



Child-friendly school-based learning management model for health and physical education

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ABSTRACT

Developing learning management models is crucial to address the diverse needs of effective learning while promoting active participation, preventing discrimination, and safeguarding students' rights and responsibilities in line with their growth. This article aims to create a child-friendly school-based learning model for health and physical education in elementary schools and validate it through expert assessments. Following Brog and Gall's model development approach, data collection involved assessment questionnaires administered to various stakeholders, including school supervisors, principals, teachers, students, and committees. The findings underscore the importance of incorporating diverse learning methods, adequate infrastructure, gender sensitivity, and meaningful learning experiences into the model. The three sequential stages' assessment results demonstrate the proposed model's high feasibility, scoring consistently high across stages. Referred to as a model, this innovative model showcases significant promise, suggesting further refinement to ensure its efficacy in addressing multifaceted learning requirements, fostering inclusive participation, and upholding students' rights and obligations per their developmental stage. This study highlights the need for evolving learning management models to cater to diverse educational needs effectively.

Keywords: child-friendly school; health and physical education; learning management model.

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INTRODUCTION

Developing an effective learning management model for elementary school health and physical education subjects is crucial to encouraging holistic student growth and well-being. Several studies discussing learning management in Health and Physical Education (HPE) state that HPE is the only field that discusses physical aspects as well as direct intervention in education (Brown, 1992; Korthagen, 2004; Metzler, 2017; Siswanto, 2012). Schools play a critical role in shaping children's physical, mental, and emotional development, creating engaging and supportive learning environments that meet their unique needs (Winnick & Porretta, 2016). There are many ways to fulfil these requirements, including 1) implementing a diverse and inclusive curriculum; 2) providing adequate sports facilities; 3) combining technology and creativity; 4) increasing the spirit of competence in students; 5) student-oriented learning; 6) balanced assessment; and 7) encourage a healthy and productive lifestyle. A comprehensive curriculum must embrace diversity and inclusivity, encompassing a variety of perspectives, cultures, and experiences (Hills et al., 2015). This is in line with the principles of child-friendly schools developed by UNESCO.

Child-friendly schools (CFS) in Indonesia have emerged as a promising framework that promotes inclusivity, safety, and child-centredness (Saptono, 2022). CFS is a policy or program designed to create a protective and comfortable environment for children undergoing education (Hajaroh et al., 2021). This guarantees children's rights, participation, and protection from

violence and discrimination. The characteristics of CFS include a safe, clean, and healthy environment, environmental awareness, inclusiveness, support for children's participation, and promotion of good behavior. This program is important because children spend a lot of time at school, and it aims to provide a safe and enjoyable learning experience. Parents can choose a school with a child-friendly learning system to ensure their child's welfare and development. In the academic environment of Yogyakarta, Indonesia, educators, policymakers, and stakeholders have recognized the importance of a comprehensive and dynamic approach to teaching physical and health education. Integrating CFS principles into the learning management model represents a pivotal step toward enhancing the overall learning experience (Fitriani et al., 2021). By incorporating CFS principles, educational institutions can cultivate a positive attitude towards physical activity and personal well-being from the early stages of a student's development.

This emphasis on appropriate learning models is crucial in determining the success of implementing the CFS approach. It is widely acknowledged that such models empower students to excel academically, emotionally, and physically, fostering an environment conducive to holistic growth and self-expression. In practice, CFS models have significantly positively impacted student engagement and well-being. Research indicates that child-friendly approaches reduce absenteeism and improve academic performance by creating an environment where students feel safe and supported (Ekeh & Venketsamy, 2021). Additionally, schools that have implemented CFS programs report lower incidences of bullying and violence, which are critical factors in fostering a conducive learning atmosphere (World Health Organization, 2003).

Moreover, the emphasis on inclusivity within CFS aligns with global educational goals, such as those outlined in the United Nations Sustainable Development Goal 4, which aims to ensure inclusive and equitable quality education for all. By prioritizing inclusivity, CFS programs in Indonesia help bridge educational gaps for marginalized groups, including children with disabilities and those from disadvantaged socio-economic backgrounds. By adopting an appropriate learning model, schools can effectively lay the groundwork for a comprehensive CFS-based educational framework wherein students are actively engaged in their education and encouraged to thrive inside and outside the classroom. This holistic approach addresses academic needs and supports emotional and social development, preparing children for a well-rounded future (O'Flaherty & McCormack, 2019). Furthermore, implementing CFS principles contributes to the broader societal goal of creating a culture of respect and empathy, which is essential for the long-term development of communities (EFA Global Monitoring Report, 2020). As schools adopt these models, they play a crucial role in shaping future generations that value diversity, inclusivity, and mutual respect. In conclusion, the child-friendly school framework in Indonesia exemplifies a comprehensive and effective approach to education that prioritizes the holistic development of children. By integrating principles of safety, inclusivity, and participation, CFS programs enhance the learning experience and contribute to the broader societal goal of fostering a respectful and empathetic community.

The lack of reference sources for developing learning management models applied to Health and Physical Education (HPE) in Child-Friendly Schools (CFS), especially at the elementary school level, encourages researchers to conduct further research on this issue. If viewed from the perspective of a child-friendly school, the HPE learning model certainly requires special attention to be developed in line with CFS principles. Consequently, educators and policymakers can adopt proven best practices to increase the effectiveness of the learning process. Further research will also help identify specific challenges and opportunities in the context of physical education and health in primary schools. This information will be invaluable in developing appropriate learning strategies and overcoming potential problems when implementing new learning management models. For example, research by Tang et al. (2020) highlighted the importance of integrating play-based and participatory activities in physical education to align with child-friendly principles, which enhances student engagement and motivation. Similarly, a study by Lyu & Gill (2021) found that incorporating health education into the physical education curriculum improved students' physical fitness and their knowledge and attitudes towards a healthy lifestyle. Moreover, a comprehensive analysis of current practices in various schools can reveal gaps and areas for improvement. According to Jang & Kim (2019),

schools that effectively implemented child-friendly approaches in HPE noted significant improvements in student behavior and participation. This suggests that aligning HPE curricula with CFS principles can foster a more inclusive and supportive environment for students. Considering the diverse needs of students is crucial in developing effective HPE models. Research by Bailey et al. (2018) emphasizes the need for differentiated instruction to accommodate varying physical abilities and learning styles, ensuring that all students benefit from the HPE curriculum. This aligns with CFS's emphasis on inclusivity and equal opportunities for all children. Collaboration between researchers, educators, and policymakers is essential to address these issues. Establishing a framework for continuous feedback and improvement can help schools adapt and refine their HPE programs to better meet the needs of their students. By doing so, schools can ensure that their HPE programs promote physical well-being and contribute to the overall development of their students in a child-friendly manner. Furthermore, international case studies and comparative research can provide valuable insights. For instance, a study by Parker et al. (2022) comparing HPE programs in different countries found that schools with strong CFS policies tended to have more innovative and effective HPE practices. This underscores the potential benefits of learning from global best practices and adapting them to the local context in Indonesia. Developing and implementing effective HPE learning management models in Child-Friendly Schools requires dedicated research and collaboration. By focusing on primary school students' specific needs and challenges, and drawing on proven best practices, educators and policymakers can enhance the quality of physical and health education, ensuring a holistic and supportive learning environment for all children.

Based on the above, this article discusses innovative efforts to develop a CFS-based HPE learning management model specifically designed for elementary schools in Yogyakarta. This model aims to build a foundation that ensures equitable access to quality HPE-related knowledge while fostering a supportive and caring educational environment through collaborative efforts involving education experts, health professionals, and community members. The researchers explored the main components of this model, including curriculum design, teacher training, infrastructure development, and parent and community involvement. Furthermore, this article will analyze the expected benefits of implementing this child-centered approach, including increased physical fitness, improved mental well-being, and promotion of healthy lifestyle choices. Three main questions will be discussed in this research: 1) How is the suitability of the child-friendly school-based learning model for Health and Physical Education in elementary schools being developed? 2) What is the feasibility of the child-friendly school-based learning model in Health and Physical Education in elementary schools that is being developed?

METHOD

This study aims to develop a child-friendly school-based learning management model for Health and Physical Education. The development design used in this research is the R&D (Research and Development) design with the Borg and Gall model. The stages conducted in this research are as follows: 1) research and information collecting; 2) research planning; 3) development preliminary of the product; 4) preliminary field testing; 5) operational field testing; 6) main field testing; 7) main product revision; 8) final product revision; 9) dissemination (Gall et al., 2010). The stages of development research conducted by the researchers can be seen in Figure 1.

In the model validation phase using the forum group discussion (FGD) technique, data sources are determined using purposive sampling, considering practical, theoretical, and empirical factors (Rai & Thapa, 2015). The research subjects are described in Table 1.

In the operational field testing, the research subjects were selected using purposive sampling by selecting one elementary school in Yogyakarta, involving 1 Principal, 1 School Supervisor, 1 Child-Friendly Cluster, 5 Teachers, 5 Educational Staff, 10 Students, and 2 School Committees. In addition to the main trial, during this stage, FGD-2 is conducted to improve the model in stage 2, where experts assess the developed model. Meanwhile, the operational field trial stage or large-scale trial was conducted in 2 (two) elementary schools, with each having 2

Principals, 2 School Supervisors, 2 Child-Friendly Clusters, 10 Teachers, 10 Educational Staff, 20 Students, and 4 School Committees in elementary schools in the City of Yogyakarta. The implementation stage was carried out in 3 (three) elementary schools with details of 3 Principals, 3 School Supervisors, 3 Child-Friendly Clusters, 15 Teachers, 15 Educational Staff, 30 Students, and 6 School Committees.

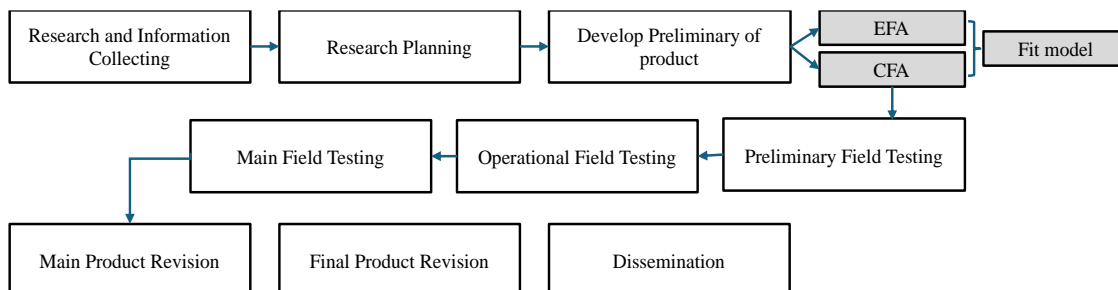


Figure 1. Child-friendly School-Based Learning Management Model for Health and Physical Education Research Design

Table 1. Sampling subject

Activity	Total of Respondents					
	Principal	School Supervisor	Child-Friendly Cluster	Teachers	Educational Staff	Committee
Operational Field Testing	1	1	1	5	5	2
Main Field Testing	2	2	2	10	10	4

In the research, various data collection methods were employed, including content analysis, interviews with teachers, and the distribution of questionnaires. Initially, content analysis was utilized to scrutinize learning models in Health and Physical Education developed over the past decade, alongside exploring the concept of child-friendliness in elementary schools. These insights informed the design of a child-friendly school-based learning model for Health and Physical Education tailored to elementary school settings. Subsequently, teacher interviews were conducted to identify challenges in teaching these subjects in elementary schools. Questionnaires were distributed to gather data on the designed model and its operational and main trials. The questionnaire data evaluated the model's suitability and assessed the feasibility of implementing the child-friendly school-based learning approach in Health and Physical Education within elementary schools under development.

This research employed a quantitative data analysis technique, specifically Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), to assess the model's suitability across three dimensions. EFA assists in the initial exploration and identification of latent constructs, while CFA helps ensure whether the proposed model fits the observed data (Alamer, 2022a). Both techniques can be beneficial in assessing the adequacy of the developing model, providing insights into the underlying structure of the data and the validity of the proposed theoretical framework. These dimensions, including learning design, implementation, and evaluation, were scrutinized using specific measurement indicators within the analysis process. Additionally, criteria for model fit, such as goodness-of-fit indices like the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR), were utilized to refine and validate the model. These fit criteria, along with specific quantitative values (e.g., CFI > 0.95, TLI > 0.95, RMSEA < 0.08, SRMR < 0.08), ensure a comprehensive evaluation of the proposed framework's adequacy in the context of Health and Physical Education in elementary schools. Meanwhile, to test feasibility, use a score range of 1-5.

FINDINGS AND DISCUSSION

Finding

Exploratory Factor Analysis (EFA) was conducted to assess the initial model developed. The Kaiser Meyer-Olkin measurement of Sampling Adequacy (KMO) indicates a value of > 0.75 , which falls within the "very good" category, meeting the required threshold. EFA's initial decision, employing varimax orthogonal rotation, confirms that 3 constructs, comprising 19 indicators, effectively represent the modelling of child-friendly school-based learning models for Health and Physical Education.

Table 2. EFA decisions on the model

No	Construct	Factor Loading
Learning design (LD)		
LD1	<i>The content and activities used in teaching are suitable for both male and female elementary school students.</i>	0.86
LD2	<i>Provide clear instructions and supervision to prevent accidents or injuries.</i>	0.82
LD3	<i>Design activities and inclusive learning experiences for all children, regardless of physical abilities, gender, ethnicity, or socioeconomic background.</i>	0.88
LD4	<i>Combine games, group activities, and hands-on experiences to make learning enjoyable and engaging.</i>	0.84
LD5	<i>Cover nutrition, hygiene, mental health awareness, body positivity, and social skill development topics.</i>	0.82
LD6	<i>Utilize cooperative games and group projects to develop students' life skills.</i>	0.87
LD7	<i>Foster communication and collaboration with parents or guardians to support children's learning and reinforce healthy behaviors at home.</i>	0.82
LD8	<i>Design constructive feedback to help children understand their progress and areas that need improvement.</i>	0.84
Learning Implementation (LI)		
LI1	<i>Offer training on safety procedures, inclusive teaching strategies, and classroom management techniques to teachers.</i>	0.88
LI2	<i>Ensure that the learning objectives of (HPE) are specific, measurable, achievable, relevant, time-bound (SMART), and aligned with the overall curriculum goals.</i>	0.85
LI3	<i>Provide modifications, adaptations, or extensions to (HPE) learning activities to ensure all students receive appropriate challenges and support.</i>	0.85
LI4	<i>Incorporate interactive multimedia presentations, educational applications, fitness trackers, or video demonstrations to complement traditional teaching methods and engage technologically savvy students.</i>	0.86
LI5	<i>Provide examples, scenarios, and case studies related to their experiences to encourage critical thinking and problem-solving skills.</i>	0.88
LI6	<i>Utilize formative assessments such as quizzes, observations, and self-reflections during learning, as well as summative assessments like tests, projects, or performance evaluations at the end of the semester.</i>	0.86
Learning Evaluation (LE)		
LE1	<i>Adapt evaluation methods according to the children's age group and developmental stage.</i>	0.82
LE2	<i>Observe students during physical activities, games, and exercises to assess their skills, coordination, and understanding of concepts.</i>	0.86
LE3	<i>Provide constructive feedback focusing on specific strengths and areas of growth.</i>	0.88
LE4	<i>Involve parents/guardians in the evaluation process by sharing progress reports, arranging parent-teacher meetings, or providing resources for reinforcing HPE concepts at home.</i>	0.84
LE5	<i>Collaborate with other educators, healthcare professionals, and community organizations to support comprehensive health education and promote healthy lifestyles within and outside school.</i>	0.82

The Confirmatory Factor Analysis (CFA) approach is recommended to address limitations inherent in Exploratory Factor Analysis (EFA), such as limitations in result interpretation due to subjectivity in assessing factor loading (Alamer, 2022b; Flora & Flake, 2017). The research refers to Gerbing & Anderson's (1988) methods for evaluating the model. Table 2 summarizes the goodness-of-fit statistics for the learning model consisting of 19 indicators and three constructs.

Table 3. Goodness-of-fit statistics for the learning model consisting of 19 indicators and three constructs.

Fit Indicators	Threshold	Observed Value
CMIN/df	< 3 good < 5 sometimes permissible	1.74
GFI	> 0.95	0.96
AGFI	> 0.80	0.84
CFI	> 0.95 great; > 0.90 traditional; > 0.80 sometimes permissible	0.97
RMSEA	< 0.05	0.03

The researchers developed a model to represent theoretical concepts or relationships by including several variables or constructs assumed to be related to each other in a particular way. These variables are operationalized using measures or indicators, such as survey questions or observed behaviors. Convergent validity comes into play when researchers want to assess whether these measures effectively capture the desired constructs in the model. By examining the correlations between different measures that are supposed to represent the same construct, researchers can evaluate the convergent validity of their measures. The recommended values for loadings are set at > 0.05, the Average Variance Extracted (AVE) should be > 0.05, and the Composite Reliability (CR) should be > 0.70 (Hair, 2011).

Table 4. Convergent validity measurement

Construct	Sum of Indicators	CR	AVE
Learning Design	8	0.94	0.58
Learning Implementation	6	0.88	0.52
Learning Evaluation	5	0.92	0.57

After ensuring that the developed model meets the criteria, the next step taken by the researcher is to measure the feasibility of the developed model by involving several research subjects. The results show that a child-friendly school-based learning management model for Health and Physical Education falls into the highly feasible category, as measured by the averages obtained, which are 4.38 and 4.44 in the operational and the main trials, respectively. The calculation results can be seen in Table 5.

Table 5. Feasibility measurement of model

No.	Aspects	Scoring	
		Main Testing	Operational Testing
1.	Relevance To Learning Objectives	4.23	4.45
2.	Accessibility	4.60	4.68
3.	Scalability	4.20	4.42
4.	Cost-Effectiveness	4.05	4.20
5.	Ease of Integration	4.32	4.73
6.	Engagement and Interactivity	4.40	4.58
7.	Adaptability	4.20	4.20
8.	Measurability and Assessment	4.35	4.20
9.	Support and Resources	4.80	4.85
10.	Instructor/Facilitator Role	4.67	4.30
11.	Demonstrated Effectiveness	4.40	4.23

Discussion

The development of a child-friendly school-based Health and Physical Education (HPE) learning model has been conducted to ensure that the implemented model can address diverse learning needs effectively while promoting active participation, preventing discrimination, and protecting the rights and responsibilities of students in line with their development. In the developed model, three dimensions are crucial in supporting the sustainability of child-friendly

school-based HPE learning. This is evidenced by the results of the initial validity calculation of the developed model falling into the fit category, and the indicators developed represent the three existing dimensions. The use of Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) in developing the model is common in the creation of measurement tools with latent indicators. EFA helps identify the underlying relationships between observed variables without a preconceived theory, while CFA tests the hypothesis that a relationship between observed variables and their underlying latent constructs exists. However, Structural Equation Modeling (SEM) is also critical in model development as it allows analysts to explore the relationships between observed variables (manifest variables) and latent variables (which cannot be directly observed but can be measured using a linear combination of various observable variables) (Al-Adwan et al., 2021; Binyamin et al., 2019; Mukminin et al., 2020; Sharma & Sharma, 2023).

SEM offers several advantages over other statistical methods. It treats endogenous and exogenous variables as random variables with measurement errors, allowing for more precise modeling. SEM also handles latent variables with multiple indicators, separates measurement errors from specification errors, tests the model rather than individual coefficients, models mediation variables, models error relationships, tests coefficients across multiple groups in the sample, models dynamic phenomena such as habits and inertia, handles missing data, and deals with non-normal data distributions (Hair et al., 2021; Kline, 2012). Using EFA and CFA within SEM analysis can significantly enhance the reliability and validity of the model. EFA is particularly useful in the early stages of model development to identify potential constructs and their indicators. CFA then tests these constructs to confirm their validity within the proposed model. This dual approach ensures that the constructs are both theoretically sound and empirically validated.

Additionally, SEM can assess the hypothesized relationships between constructs in the conceptual model and measure the structural model that produces output. For instance, a study by Brown and Moore (2020) demonstrated how SEM could effectively model the interactions between various educational strategies and student outcomes, providing insights into the most effective approaches for promoting student engagement and learning. SEM's ability to handle complex relationships and multiple variables simultaneously makes it an invaluable tool for educational research. For example, SEM can model the direct and indirect effects of different teaching methods on student outcomes and the influence of external factors such as socio-economic status or parental involvement. This holistic view is essential for developing effective educational models that address the multifaceted nature of learning. Developing a child-friendly school-based HPE learning model using EFA, CFA, and SEM provides a robust framework for ensuring that the model is reliable and valid. By leveraging these statistical techniques, researchers can better understand and optimize the relationships between various educational components, ultimately enhancing the learning experience for students. This approach not only aligns with child-friendly principles but also supports the creation of an inclusive and effective educational environment.

Theories related to curriculum design and development have informed learning design components, such as preparing teaching materials and developing assessment instruments. Theoretical studies on curriculum development will contribute to shaping the model's components (Lattuca & Stark, 2009). Identifying specific stages, such as learning design, implementation, and evaluation, is influenced by curriculum development models prioritizing a systematic and iterative approach to designing and refining educational programs. Theoretical studies in educational psychology can be used to understand how students learn and how to optimize the learning process (Gess-Newsome, 1999). Concepts such as apperception (connecting new information with existing mental schemes) and meaningful learning (connecting new knowledge with relevant personal experiences) are likely influenced by psychological theories emphasizing the importance of active engagement and meaningfulness in the learning process.

A theoretical study on assessment and evaluation would be crucial in shaping the components of learning evaluation. The model emphasizes practical educational assessment principles in developing learning evaluation, which involves measuring elements, implementing

assessments, and providing student feedback. Developing child-friendly school-based HPE learning models in elementary schools also considers theoretical foundations for child development, inclusive education, and learning practices that address gender status. This certainly reflects the commitment of child-friendly schools (CFS) to creating inclusive environments and supporting the diverse learning needs of students. Specific guidelines and standards are developed to define the child-friendly school-based HPE learning model specifically. This study provides valuable insights for developing and testing child-friendly school-based HPE learning models, demonstrating the potential for implementation and practicality in elementary schools. These findings are important for educators and researchers who seek to enhance physical education, sports, and health education programs to ensure comprehensive and effective student learning experiences. Theories of curriculum design and development, such as those by Tyler (1949) and Taba (1962), offer foundational frameworks for structuring educational programs. Tyler's rationale emphasizes defining educational objectives, selecting learning experiences, organizing them effectively, and evaluating the program. Taba advocates for inductive curriculum development, starting from specific teaching-learning situations to broader curriculum design. These frameworks help shape components of the HPE learning model by emphasizing clear objectives, appropriate learning activities, and continuous assessment and feedback (Ornstein et al., 2016).

Theories in educational psychology, including Vygotsky's (1978) social constructivism and Piaget's (1952) stages of cognitive development, provide insights into how children learn and develop. Vygotsky's Zone of Proximal Development (ZPD) concept underscores the importance of scaffolding and guided learning, which are integral to child-friendly pedagogical approaches. Piaget's theory highlights the need for age-appropriate activities that align with children's cognitive abilities, ensuring that learning experiences are both challenging and achievable (Woolfolk, 2016). The concept of apperception, introduced by Herbart (1896), stresses the importance of connecting new information to existing knowledge, facilitating deeper understanding and retention. This principle aligns with Ausubel's (1963) theory of meaningful learning, which posits that new information is better understood and remembered when it is related to relevant prior knowledge and personal experiences. These theories inform the design of HPE curricula that actively engage students and make learning relevant to their lives (Driscoll & Burner, 2005). Theories on educational assessment, such as those by Black and Wiliam (1998) on formative assessment, highlight the importance of ongoing feedback and assessment for learning. These principles guide the development of evaluation components within the HPE learning model, ensuring that assessments are not merely summative but also formative, helping students understand their progress and areas for improvement (Popham, 2008). Bronfenbrenner's (1979) ecological systems theory emphasizes the multiple layers of environmental influences on child development, highlighting the need for inclusive education practices that consider these diverse factors. This theory supports the CFS initiative by advocating for a holistic approach to education that includes social, emotional, and cognitive development. Additionally, as discussed by UNESCO (2015), gender-sensitive pedagogies ensure that both boys and girls receive equal opportunities and support in their educational journeys.

The practical application of these theoretical foundations in developing a child friendly HPE model involves creating specific guidelines and standards that can be tested and refined in real school settings. This process includes pilot testing the model, gathering feedback from educators and students, and making necessary adjustments to improve its effectiveness and feasibility (McTighe & Wiggins, 2013). Studies have shown that such iterative processes lead to more robust and effective educational programs (Fullan, 2016). In conclusion, the development of child-friendly school-based HPE learning models in elementary schools is deeply rooted in comprehensive theoretical foundations. These include curriculum design and development theories, educational psychology, assessment principles, and inclusive education practices. By integrating these theories, educators and policymakers can create HPE programs that are effective and inclusive and tailored to meet the diverse needs of all students, ensuring a holistic and supportive learning environment.

CONCLUSION

Based on the research questions formulated earlier, the suitability of the child-friendly school-based learning model for Health and Physical Education in elementary schools falls into the fit category. This is indicated by the statistical values meeting the criteria of CFI > 0.95, TLI > 0.95, and RMSEA < 0.08. While the Average Variance Extracted (AVE) score obtained is > 0.05, and the Composite Reliability (CR) score is > 0.70. The developed model consists of 3 main constructs and 19 indicators. These main constructs include 1) learning design, 2) learning implementation, and 3) learning evaluation. Each construct consists of eight indicators for child-friendly school-based learning in learning design, six for child-friendly school-based learning in learning implementation, and five for child-friendly school-based learning in learning evaluation. Meanwhile, the feasibility of the child-friendly school-based health and physical education learning model in elementary schools falls into the highly feasible category for implementation. The findings could influence educational policies and practices regarding implementing child-friendly approaches in the Health and Physical Education curriculum at elementary school levels. Educational authorities may consider adopting or adapting this model for broader implementation.

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