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Effects of Sport Education Model on Content Knowledge, Technical Skill, and Game Performance among Students: A Systematic Review and Meta-analysis

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ADMINISTRATIVE INFORMATION

Support - No financial support.

Review Stage at time of this submission - Formal screening of search results against eligibility criteria.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 06 October 2023 and was last updated on 06 October 2023.

INTRODUCTION

Review question / Objective Despite being one of the most frequently employed teaching methods, a more in-depth analysis of SEM and its impact on Content Knowledge, Technical Skill, and Game Performance in educational settings is warranted.

Condition being studied In-depth analysis of SEM and its impact on content knowledge, technical skills, and game performance in an educational setting to facilitate student development.

METHODS

Search strategy This study aims to compile and synthesize existing research regarding the effects of SEM on students' Content Knowledge, Technical Skill, and Game Performance. A comprehensive search of Web of Science, SPORTDiscus, PubMed, and SCOPUS databases was conducted on September 2, 2023.
TITLE-ABS ("sport education model" OR "sport education" OR "sport season") AND TITLE-ABS ("athletic performance" OR "technical skill*" OR "skill*" OR "technique" OR "performance" OR "Knowledge" OR "content knowledge") AND TITLE-ABS (student*).

Participant or population Students (Including: elementary, middle school, university, male and female).

Intervention Sport Education Model. In this model of teaching, the entire learning unit is treated as a competitive season.

Comparator Traditional teaching or conventional teaching.

Study designs to be included Randomized controlled trial (RCT).

Eligibility criteria Inclusion criteria were established following the PICOS framework: 1) healthy students; 2) SEM program; 3) comparison of the SEM intervention group with an active control group; 4) assessment of students using at least one measure of Content Knowledge, Technical Skill, and Game Performance; 5) randomized controlled design.

Information sources All expected sources of information: data included in the article in the electronic database, in case of any data problems, contact with the author.

Main outcome(s) Ten studies of moderate quality, involving 750 students aged 10-20 years, met the inclusion criteria. SEM interventions ranged from 4 to 16 weeks, with one to five interventions per week. The level of certainty regarding the meta-analysis results was low.

Quality assessment / Risk of bias analysis The utilization of the PEDro checklist for quality assessment revealed that all 10 articles attained a level of moderate quality or higher, and the results of the GRADE analysis, wherein the certainty of evidence for all outcomes and group comparisons is rated as low.

Strategy of data synthesis In the meta-analysis, comparisons were conducted using data from two or more studies that reported outcomes for Content Knowledge, Technical Skill, and Game Performance. To calculate effect sizes (ES) (Hedges' g), we used the mean and standard deviation of performance indicators before and after the intervention and standardized the data using post-intervention data for the respective performance indicators.

Subgroup analysis Subgroup analyses were carried out to investigate the potential influence of moderating factors on teaching effectiveness. These factors were pre-selected based on author discussions and study characteristics, considering sources of heterogeneity that could impact teaching effectiveness. The following moderating factors were considered: intervention duration (weeks), intervention frequency, total intervention sessions, and weekly intervention time.

Sensitivity analysis Sensitivity analyses were conducted for significant Egger's tests.

Language restriction Only English.

Country(ies) involved Malaysia and mainland China.

Keywords Sport Education Model, Knowledge, Technical Skill, and Game Performance.

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