

The Effect of the Sport Education Model on student's Sports knowledge development: A critical systematic review

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Zhang, JL¹; Mohd Nasiruddin, NJ²; Mohd Anuar, MA³; Xiao, WS⁴; Bai, XR⁵; B, LX⁶; Yao, GG⁷.**ADMINISTRATIVE INFORMATION****Support** - No.**Review Stage at time of this submission** - Formal screening of search results against eligibility criteria.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202370084**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 20 July 2023 and was last updated on 20 July 2023.**INTRODUCTION**

Review question / Objective (Q1) What is the main background of the research on the effect of sports education model on students' knowledge development? (Q2) When studying the influence of the Sport Education model on students' knowledge development, what is the author's definition of students' knowledge development and how to measure it? (Q3) What empirical evidence does the Sport Education model have in promoting the development of students' content knowledge in school physical education teaching? (Q4) How many studies have determined the fidelity of the model implementation? What are the methods or tools used?

Condition being studied Content knowledge in the field of physical education refers to the knowledge and understanding of the subject matter specific to physical education, including the fundamental movement skills, rules and strategies of various sports, fitness, and wellness concepts,

and the principles of motor development and learning. It also contains theoretical and practical knowledge that physical education learners should understand and master in their learning.

METHODS

Search strategy Electronic scientific databases including Pubmed, Web of Science, EBSCOhost (CINAHL & Sports Discuss), and Scopus were searched for relevant literature. The selection of these databases was based on their multidisciplinary scope, accessibility, and relevance to the subject matter. The search was completed by the end of June 2023. The chosen search terms were derived from previous studies on the effects of sports education patterns on variables related to knowledge development (Mohr et al., 2006; Pereira et al., 2016; Choi et al., 2021; Farias et al., 2020). The search formula used was as follows: ("Sport Education model" OR "Sport Education" OR "Sport Education season") AND ("knowledge" OR "understanding" OR "sport literacy" OR "physical literacy" OR "ability" OR

"capability") AND ("student*" OR "pupil" OR "Teenager*").

For literature retrieval in the electronic scientific databases, the PRISMA framework was deployed (Page et al., 2021). The process consisted of four stages: (1) identification, (2) screening, (3) eligibility, and (4) inclusion.

Participant or population Student: college students, high school students, middle school students, primary school students.

Intervention The Sport Education Model: students engage in sports activities spanning an entire season, typically structured into teams. Throughout this process, they assume different roles, including players, coaches, managers, and officials, thereby gaining exposure to diverse facets of sports.

Comparator Traditional teaching method.

Study designs to be included Two or more groups and single-group trials.

Eligibility criteria For literature retrieval in the electronic scientific databases, the PRISMA framework was deployed (Page et al., 2021). The process consisted of four stages: (1) identification, (2) screening, (3) eligibility, and (4) inclusion. In the first phase, a systematic search was conducted in the electronic databases, following specific inclusion and exclusion criteria: Inclusion criteria: (a) The study adopts the Sport Education model for empirical research. (b) The research background must be in the school physical education environment. (c) The study was published between 2015 and the end of June 2023, to better understand the recent influence of the sports education model on students' knowledge development. (d) The study underwent peer review. (e) The study was written in English. Exclusion criteria: Studies on special populations in education. Studies on the integration of sports education models with other teaching models or methods.

Information sources Electronic scientific databases including Pubmed, Web of Science, EBSCOhost (CINAHL & Sports Discuss), and Scopus were searched for relevant literature.

Main outcome(s) The search process initially yielded 41 results. After removing duplicates using Mendeley, 23 studies remained. After comprehensively screening the titles and abstracts, 15 studies were initially selected. Through a review of the references of these 15

studies, 2 additional highly relevant literatures were found and downloaded through Google Scholar. This screening and selection process was done manually. The third stage involved assessing the eligibility of the 17 preliminary shortlisted full-text articles. This step included reading the papers in detail and further identifying references based on the inclusion and exclusion criteria, leading to the identification of nine relevant references.

Quality assessment / Risk of bias analysis To evaluate the methodological quality of the articles included in this systematic review, the reliable checklist developed by Downs and Black (1998) was employed.

This review employed the Risk of Bias in non-randomized intervention Studies (ROBINS-I) tool to assess the methodological quality of the included literature.

Strategy of data synthesis The current review employs the PICOS principles and combines four research questions to guide the data extraction and article selection process. To enhance clarity, the first research question, which focuses on the main research background, is divided into two columns: one exploring the characteristics of the participants, and the other examining the sports involved. This division provides the reader with a comprehensive overview of the quantitative distribution of previous research across various sports. Relevant participant characteristics include country of origin, level of study, total number of participants, group composition, gender distribution, and age range. The second research question is presented in a separate column and concentrates on defining knowledge development and investigating the measurement methods used. As for the fourth research question, which addresses the evidence supporting students' knowledge development, key findings are extracted from the included literature. Finally, the fourth research question, which investigates the implementation fidelity and research methods employed, is addressed in a separate column labeled "Fidelity" for information extraction. Additionally, other pertinent data, such as information about the author and publication date, as well as the teaching models used in the intervention and control groups, are extracted from the selected sources.

Subgroup analysis No subgroup analysis.

Sensitivity analysis No sensitivity analysis.

Language restriction English.

Country(ies) involved 1. University Putra Malaysia, Malaysia; 2. Huzhou University, China; 3. The 19th Middle School, China.

Keywords knowledge development, Rules, techniques, tactics.

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