA and reduce inactive time (Tanaka et al., 2018). Meeting school PA guidelines can be achieved through comprehensive programmes, such as classroom-based physical activities prioritising the use of classroom space (Carlson et al., 2015). Additionally, strategies to enhance PA can involve using free time to engage in organised sports (Hebert et al., 2015). PA

programmes have a chronic impact on improving children's executive function, particularly when they include cognitive elements (Schmidt et al., 2015). However, limited time is a major barrier, so additional PA must be implemented in the classroom with short durations and easy-to-understand material for students (Van den Berg et al., 2017). In response to this issue, Riley et al. (2015) revealed that increasing school-based PA could be integrated into mathematics lessons, so PA is conducted in line with tasks in maths classes.

Cluster 2 (green) consists of 12 items labelled "learning strategies and interventions to enhance PA and student fitness in schools". Several studies have been conducted as efforts to increase student PA through learning activities. The integration of different teaching styles, known as multi-teaching styles and active reflection (MTA), can improve fitness, motor competence, enjoyment, and the amount of PA (Invernizzi et al., 2019). A study by Miller, Christensen, Eather, Sproule, et al. (2015) revealed that object control FMS proficiency and in-class PA in stage three students simultaneously improved through the program intervention The Professional Learning for Understanding Games Education (PLUNGE). Furthermore, learning that integrates health- and skill-related fitness components in primary schools can enhance aerobic capacity and muscle fitness in children (Faigenbaum et al., 2015). Additionally, PA programmes can be implemented through learning strategies that focus on FMS to improve children's motor skills and PA behaviour (Lee et al., 2020).

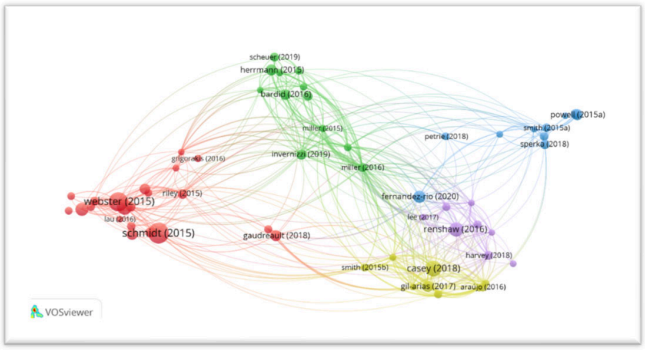

Fig. 2 Network visualization of bibliographic coupling

Cluster 3 (blue) consists of 10 items focusing on the role and actions of teachers in delivering lessons. A teacher must implement student-centred learning by considering the characteristics of their students, ensuring that the designed instruction truly accommodates student abilities (Petrie et al., 2018). Teachers play a key role in providing inclusive learning by making pedagogical modifications to ensure meaningful engagement in PE lessons for all students (Overton, 2017). As a profession, it is our responsibility to ensure that all students experience quality physical education programmes and that PE teachers work in ways that maximise the benefits for students (Dyson et al., 2016). However, teachers face challenges related to the shift towards outsourcing PE to commercial sports coaches, which de-professionalises the delivery of PE, worsening its implementation in primary schools (Jones & Green, 2017). These coaches often lack pedagogical knowledge, leading to difficulties in managing student behaviour and classroom management (A. Smith, 2015).

Cluster 4 (yellow) consists of 9 items labelled "empirical insight into using a MBP approach involving several models to teach physical education." To enhance student PA in PE lessons, teachers are encouraged to use the model-based practice (MBP) approach. Studies have shown that the Teaching Game Model (TGM) significantly increases students' MVPA (L. Smith et al., 2015). Furthermore, MVPA levels can be improved through Game-Centred Approaches (GCAs), which are recommended for PE and health objectives (Harvey, Song, et al., 2016). Additionally, implementing a hybrid TGfU/SE pedagogical model allows students to feel motivated, enjoy the competence, develop a positive image of sports for practice, experience greater enjoyment, and be physically active (Gil-Arias et al., 2017). Another study on TGfU implementation found that both students and teachers reported improvements in decision-making, technical execution, defence, support, game performance, game involvement, enjoyment, perceived competence, and the intention to be physically active (Morales-Belando et al., 2018). However, teachers still face challenges in adopting the MBP approach and need to shift their teaching philosophy (Casey & MacPhail, 2018).

Cluster 5 (purple) consists of 8 items labelled "the TGfU approach to enhance metacognitive behaviour and social constructivism in primary schools". TGfU is a pedagogical approach to teaching that is delivered through games (Harvey et al., 2018). This game-based approach can be used to enhance metacognitive behaviour in primary school students (Chatzipanteli et al., 2016). Furthermore, TGfU provides significant benefits from the motor-praxis framework as it fosters an understanding of game concepts, guiding motor behaviour, and systematically developing teaching practices (Martínez-Santos et al., 2020). The implementation of the TGfU approach can be facilitated through peer interaction, fostering social constructivism (Koekoek & Knoppers, 2015).

Co-word Occurrence analysis

The co-word occurrence analysis aims to break down the content of each thematic cluster and provide predictions for future research (Donthu et al., 2021). The co-word analysis examined 48 terms that met the threshold out of 3,754, with a minimum keyword co-occurrence of 30. The results yielded 15 keywords with the highest co-occurrence (Table 4), a network visualisation forming three clusters (Figure 3), and representative keywords for each cluster (Table 5). The qualitative analysis of each cluster is described as follows:

Cluster 1 (red) includes 22 keywords and is labelled "Enhancing Student Development through Comprehensive PE Programs in Primary Schools." This cluster highlights the significance of a well-rounded PE curriculum that not only focuses on physical skills and fitness but also integrates effective teaching methods, motivational strategies, and essential life skills to support holistic student development. The effective implementation of the primary school PE curriculum involves a holistic approach, addressing physical, cognitive, social, and emotional aspects while considering curriculum flexibility, local needs, and individual students (Mustafa et al., 2024). Pedagogical interventions such as game-based approaches, Mastery Teaching, and Sport Education have been identified as strong investments

across multiple domains (Dudley et al., 2022). Additionally, positive psychological changes can be effectively achieved by students through school-based physical education (Cho, 2020).

Cluster 2 (green) includes 13 keywords and is labelled "The Impact of Physical Fitness and Health Promotion on Academic Achievement and Psychological Well-being in Primary Schools." This cluster focuses on the interconnectedness of physical fitness, health promotion, and academic success, emphasizing how comprehensive physical education can enhance students' cognitive functions, psychological health, and overall academic performance. PA promotion through extracurricular activities significantly impacts academic achievement, mediated by various cognitive, psychological, and social factors (Zarazaga-Peláez et al., 2024). Efforts to improve students' psychological well-being can be implemented through various forms and durations of intervention, particularly for school students (Piñeiro-Cossio et al., 2021). One such intervention is integrating physical literacy into Active School Recreation, which positively affects physical fitness and academic achievement in children (Zhang et al., 2023). Additionally, multicomponent and combined PA interventions can improve psychological well-being and quality of life (Hale et al., 2021).

Cluster 3 (blue) includes 13 keywords and is labelled "The Role of PA in Developing Motor Skills and Managing Obesity in Students." This cluster highlights the importance of PA in early childhood for both boys and girls, focusing on how it enhances motor skills and helps manage body mass and obesity. Clinically, overweight and obesity can be reduced by improving cardiovascular fitness levels (Elagizi et al., 2020). Thus, promoting PA and fitness through school-based interventions equips students with knowledge about the content, quality, duration, and prioritisation of PA (Yuksel et al., 2020). School-based PA interventions are particularly effective strategies for preventing obesity in children aged 6 to 12 years (Podnar et al., 2021). Furthermore, increasing activity levels in preschoolers can be achieved through a multicomponent model (Coe, 2018).

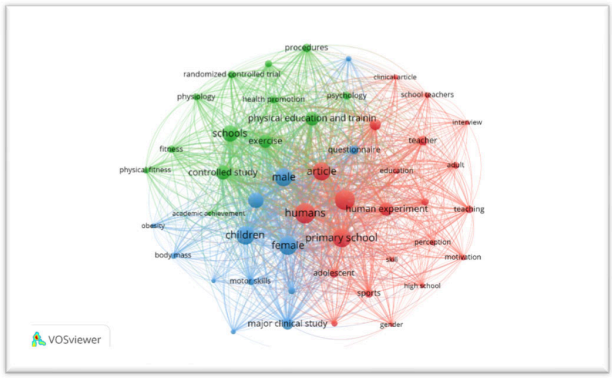

Fig. 3. Network visualization co-word occurence analysis

Table 3. Top 15 keywords in the co-occurrence of keywords analysis

Rank	Keyword	Occurrences	Total link strength
1.	physical education	631	5126
2.	primary school	425	4487
3.	humans	420	5268
4.	children	385	4536
5.	article	330	4320
6.	female	330	4408
7.	male	327	4373
8.	PA	305	3316
9.	schools	276	3524
10.	controlled study	197	2787
11.	human experiment	187	2518
12	physical education and training	187	2687
13.	exercise	174	2416
14.	students	150	1866
15.	major clinical study	139	1955

Discussion

Findings from the bibliographic coupling analysis have synthesised research streams on future trends. This bibliographic result provides significant information about emerging and future trends related to the importance of PE in enhancing PA, motor skills, and student well-being through the TgfU approach. This aligns with the study by Arufe-Giráldez et al. (2023), which states that PE teaching by teachers is expected to have positive effects on students' psychological, motor, affective-emotional, and social domain.

Table 4. Co-word analysis on GCAs

Cluster No and colour	Cluster label	Number of keywords	Representative Keywords
1 (Red)	"Enhancing student development through comprehensive physical education programs in primary schools".	22	Physical education, primary school, education, curriculum, teaching, learning, motivation, skills
2 (Green)	"The impact of physical fitness and health promotion on academic achievement and psychological well-being in schools".	13	Schools, physical fitness, academic achievement, health promotion, psychology, physical education and training
3 (Blue)	"The role of PA in developing motor skills and managing obesity in preschool children".	13	PA, preschool childrens, male, female, body mass, obesity, motor skill

As revealed in each formed cluster, Cluster 1 emphasises the importance of PE in increasing PA and supporting children's health development by increasing MVPA and reducing inactive time. Next, Cluster 2 focuses on learning strategies to improve students' PA and fitness, including the integration of multi-teaching styles and integrative approaches. Additionally, Cluster 3 highlights the importance of the teacher's role in providing inclusive and student-centred PE. Cluster 4 explores the MBP approach in PE, which can enhance MVPA, motivation, and students' physical engagement. Finally, Cluster 5 highlights the use of TGfU to improve metacognitive behaviour and social constructivism in primary schools.

These findings provide clear direction regarding current research trends that point towards the utilisation of TGfU in PE teaching in primary schools. The use of TGfU, which employs a game-based approach, has been proven to improve physical self-perception, intrinsic motivation, well-being, physiological, and potential psychological outcomes for children (Yan et al., 2023). In addition, the approach is believed to enhance outcomes in tactical skills, skill execution, affective, procedural knowledge, and/or PA, thereby improving health and technical approaches (Breed et al., 2024). The integration of TGfU supports PA enjoyment and specific self-beliefs and quality of life perceptions that contribute to children's subjective well-being (Papadopoulos et al., 2022). For this reason, it is recommended that researchers promote new models or approaches that are easier to apply than the TGfU model (Arufe-Giráldez et al., 2023). Regarding the planning of learning programmes associated with PA, several factors must be considered, including the role of teachers, the environment, and motor skill development and competence (Coe, 2018).

Future trends identified in the co-word occurrence analysis should consider that the PE curriculum should integrate physical, cognitive, social, and emotional development, taking into account curriculum flexibility, addressing local needs, and focusing on individual students (Cluster 1). A comprehensive curriculum can enhance physical fitness, health promotion, academic achievement, and psychological well-being in schools, developing motor skills and managing obesity (Clusters 2 and 3). The planning of the PE curriculum is designed holistically through a school-based multi-component approach. Interventions to increase PA in schools have been shown to reduce anxiety, increase resilience, improve well-being, and promote positive mental health in children and adolescents (Andermo et al., 2020) and effectively enhance a variety of motivational outcomes (Kelso et al., 2020). PE is considered important for fostering lifelong attitudes towards PA, where engagement, enjoyment, and lasting commitment to PA are influenced by perceived competence and relatedness. However, these needs can be hindered by significant variations in maturity levels (Towlson et al., 2024).

Pedagogical interventions with a game-based approach like TGfU can be used to foster healthier students, both physically and psychologically, and support better academic outcomes. Continued research is needed to understand and validate the application of the TGfU instructional model in the PE curriculum (Hodges-Kulinna et al., 2024). Additionally, future trends related to motivational interventions highlight girls as participants with special interest, as well as adopting new methodologies through web-based interventions and implementing active breaks or mental breaks during traditional classroom lessons (Vaquero-Solís et al., 2020).

Conclusions

The bibliometric review has provided important insights for academics and practitioners regarding the knowledge structure related to the implementation of TGfU in primary schools. Based on the bibliographic coupling, several themes relate to the importance of PE in enhancing PA, motor skills, and student well-being through the TGfU approach. At the same time, the co-word analysis presents research streams related to the development of the PE curriculum, emphasising the use of TGfU and the importance of a holistic approach that integrates the physical, cognitive, social, and emotional development of students. The findings from this research will enable the increased application of TGfU in enhancing PA, motor skills, and the well-being of primary school students. Additionally, further research is needed to understand and validate the application of the TGfU instructional model in the PE curriculum.

This study has several limitations related to the review conducted. The qualitative analysis performed by the authors may contain elements of subjectivity in determining the results. Therefore, inter-rater or inter-author reliability is needed to reduce the possibility of subjectivity in qualitative interpretation. Additionally, the analysis was only conducted using the Scopus database. In the future, it is recommended to conduct similar bibliometric analyses using other databases such as Web of Science (WoS) or a combination of Scopus and WoS, following the analysis steps recommended by Lim et al. (2024). The authors also recommend conducting systematic reviews related to the implementation of TGfU in PE teaching in primary schools.

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Conflict of Interest

Authors declare no conflict of interest regarding this paper.

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Виявлення сучасних та перспективних тенденцій щодо впровадження моделі учбового процесу «Навчання за допомогою ігрових елементів для тренування розуміння» в початковій школі: Бібліометричний аналіз

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Історія питання. На заняттях з фізичного виховання (ФВ) основна увага часто приділяється спортивним навичкам за допомогою командних методів навчання, що може призвести до виникнення в учнів труднощів в контексті розуміння та ефективного проведення ігор. З метою розв'язання цієї проблеми запроваджено методику «Навчання за допомогою ігрових елементів для тренування розуміння» (Teaching Games for Understanding, TGfU) в якості ефективнішого підходу щодо покращення тактичного розуміння та ігрових навичок, а також підвищення залученості учнів до занять із фізичної активності.

Мета дослідження. Мета цього дослідження полягала у визначенні сучасних наукових тенденцій та майбутнього потенціалу впровадження методики TGfU у практику фізичного виховання в початковій школі через проведення бібліометричного аналізу.

Матеріали та методи. Застосовано бібліометричний підхід шляхом аналізу 977 документів з наукометричної бази даних Scopus, опублікованих у період з 2015 по 2024 роки. Аналіз даних проводився із використанням програмного забезпечення VOSviewer для картографування бібліографічних мереж та аналізу ключових слів. З метою визначення нових дослідницьких тенденцій та прогнозування перспектив впровадження моделі учбового процесу «Навчання за допомогою ігрових елементів для тренування розуміння» було застосовано метод наукового картографування.

Результати. За результатами аналізу встановлено, що впровадження методики TGfU сприяє ефективному покращенню фізичної активності, рухових навичок та благополуччю учнів початкових класів. Однак для забезпечення комплексного розуміння та підтвердження зазначених висновків необхідне проведення подальших досліджень. Сучасні тенденції підкреслюють важливість фізичного виховання як чинника підвищення фізичної активності, рухових навичок і благополуччя учнів за допомогою підходу TGfU. Перспективні тенденції вказують на розробку навчальних програм з ФВ, що наголошують на інтегрованому використанні методики TGfU та холістичних підходів.

Висновки. Впровадження моделі учбового процесу TGfU в початковій школі має великий потенціал щодо вдосконалення механізму залучення до занять фізичною культурою, розвитку тактичних навичок та психологічного благополуччя

учнів. До проблемних питань належать оптимізація ролі вчителів як фасилітаторів та адаптація навчальної програми для ширшого застосування TGfU. Слід провести подальші дослідження задля підтвердження застосування методики TGfU у навчальних програмах з фізичного виховання та розробки підходів, що відповідають потребам учнів початкових класів.

Ключові слова: викладання фізичного виховання, навчання за допомогою ігрових елементів для тренування розуміння, початкова школа, перспективні тенденції досліджень.

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