

The impact of model-based practices on sustainable physical education in Indonesia: a systematic review El impacto de las prácticas basadas en modelos en la educación física sostenible en Indonesia: Una revisión sistemática

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Abstract. Model-Based Practice (MBP) is a teaching practice that organizes pedagogical models through various sport-based physical activities thematically to solve problems related to appropriate teaching to achieve educational values. Previous systematic reviews that have been carried out cover only one model approach and there has been no systematic review until 2024 that specifically discusses the implementation of MBP in Indonesia. The systematic review aims to explore information related to MBP implementation studies in physical education (PE) teaching that have been conducted by researchers or practitioners to support sports development in Indonesia. The literature search used the Scopus database by following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A total of 10 of 1,222 articles met the criteria during the screening process and were extracted into tables including content, problem statement, methods, results, and future research. The results showed that the model used was effective in improving learning outcomes and the development was valid and feasible to use. The implementation of MBP in PE learning in Indonesia only includes three models, namely sports education (SE), cooperative learning (CL), and teaching games for understanding (TGfU) study objectives focus on one objective and do not include social learning outcomes. More studies related to the implementation of MBP are needed to improve the quality of PE teaching to support sustainable sports development in Indonesia. Future research recommended the application of the MBP concept by integrating various pedagogical models in one lesson to achieve legalized PE learning outcomes.

Keywords: model-based practice, physical education teaching, quality of PE teaching, sustainable sports development

Resumen. Model-Based Practice (MBP) es una práctica de enseñanza que organiza modelos pedagógicos a través de diversas actividades físicas basadas en el deporte temáticamente para resolver problemas relacionados con la enseñanza apropiada para lograr valores educativos. Las revisiones sistemáticas anteriores que se han llevado a cabo cubren sólo un enfoque de modelo y no ha habido ninguna revisión sistemática hasta 2024 que discuta específicamente la implementación de MBP en Indonesia. La revisión sistemática tiene como objetivo explorar la información relacionada con los estudios de implementación de MBP en la enseñanza de la educación física (EF) que han sido realizados por investigadores o profesionales para apoyar el desarrollo del deporte en Indonesia. La búsqueda bibliográfica se realizó en la base de datos Scopus siguiendo las directrices de los Elementos de Información Preferidos para Revisiones Sistemáticas y Metaanálisis (PRISMA). Un total de 10 de los 1.222 artículos cumplieron los criterios durante el proceso de selección y se extrajeron en tablas que incluían el contenido, el planteamiento del problema, los métodos, los resultados y la investigación futura. Los resultados mostraron que el modelo utilizado era eficaz para mejorar los resultados del aprendizaje y que el desarrollo era válido y factible de utilizar. La aplicación del MBP en el aprendizaje de la educación física en Indonesia sólo incluye tres modelos, a saber, la educación deportiva (SE), el aprendizaje cooperativo (CL) y la enseñanza de juegos para la comprensión (TGfU) los objetivos del estudio se centran en un objetivo y no incluyen los resultados del aprendizaje social. Se necesitan más estudios relacionados con la aplicación del MBP para mejorar la calidad de la enseñanza de la educación física con el fin de apoyar el desarrollo sostenible del deporte en Indonesia. Las investigaciones futuras recomiendan la aplicación del concepto MBP mediante la integración de varios modelos pedagógicos en una lección para lograr resultados de aprendizaje de la educación física legalizados.

Palabras clave: práctica basada en modelos, enseñanza de la educación física, calidad de la enseñanza de la educación física, desarrollo deportivo sostenible

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Introduction

Sport development refers to the development of sport itself and its role as a tool for social and personal growth (Ha et al., 2015). Sport development is important because it has positive impacts such as supporting psychosocial development and transferring competencies (Almeida et al., 2023). In addition, sport can be used as a means to improve social, emotional and academic skills, and develop the ability to co-operate with others (Hayden et al., 2015).

For this reason, government policy is needed as a very effective tool in changing social habits and institutions in supporting the achievement of sports development in Indonesia. (Ma'mun et al., 2022). Responding to this, government of the Republic of Indonesia enactment of Law Number 11 of 2022 of the Republic of

Indonesia concerning sports. The government issued the National Sports Grand Design (DBON) as a master plan to determine the direction of sports coaching and development policies within the scope of educational sports, recreational sports, and sports industry (Amali, 2022). Referring to the DBON, education gets a portion to achieve the national sports goals.

As known to many sport education is carried out by schools in the form of Physical Education (PE) (Baena-Morales et al., 2023). PE is an education that places the body at the center of attention (Aartun, 2022) and on the concept of movement pedagogy as a key principle and movement-based learning to be more responsive to the needs of all students (Clark et al., 2023). Moreover, Pangrazi and Beighle (2019) described PE as an important subject matter that provides students with the skills, knowledge and attitudes to remain active across the lifespan

thereby contributing to the total growth and development of all children. With this, extensive research was conducted is conducted upholding the educational value of students' lifelong participation in PE (Beni et al., 2018) and strongly connecting students to the personal and cultural representations of sport and increasing children's enjoyment for the achievement of motor and social goals (Araujo et al., 2016). For this reason, physical learning, cognitive learning, social learning, and affective learning are positioned as legitimizing the learning outcomes of PE (Askildsen & Løndal, 2023). Therefore, the approach to teaching PE in schools has changed to meet society's need for individuals who are critical, responsible, and able to adjust to the environment with student-centered teaching (Gubacs-Collins, 2015).

Referring to the current concept of education It aims to to support, improve, and optimize the use of information communication technology (ICT), While encouraging the formation of life skills, and social skills, and become lifelong learners (Joynes et al., 2019). In addition, students must have the necessary abilities, namely creativity and innovation, critical thinking and problem-solving, communication, and collaboration known as the 4cs (Abesadze & Nozadze, 2020; Tight, 2021). A learning process that emphasizes students' ability to seek and find knowledge and information from various sources, formulate problems, think analytically, and collaborate in problem-solving (Alawiah et al., 2022). The main characteristics of 21st-century teaching and learning, encompasses student-centered learning, encouraging collaboration between students, dan involving technology in learning (Sumardi et al., 2020). To achieve these skills, teachers are required to develop professionalism in designing learning to prepare students to face future challenges (Mthanti & Msiza, 2023). In addition, teachers should equip learners with higher-order skills such as creative and critical decision-making, effective teamwork, communication, and environmental literacy (Muyambo-Goto et al., 2023).

With the evolving world of teaching and learning PE, it is now facing significant challenges (MacPhail, 2020). Despite extensive efforts by researchers and scholars to investigate the effectiveness of different teaching methods, aligning educational objectives with instructional strategies remains a major topic of inquiry (Kirk, 2014). A prevalent issue in PE is proficiency in the sport and covering the educational objectives themselves (Quennerstedt, 2019). Related to these problems, Kirk (2013) argues that PE has the potential to contribute to the achievement of a range of educationally beneficial outcomes and therefore new and diverse versions or models are needed. For this reason, it is recommended to apply the MBP approach or pedagogical model in PE (Casey & MacPhail, 2018).

MBP is an approach that utilizes a range of pedagogical models that offer the possibility of resolving issues that have limited the range of learning outcomes, materials, and teaching strategies appropriate to each pedagogical model (Kirk, 2013). MBP as PE practice organized around pedagogical models is based on the premise that school PE should be delivered through a range of sport-based physical activities and/or one main theme model (Casey et al., 2020). Pedagogical change in the form of MBP is a process that needs to be supported by communities of practice that

are intent on improving learning across multiple domains in PE (Casey & MacPhail, 2018). The popularised notion of model-based practice (MBP) is a practice that focuses on the delivery of a model such as Cooperative Learning (CL), Sport Education (SE), Teaching Personal and Social Responsibility (TPSR), Teaching Games for Understanding (TGfU) and Hybrid (Casey & MacPhail, 2018).

Several studies have shown that the implementation of MBP can promote improved physical performance, cognitive understanding, development and use of interpersonal skills, meaningful participation in social learning, and affective learning (increased motivation, self-esteem, or confidence to learn) (Askildsen & Løndal, 2023; Boyacı & Atalay, 2016; Casey & Goodyear, 2015; Fernandez-Rio & Iglesias, 2024). However, teachers experienced consistent challenges in adopting the MBP approach (Casey & MacPhail, 2018). As is known in the teaching process, the teacher is the main actor in determining the success of the implementation of a model or theoretical construction (Casey et al., 2021). Therefore, it is important to understand the factors underlying the implementation of the MBP approach by PE teachers. In an effort to bridge the gap, the author needed a study to explore information related to previous research that examined the implementation of MBP. In an effort to bridge the gap, the study was conducted through a systematic review analysis. Systematic review is a review of protocols and established guidelines as a quality methodological guide that is useful for investigators and students (Shaffril et al., 2021; Calderon-Martinez et al., 2024). Furthermore, the systematic review analysis is able to recognise patterns in the results of previous studies and is used by the author to identify study gaps. (Paul & Criado, 2020).

The writing of the systematic review aims to explore information about studies that have been conducted by researchers and practitioners in Indonesia related to the implementation of MBP in PE teaching. Previous systematic reviews that have been carried out are related to the stimulation of motor skills in early childhood and primary school students through learning with game models (Suryadi et al., 2024). However, the coverage is still very specific to one model of approach, not covering the whole of MBP. In addition, there is no systematic review until 2024 that specifically discusses the implementation of MBP in Indonesia, making it necessary and important to conduct a systematic review. A systematic review that explores the content, objectives, methods, results, and recommended future research. The results of this systematic review are expected to provide practical and theoretical information on existing physical education pedagogy in Indonesia to determine the direction of policy development and expansion of physical education pedagogy.

Materials & Methods

Search Strategy

In the systematic review, search strategy used the Scopus database which is considered one of the leading indexing systems for citations (Samsuddin et al., 2020), frequently

visited and used by researchers around the world (Khan & Muktar, 2020), and has a wide coverage of citation indexes and digital publications making access to research literature easy (Shaifudin et al., 2022). The search strategy included a combination of the keywords "physical education" AND ("model-based practice" OR "pedagogical model" OR "sports education" OR "teaching games for understanding" OR "cooperative learning" OR "Hybrid" OR "Teaching for Personal and Social Responsibility") with a search scope of article titles, abstracts, and keywords conducted on 11 May 2024. The reference lists of the included articles were searched to identify additional studies to find relevant articles.

Selecting Studies

The systematic review included articles that: (a) involved subjects or participants, and (b) explicitly discussed the implementation of MBP in PE in Indonesia. Articles were excluded if they: (a) were not published between 2019 and April 2024; (b) were not open access; (c) were not in the final processing stage; (d) were not in English; or (e) were not from peer-reviewed journals.

Procedure

The search was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Mohamed Shaffril et al., 2019). Mentioned that PRISMA is a protocol that does not require ethical review and can be trusted because it is sourced from trusted journals of high quality (Kapadia et al., 2016). A to-

tal of 1,222 articles were retrieved from the Scopus database search. Then, 1003 articles were excluded as they had at least one of the exclusion criteria. Furthermore, 278 articles were excluded after the full-text examination as the articles did not fulfill one or more of the inclusion criteria. At the end of the screening process, a total of 10 articles met the inclusion criteria and whereby processed in the systematic review (Figure 1).

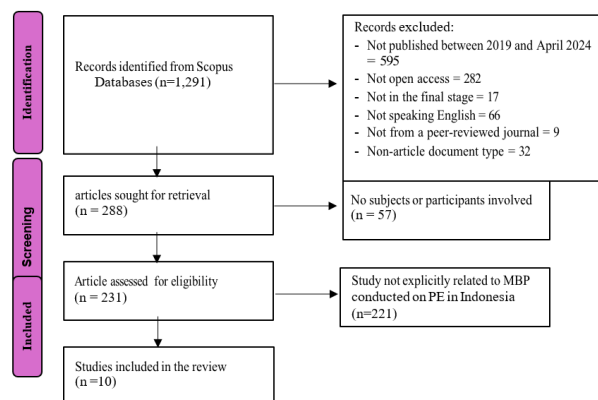


Figure 1. Study selection PRISMA flow diagram

Results

The table below shows the result of the studies that have been conducted by researchers and practitioners in Indonesia related to the implementation of MBP in PE teaching.

Table 1.
Summary of article

Author and Year	Content	Problem Statement	Destination	Research Methods and Types	Research Results	Future research recommendations
(Ginanjar et al., 2023)	Implementation of SE in PE learning in higher education.	It is necessary to increase the motivation of prospective teachers to use SE in their professional development as future teachers.	The aim of this study was to look at students' motivation levels after participating in the SE season according to their roles in SE.	Experiment with descriptive quantitative approach	Differences in the average level of motivation of university students after participating in SE futsal based on roles in SE characteristics such as coach, manager, player, referee, match recorder, and publication.	1. Conducting a study related to student motivation in participating in the SE season and fulfilling physical activity recommendations 2. assess the SRQ-L instrument according to the characteristics found in SE.
(Ginanjar et al., 2021)	Implement competitive activities through SE	SE is a curriculum that uses competitive activities at the end of learning or called seasons in various sports activities. However, the application of SE in Indonesia is still not much, especially in higher education.	The study aimed to determine the overall level of students' sport orientation related to roles in team roles and to determine before and after using SE in sport orientation,	experimental method with a one-group pretest-posttest design involving .	SE provides a sense of security in the learning process with competitive activities. However, when viewed from sports orientation before and after using SE, it does not show significant results...	Further investigation into the use of SE for sport orientation in students outside of physical education and sport programmes is needed so that results can be generalised.
(Winarni & Lutan, 2020)	Fostering empathy and tolerance through co-operative learning models.	Character education is a necessity due to the lack of empathy and tolerance among teenagers.	This study aims to examine the effectiveness of two learning methods, namely co-operative and classical	quasy-experiment method with 2 x 2 factorial design	Students can learn better to value empathy and tolerance in co-operative learning than in classical learning about valuing empathy and tolerance.	Should incorporate this co-operative model into the pre-service teacher education curriculum, so that it can implement character education through collaboration with educators in teacher education institutions.
(Ridwan et al., 2022)	Increased engagement of	Football learning methods to increase the motivation and participation	Analyse the effect of SSGs learning model on female	Experiment with one-group pre-test post-	There were significant differences between sport education and traditional conditions based	Further research is needed to gain more insight into SSG's core interactions and how

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	Female students through the implementation of SSGs in football.	of female players (students) have not been done much.	students' motivation to participate in football practice learning.	test design.	on perceptions of competence, task orientation, and motivational climate with measures decreasing from pre-test to post-test.	best to use them to improve students' physical education.
(Fenanlampir et al., 2021)	Developing learning strategies with HPC facilitates students with low academic ability	It is necessary to develop a learning strategy that is considered to facilitate students with low academic ability to enjoy learning comfortably and without coercion, and achieve optimal learning outcomes.	developing learning strategies with homogeneity psycho cognition (HPC) can be used to provide information on student learning outcomes in various subjects at the primary school level.	research and development (RnD).	The Homogeneity Psycho Cognition (HPC) learning strategy that has been developed follows relevant and feasible development directions and procedures.	It is necessary to conduct trials on a wider scale to obtain information on the effectiveness of the HPC strategy in various primary schools.
(Pamungkas & Annasai, 2024)	Development of a CL- based PE Learning Model for Football Game Materials	The low quality of PE learning is due to teacher quality, student motivation and interest, and inadequate facilities and infrastructure,	Conducting development research to Increase Student Motivation and Cooperation in the form of a guide-book for Cooperative Learning-based Physical Education learning models.	research and development using the AD-DIE model.	The development of a cooperative learning-based soccer game learning model can increase the motivation and cooperation of high school students valid, feasible, and effective in increasing motivation and cooperation.	Further research to optimise the CL-based learning model of football game material to increase student motivation and cooperation.
(Eva Julianti et al., 2021)	Development of physical education learning models based on kinesthetic intelligence	There is no perfect model and no single model that fits all PE contexts In addition, there is a need for interactive classrooms that motivate all children to push their limits.	develop a learning model with the TGFU approach based on kinesthetic intelligence, especially kinesthetic perception.	Research and development methods	The research results are based on three stages of process modelling; theory adaptation, analysis, elaborating kinesthetic perception learning. The results of the questionnaire show that the learning is designed to enhance motoric learning activities, sports games so that it has Total Sport Experiences (TSE), fun, and respect, and is designed with a personalised approach and understanding of students' different learning styles.	Researchers offer learning based on kinesthetic perception model which includes 1) Model elements from four existing models (motor learning, sport education, TGFU and VARK); 2) activity process based on kinesthetic perception; 3) facilities; 4) communication and collaboration; 5) collaboration and peer evaluation.
(Waffak et al., 2022)	The application of TGFU model through basketball games develops critical understanding and effective response and reduces bullying behaviour in elementary schools	Players have not mastered playing skills well due to teachers still using conventional methods and limited equipment.	to find a product with a tactical learning approach through basketball games to develop critical understanding and effective responses to dynamic games and complexity and can reduce bullying.	Research and development methods	The developed learning model is content appropriate, excellent, effective, and significant to develop and improve HOTS and reduce bullying behaviour.	Applying the TGFU approach to improve HOTS and reduce bullying behaviour in primary schools with other PE learning materials.
(Nopembri et al., 2022)	Application of TGFU to improve students' High Order Thinking Skills (HOTS).	Low student achievement is due to a lack of motivation to learn so that they do not direct all their abilities. For this reason, teachers are required to be more creative in the learning process.	To improve students' High Order Thinking Skills (HOTS) through learning using TGFU method.	classroom action research method	There has been an increase in students' HOTS ability using TGFU through effective attack and defence games based on the comparison of cycle 1 and cycle 2 results.	recommended to develop a more applicable TGFU
(Aryanti et al., 2022)	To develop TGFU learning model for elementary school stu-	The presentation of material by the teacher on the subject of overhead passing in volleyball games is less interesting and the role	Aims to determine the validity of the research product produced, namely the TGFU learning	Research and development by adopting the Borg & Gall development model (2007)	The results of the research product validation show that the model developed is feasible. Valid, easy, safe, effective in improving volleyball top passing skills.	Conduct research related to the application of TGFU by teachers using games to make students understand the material so as to help teachers achieve learning

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	dents on volleyball passing material in upper grade.	of the teacher is very dominant so that students find it difficult to understand the material and practice overhead passes.	model on basic volleyball passing techniques.	Komerling Ulu, South Sumatra, Indonesia.		objectives.

Content

The results of the content analysis show that the implementation of PE learning in Indonesia is conducted using several models that are classified as pedagogical models in MBP. The implementation of SE in universities to motivate student teachers (Ginanjari et al., 2023) and encourage students' engagement orientation in sports activities Ginanjari et al., 2021). Furthermore, implementation of the CL model fosters character of empathy and tolerance (Winarni & Lutan, 2020) and the development of Football Game materials to increase motivation and cooperation (Pamungkas & Annasai, 2024),. The next article related to the application of TGfU through basketball games to develop a critical understanding and effective and can reduce bullying behavior in elementary schools (Waffak et al., 2022), improve High Order Thinking Skills (HOTS) (Nopembri et al., 2022), and increasing active sports engagement for female students through the implementation of SSGs in football (Ridwan et al., 2022). Development of TGfU learning model for elementary school students on passing material in volleyball games (Aryanti et al., 2022) and a physical education learning model based on kinesthetic intelligence to create quality physical education (Eva Julianti et al., 2021).

Problem Statement

Problem statement is a problem raised by the author as a basis for conducting research. problem statement analysis aims to reveal the problems formulated by researchers to be solved. The results of the analysis show that the problems raised include that no one has investigated the motivation to use SE for prospective PE teachers (Ginanjari et al., 2023), and there are still not many, especially in universities, as efforts to provide students with experience involved in a competition by development in following the learning process (Ginanjari et al., 2021). Reduced empathy and tolerance among adolescents (Winarni & Lutan, 2020), there are challenges faced by teachers in increasing the involvement of female students (Ridwan et al., 2022), differences in background learning experiences, mastery, and understanding of students affect the learning process and results so that it is necessary to develop a learning strategy (Fenanalampir et al., 2021).

The next problem is related to teachers such as the low quality of learning due to teacher quality, student motivation and interest, inadequate facilities, and infrastructure, the learning model used is not appropriate, the assessment is not appropriate, and the learning environment is not supportive (Pamungkas & Annasai, 2024) and it was found that

the presentation of material by the teacher was less interesting, still teacher-centered which resulted in students having difficulty understanding volleyball passing material both in theory (Aryanti et al., 2022). Another problem is related to the low motivation of students, resulting in not optimal learning so teachers are required to be more creative in determining learning objectives, learning design using learning media, and applying appropriate learning models (Nopembri et al., 2022) and there is no single model suitable for all PE contexts so that a combination of model-based practices is needed (Eva Julianti et al., 2021), and many players still do not master playing skills well due to teachers still using conventional learning methods and limited equipment(Waffak et al., 2022).

Purpose

Purpose analysis to find out the underlying reasons for conducting the study. the results of the analysis revealed that the purpose of the study was broadly divided into two categories, , the first aims to test the effect or influence of a model or approach used in PE learning namely increasing motivation for participation in student learning with the implementation of SE (Ginanjari et al., 2023), knowing the overall level of students' sport orientation related to roles in team roles (Ginanjari et al., 2021), testing the effectiveness of CL model for teaching moral values (Winarni & Lutan, 2020), analyzing the effect of SSGs learning model on female students motivation to participate in football practice learning (Ridwan et al., 2022), examining the effects of tactical approaches on critical understanding, effective responses and effectively reducing bullying behavior in primary schools (Waffak et al., 2022), improving students' HOTS through TGfU (Nopembri et al., 2022).The second category aims to conduct model development related to PE learning, namely to development learning model for the basic technique of overhead pass volleyball based on TGfU in elementary school (Aryanti et al., 2022), and develop a PE learning model with a TGfU approach based on kinesthetic intelligence (Eva Juliantiet al., 2021), developing a learning strategy with HPC to provide information about student learning outcomes (Fenanalampir et al., 2021), and using CL-based cooperative learning of big ball game materials (Pamungkas & Annasai, 2024).

Research Methods and Types

This analysis aims to determine the approach used by the researcher in conducting the study. The method used is highly dependent on the purpose of the study that has been

conducted. The results show that the approach used by researchers is divided into three methods, namely experimental research, action research, and development research. The type of experimental research conducted used a descriptive quantitative approach (Ginanjar et al., 2023), a one-group pretest-posttest design (Ginanjar et al., 2021), a quasi-experiment with a 2 x 2 factorial design (Winarni & Lutan, 2020), and a one-group pre-test post-test design (Ridwan et al., 2022). For action research using the classroom action research method, (Nopembri et al., 2022). Furthermore, the research and development (RnD) method is used (Fenanlampir et al., 2021; Eva Julianti et al., 2021; Waffak et al., 2022; Aryanti et al., 2022) and using the AD-DIE model (Pamungkas & Annasai, 2024).

Research Results

Analysis of results was conducted to obtain information on studies included in the systematic review. The analysis of the results shows some important points related to the implementation of PE learning. the results obtained from the analysis of the study revealed there has been an increase in motivation after participating in SE futsal based on roles such as coaches, managers, players, referees, match recorders, and publications (Ginanjar et al., 2023) and provide a sense of security in the learning process with competitive activities in achieving sport orientation which is more goal orientation (Ginanjar et al., 2021). Furthermore, CL has a significant impact on appreciating empathy and tolerance (Winarni & Lutan, 2020). SSGs learning model proven to improve perceptions of competence, task orientation, and the motivational climate of female students (Ridwan et al., 2022), there has been an increase in students' cognitive abilities, especially HOTS abilities (Nopembri et al., 2022). The development study shows the results of the HPC strategy are feasible and well responded to by students (Fenanlampir et al., 2021), the CL-based PE learning model for football games is valid, feasible to use, and effective in increasing motivation and cooperation. (Pamungkas & Annasai, 2024), a basketball learning model with the TGfU approach is content- and empirically feasible to improve HOTS (Waffak et al., 2022), the developed model is feasible. valid, easy, safe, and effective in improving volleyball top passing skills (Aryanti et al., 2022) and developing a quality PE learning model based on kinesthetic perception based on kinesthetic perception (Eva Julianti et al., 2021).

Future Research Recommendations

Future research analysis aims to explore information related to further research suggested by the researcher based on the results of the study that has been conducted. It is recommended that a study be conducted by implementing SE to encourage students to be active in physical activity and using the SRQ-L as an instrument. (Ginanjar et al., 2023). Further investigation into the use of SE for sports orientation in students outside of tertiary institutions and different grade levels (Ginanjar et al., 2021). Incorporating CL in pre-service teacher education curriculum to implement character education in PE. (Winarni & Lutan, 2020), effectiveness test so that the developed model is useful and becomes an alternative for teachers in carrying out learning.

(Pamungkas & Annasai, 2020), develop TGfU that is more applicative (Nopembri et al., 2022), encourage students to understand the material to make it easier to achieve learning objectives (Aryanti et al., 2022), and the application of SSG core interaction and composing based practice to produce effective PE learning (Ridwan et al., 2022). Furthermore, the results of the development study recommended a wider-scale trial to obtain information about the effectiveness of the HPC strategy on PE learning outcomes in primary schools (Fenanlampir et al., 2021). Further investigation is carried out by refining the model, testing and finding problems, fixing them, and interpreting them with existing conditions (Eva Julianti et al., 2021) and applying the TGfU approach to improve HOTS and reduce bullying behavior in elementary schools with other PE learning materials (Pamungkas & Annasai, 2024).

Discussion

The systematic review aims to explore information related to the efforts that have been made by researchers in Indonesia when it comes to the implementation of MBP in PE teaching. MBP is an approach that uses a variety of pedagogical models that offer the possibility of resolving issues that have limited the range of learning outcomes, subject matter, and teaching strategies appropriate for achieving educational value (Kirk, 2013). It is one of the PE practice organized around pedagogical models is based on the premise that school PE should be delivered through a range of sport-based physical activities and or one main theme model (Casey et al., 2020). The implementation of MBP is used as an effort to improve academic achievement and positive motivation (Hortigüela Alcalá & Hernando Garijo, 2017), increase autonomy, competence and enjoyment (Gil-Arias et al., 2017), and increase physical activity and achieve the recommended moderate-to-vigorous physical activity (MVPA) time (Wang & Wang, 2018). Therefore, it is appropriate for teachers in Indonesia to adopt the MBP approach to achieve PE learning goals.

The results of a systematic review revealed that implementation of MBP includes three pedagogical models namely SE, CL, and TGfU. SE was used as an approach to motivate student teachers and engage in sports activities (Ginanjar et al., 2021, 2023). This aligns to the result of study conducted by Wallhead and Ntoumanis (2004) that SE can increase perceptions of task-involving climate and perceived autonomy, while developing student empowerment and self-confidence (Bessa et al., 2021). Furthermore, it encourages prospective teachers to develop reflects knowledge at an abstract level (Hordvik et al., 2019), and the enthusiasm, competence and literacy (Farias et al., 2020). Meanwhile, CL is implemented to foster the character of empathy and tolerance (Winarni & Lutan, 2020) motivation and cooperation (Pamungkas & Annasai, 2024), and the development of learning strategies with HPC facilitates students to enjoy comfortable and unforced learning, and achieve optimal learning outcomes (Fenanlampir et al., 2021). The method used is in line with previous studies that

state the use of CL₇ can guide students to manage motivation adaptively and develop emotional intelligence to build quality relationships, learn to manage stress, and develop individually and in groups. (Rivera-Pérez et al., 2021; Rivera-Pérez et al., 2020; Rocamora et al., 2023; Fernández-Espínola et al., 2020). Another article was conducted by (Waffak et al., 2022) of which the application of TGfU shows significant result towards developing critical understanding and effective responses to dynamic play, improve HOTS (Ridwan et al., 2022), and increase active sports engagement for female students (Eva Julianti et al., 2021). Further, the application of TGfU encourages students to make systematic observations and think critically so that they understand and integrate their knowledge related to various games and sports (Usra et al., 2023; Harvey et al., 2020). Thus, this emphasizes that teaching skill is necessary before teaching how to perform a skill (Hopper, 2002). However, findings did not yield any result related to TPSR and Hybrid models. This can be due to the use of hybrid models and TPSR is a relatively new and still requires a lot of study related to its implementation (Cereda, 2023).

The results of the content analysis showed that the implementation of SE, CL, and TGfU focused on motivating student teachers, fostering character and affective, knowledge development, and student understanding. The study only focused on one objective and not the entire learning outcomes. This result certainly contradicts which state that the application of MBP stimulates physical performance, cognitive understanding, interpersonal skills, active participation, and affective (motivation, self-esteem, or self-confidence) (Askildsen & Løndal, 2023; Boyacı & Atalay, 2016; Casey & Goodyear, 2015; Fernandez-Rio & Iglesias, 2024). This is certainly a serious concern considering the importance of implementing MBP in an effort to achieve PE learning goals holistically. The implementation of MBP as a multimodel is constrained by teachers who are still accustomed to the previous way of teaching and still difficult to change (Casey & MacPhail, 2018) and weak in collaborating among colleagues (Bodsworth, 2017). Teacher commitment, skills, and experience are the main keys to success in implementing MBP (González-Villora et al., 2019). Teacher's role in learning as a facilitator activates new learning possibilities by playing an active role in the classroom, using direct and indirect behaviours and dialogue to support and extend learning (Goodyear & Dudley, 2015). Researchers are expected to be able to present verified procedures and evaluations related to the implementation of MBP, especially those using the play approach (Harvey & Jarrett, 2014) and generate more scientific evidence based on MBP implementation in the classroom (Hernando-Garijo et al., 2021). Hordvik et al., (2021) offer a collaborative approach to MBP teaching and the impact such a collaborative approach has on facilitating implementation individually and collectively.

Conclusion

The implementation of MBP in Indonesia has shown effectiveness in improving PE learning outcomes through the implementation of specific pedagogical models such as Sports Education (SE), Cooperative Learning (CL), and Teaching Games for Understanding (TGfU). These models have been successfully applied in various educational settings to enhance student motivation, engagement, and critical thinking skills. However, the review highlighted the need for more comprehensive studies that explore the integration of multiple pedagogical models within a single lesson to address broader educational objectives, including social learning outcomes. To support sustainable sports development in Indonesia, future research should focus on expanding the application of MBP by combining different models to achieve more holistic and effective PE learning outcomes.

The writing of the systematic review was carried out by searching the Scopus database for the results of studies using the keywords PE and pedagogical models contained in MBP and the results are still limited. For this reason, it is recommended that future research conduct a search on a wider database and use more comprehensive and more precise keywords. In addition, a similar systematic review can be performed in a global scope and using a Bibliometric analysis approach to map research trends related to MBP implementation.

Ethical Clearance

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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