



Developing an Integrative SMART Learning Model to Support Holistic Development in Early Childhood Education

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Nita Priyanti*

Universitas Panca Sakti Bekasi, Indonesia
E-mail: nita.priyanti78@gmail.com

Rita Mariyana*

Universitas Pendidikan Indonesia,
Indonesia
E-mail: ritamariyana@upi.edu

Rika Sadiyah

Universitas Muhamadiyah Jakarta,
Indonesia
E-mail: rika.sadiyah@umj.ac.id

Debie Susanti

Universitas Panca Sakti Bekasi, Indonesia
E-mail: debiesusanti81@gmail.com

Restu Yuningsih

UIN Mahmud Yunus Batusangkar,
Indonesia
Email:
restuyuningsih@uinmybatusangkar.ac.id

*) Corresponding Author

Abstract: Learning practices in early childhood education have not yet optimally integrated science, mathematics, art, religious values, and technology into a unified instructional model. This study aims to develop and examine the effectiveness of the SMART learning model (Science, Math, Art, Religion, and Technology) in early childhood education. Using a research and development (R&D) approach, the study integrated quantitative and qualitative data and involved early childhood learners as research participants. The model was developed through the ADDIE framework and validated by early childhood education experts, classroom teachers, and religious education specialists. The findings indicate that the SMART learning model is more effective than conventional lecture-based learning in enhancing children's competencies across science, mathematics, art, religion, and technology. Overall, the study demonstrates that the SMART learning model provides an integrative, child-centered approach that supports holistic learning outcomes and aligns with early childhood developmental characteristics.

Abstrak: Praktik pembelajaran di pendidikan anak usia dini belum sepenuhnya mengintegrasikan aspek sains, matematika, seni, nilai keagamaan, dan teknologi dalam satu model pembelajaran yang terpadu. Penelitian ini bertujuan untuk mengembangkan dan menguji efektivitas model pembelajaran SMART (Science, Math, Art, Religion, and Technology) dalam pendidikan anak usia dini. Penelitian menggunakan pendekatan penelitian dan pengembangan (R&D) dengan mengintegrasikan data kuantitatif dan kualitatif serta melibatkan peserta didik anak usia dini sebagai subjek penelitian. Model pembelajaran dikembangkan melalui kerangka ADDIE dan divalidasi oleh ahli PAUD, guru kelas, serta ahli pendidikan agama. Hasil penelitian menunjukkan bahwa model pembelajaran SMART lebih efektif dibandingkan pembelajaran konvensional berbasis ceramah dalam meningkatkan kompetensi anak pada berbagai aspek perkembangan. Secara keseluruhan, penelitian ini menegaskan bahwa model pembelajaran SMART merupakan pendekatan yang integratif, berpusat pada anak, dan relevan dengan karakteristik perkembangan anak usia dini dalam mendukung capaian pembelajaran holistik.

Keywords: SMART Learning Model, Early Childhood Education, Holistic Learning, Integrative Learning

INTRODUCTION

Introducing religious values in early childhood is critical because it plays a role in forming their character and morals from the beginning of life. Through religious teachings, children can learn values such as honesty, compassion, tolerance, and respect, which are the basis of good behaviour and strong ethics (Chandrakunnel, 2022; Qistina & Khadijah, 2025; Warmansyah, Yuningsih, et al., 2023). In addition, introducing religious values helps children understand and appreciate their cultural identity and strengthens bonds with family and community. These values also play a role in developing social skills and teaching the importance of cooperation, empathy, and respect for others in daily interactions (Pinsent, 2022; Puji & Hakobyan, 2025; Wulandari et al., 2025). Religious knowledge and practice provide a sense of security, purpose in life, and inner peace that supports children's emotional well-being (Harrison, 2023). Thus, introducing religious values at an early age is an essential foundation for sustainable moral education, preparing children to face moral and ethical challenges in the future.

Introducing religious values in early childhood is vital to their character and moral development. Children are highly receptive and easily influenced in the early stages of life, making this period ideal for instilling the foundations of ethics, kindness, and spiritual values that will shape their views and behaviours for a lifetime (Brown, 2024). Through religious education, children are taught about the importance of respect for others, honesty, patience, and empathy. These values help form a solid and positive personal identity and prepare them for healthy and constructive social interactions (Bartkowski et al., 2019). In addition, religious education at an early age also supports children's emotional development by providing them with a sense of security, direction, and understanding of the wider

world, which can help them navigate the challenges they face as they grow up (Mahsun et al., 2023). Therefore, religious education at an early age not only enriches spiritual knowledge but also plays a crucial role in the formation of a solid moral and ethical foundation.

Introducing religious values in early childhood also helps form essential skills such as problem-solving, empathy, and critical thinking skills. When religious values are taught along with rich stories, symbols, and traditions, children learn about beliefs and how they are applied in real-life situations (Azizah et al., 2024; Miftahurrohmah et al., 2024; Wareham, 2024). It helps them understand the difference between right and wrong and the importance of making ethical choices. Many experts consider Religious and moral education very important in supporting the formation of individual character and integrity (Chatterjee et al., 2023; Hasanah et al., 2024). According to Emile Durkheim, a prominent sociologist, religious education in society plays a vital role in internalizing social and moral values that help maintain social coherence and stability (Tillson, 2022). John Dewey, an American educator and philosopher, argued that moral and religious education is essential for developing morals and ethics that focus on the experience of harmonious coexistence in society (Wilde & Danielsen, 2014). Al-Ghazali, an Islamic philosopher and theologian, emphasized that religious education is the key to understanding and applying the principles of ethics and spirituality in daily life (Emanuel et al., 2023).

Later, Kant, a German philosopher, argued that moral education is essential to help individuals make ethical decisions based on reason, not just emotions (Kryshtop, 2020). Aristotle, the philosopher of ancient Greece, also pointed out the importance of moral education in shaping the "virtues" that are the basis for a good and

meaningful life. In a more modern context, Paulo Freire, an educator and philosopher from Brazil, argues that education should facilitate critical reflection on values and morals that lead to social transformation (Karpov, 2023). An American psychologist, Carol Gilligan, stated that moral education should focus on gender differences in moral responses, underlining a more inclusive approach. An American educator and philosopher, Nel Noddings advocates for moral education centred on "care" as a fundamental ethical principle (García et al., 2016). Lawrence Kohlberg developed a theory of moral development that outlines how individuals gradually understand and apply more complex ethical principles through education (Medina-Vicent, 2016). These views underscore how vital religious and moral education is in helping individuals develop the understanding and application of moral and ethical values that are the foundation for ethical and productive social interaction.

However, in the 21st century, there is a shift in values in the world of education and the paradigm of parents in Indonesia who increasingly consider mastery of science, technology, and mathematics (STEM) to be the most important for children (Chen & Tippett, 2022; Isnariyati et al., 2025; Warmansyah, Komalasari, et al., 2023). This increased focus on STEM fields is due to rapid technological advancements and the need for skills relevant to the demands of the modern job market (Santika et al., 2020). Parents and educators are often trying to prepare their children to compete in an increasingly complex and technology-based world (Makar et al., 2023; Wulandani et al., 2022). However, it is essential to remember that religious education also plays a very crucial role in a child's overall development. Religious education provides knowledge about spiritual beliefs and practices and instils fundamental moral and ethical values (Zuidervaart, 2019). Honesty, empathy, tolerance, and respect are essential

in shaping a child's character. I can maintain the right direction with a solid moral foundation, technical ability, and scientific knowledge.

In Indonesia, a prominent phenomenon in early childhood education (ECE) leads to an overemphasis on STEM mastery in early childhood. This phenomenon is triggered by the demands of parents who want their children to have strong academic abilities from an early age, so often, the essence of early childhood education that should be centred on play and exploration activities is neglected (Ramsey, 2022). As a result, many early childhood education institutions have shifted their focus from a balanced approach to learning through balanced play to a more scholastic approach (Gall et al., 2014). Teaching and learning activities in ECE now prioritize Calistung (reading, writing, and arithmetic) and do not prioritize the play aspect essential for children's cognitive and psychomotor development at that age (Ilma et al., 2023; Priyanti & Warmansyah, 2021; Warmansyah et al., 2021; Yulia et al., 2025). In addition, the lack of emphasis on character, moral, and religious education is also a concern, given the importance of these aspects in children's social and emotional development (Karima et al., 2022). This challenge reflects the urgent need to return to the basic principles of early childhood education, which focuses on the holistic development of children through fun and educational learning methods.

In Indonesia, a worrying phenomenon occurs among children and adolescents, which includes a variety of negative behaviours such as sexual violence, bullying, taurine (fights between groups), drug use, and murder, as well as behaviours against parents and issues around sexual identity such as LGBT (Atikarini, 2019). Several factors trigger this phenomenon, including the lack of stimulation and education on values and religion at home and school (Soraya, 2020). Decreased effective

parent-child interaction and communication and lack of parental supervision contribute to increased children's and adolescents' access to harmful content and miscommunication (Indreswari et al., 2022). On the other hand, education in schools that does not emphasize the formation of character and moral values is also a supporting factor (Krek et al., 2019). This situation shows the need to improve the education and parenting system at home, which focuses more on character education and religious values, which can form the basis of positive behaviour and outlook on life in children and adolescents.

Violence against children certainly has a negative impact. One of the negative impacts of experiencing violence against children is that children are directly involved in becoming perpetrators of violence, both verbally and physically, to children or their friends (Liu et al., 2023). National Assessment (AN) which states that 1 in 3 children have the potential to face bullying. The low quality of morals and the poor morals of the Indonesian people are the causes of the problems. According to previous research, morals and morals play a vital role in overcoming the problem of violence against children (Mikkonen et al., 2021). Kjeldsen (2019) Explains that religious-based learning methods focus on three principles: attitude approaches, skills and concepts, and knowledge. Therefore, there is no need for separation between science and religious values because the two can be combined harmoniously to overcome the challenges humans face (Azis et al., 2022). A study Tannebaum (2018) found that science helps students answer the "How" question.

Meanwhile, religion will answer the question "Why" that reveals something beyond science. To realize these educational goals, it is necessary to have a learning process that is iterative with religious values (religious) (Misra et al., 2022; Rahmawati & Haryanto, 2022). The research of Rahmatullah et al. (2022) strongly

recommends that teachers consistently integrate religious values into the learning model process.

One of the learning models used in Indonesia is STEAM (Science et al.), which helps stimulate children to explore, ask questions, investigate, solve problems, try things and understand patterns and sequences in their daily activities by combining various disciplines, technology, engineering, art and mathematics (Bui et al., 2023). This STEAM model has also been implemented in various countries such as the United States (Development, Characteristic and Enlightenment of STEAM Education in the United States, 2021), Australia (Pressick-Kilborn et al., 2021), South Korea (Sung et al., 2023), and Singapore (Sullivan & Bers, 2018), which has been applied since early childhood education (Bertrand & Namukasa, 2023). The STEAM Learning Model, which is a combination of science, technology, technical science, art, and mathematics, aims to prepare children for complex roles in the future. Through STEAM-based activities, children's creativity and independence in moving, playing, thinking, and creating will increase (Rodrigues-Silva & Alsina, 2023b). The integration of science in the curriculum helps students understand the world, develop high-order thinking skills, and provide a wide range of intellectual and social-emotional benefits, including reasoning, planning, observation, and analytical skills (Alghamdi, 2023; Silva-Hormazábal & Alsina, 2023). Technology helps students apply knowledge practically (Leavy et al., 2023). Technical science addresses achievement gaps between students in other disciplines and motivates better understanding with a positive impact on other disciplines (Rodrigues-Silva & Alsina, 2023). Art is not just entertainment but a means for better learning outcomes, aiding in developing creativity, intelligence, communication, and performance skills (Jazbec, 2023). Mathematics improves critical thinking and problem-solving,

developing positive attitudes, and improving students' analytical, reasoning, and problem-solving skills when integrated with other sciences (Pahmi et al., 2022). The excellent impact of STEAM in Indonesian education helps children grow teamwork skills and adaptability skills that are very useful to support future careers and economic progress (Sit, 2022).

Based on a survey conducted on 30 schools in Bekasi, as many as 22 schools have implemented the STEAM learning model but still need to integrate with religious values. The survey also explained that eight schools that have not implemented the STEAM learning model apply a conventional model learning model integrated with religious values, focusing on mastery of reading, writing, arithmetic, and memorization so that the ability to critical thinking, collaborate, communication and creativity are not stimulated, while these competencies are what we need to prepare for children in the 21st century. The problem in this study is how to develop the SMART model in early childhood education. What is the impact of applying the SMART model on early childhood education? The novelty of this research with the previous research is the integration of the STEAM model with religious values, whereas the previous research of the STEAM model was only integrated with local cultural values (Kim & Chae, 2016; Ramdhani et al., 2023; Tiasna et al., 2023), and the social environment (Mariano & Chiappe, 2021; Susan et al., 2023).

Therefore, this study aims to develop and examine the effectiveness of the SMART learning model (Science, Math, Art, Religion, and Technology) as an integrative approach in early childhood education. The importance of this research lies in its effort to bridge the gap between cognitive-academic development and moral-religious education, which are often treated separately in current educational practices. By integrating religious values with science- and

technology-oriented learning, this study seeks to provide a holistic learning model that supports not only children's cognitive and creative skills but also their character, ethics, and spiritual development. The findings of this research are expected to serve as a reference for educators and policymakers in designing balanced, child-centered learning models that respond to the challenges of 21st-century education while maintaining strong moral and religious foundations.

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METHODS

The problem-solving approach to answer the problems requires research on developing the SMART Model in early childhood education. This research developed a SMART learning model using the R&D method with ADDIE. This research is a mix of methods that use quantitative and qualitative data, so this research is even more vital. This research uses a development model, or in English, it is called Research and Development (R&D). Development

research, according to (Sugiono, 2014), is a research method used to produce a particular product and to test the effectiveness of the product. This development research uses the ADDIE model. The ADDIE model consists of five stages, including Analysis (Analyze), Design (Design), Development (Development), Implementation (Implementation) and Evaluation (Evaluation). The object of the research is that the early childhood education institutions to be researched are as many as 20 institutions, where the samples are obtained using random sampling techniques. This research was carried out for one year; the stages of the research can be seen in the following figure 1:

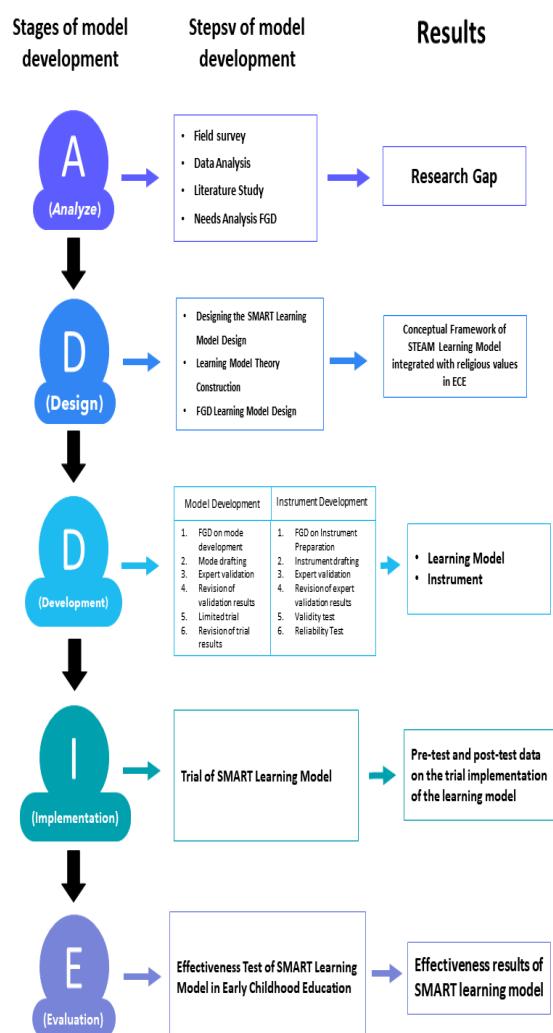


Figure 1: Research stages

The data collection method is carried out by the data source and the formulation of the problem that has been determined. The following is a table of data types, sources and data collection techniques, as shown in the following table:

Table 1. Data types, Data Sources and data collection techniques

| Data types | Data Source | Data Collection Techniques |
|---------------------|--|---|
| Qualitative | School Teacher Interview | Interview Guidelines |
| | School manager interview | Interview Guidelines |
| Quantitative | Expert Validation Results related to the Learning Model | Expert validation questionnaire |
| | Results of Expert Validation related to Learning Model Instruments | Expert validation questionnaire |
| | Pre-test and Pros test results Trial of the STEAM learning model | STEAM Learning Model Trial of the Instrument integrated with religious values |

In this data analysis technique, qualitative data and quantitative data will be obtained. In essence, qualitative data will be analyzed qualitatively and quantitative data will be analyzed quantitatively. The data analysis in this study was carried out before entering the research field [preliminary

study], during the field, and after completing in the field. Qualitative data analysis is carried out through four steps, according to Matthew B. Miles [1992], which is used as follows:

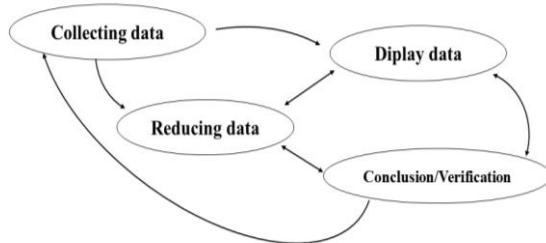


Figure 2. Qualitative Data Analysis Method

This quantitative data analysis uses a descriptive quantitative approach. This study will explain the results of expert validation related to learning models, learning model instruments, and pretest and posttest trials of the STEAM learning model integrated with religious values. In conducting validity tests and reliability tests, they will use Anonymous. Implementation of product effectiveness testing using Gain by comparing the results of the pretest and posttest.

RESULTS AND DISCUSSION

Results

This research obtained the results, namely the production of a SMART Learning Model through the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation. The game model is tested using a validity test, and the SMART Model Development is a practicality test where experts are involved in conducting validity tests; these experts include validation by early childhood education experts, early childhood school teachers, and also experts in religious values, while the practicality test is carried out through the implementation of tests individually, in small groups, field tests and response tests of educators and students. Here is a snippet of the results of the presentation related to the results of research

and testing, which will be explained according to the stages of ADDIE:

Analysis Stage

Through interviews and field observations, this research was conducted in 20 Early Childhood (PAUD) in Bekasi City. The survey results show that 75% of PAUD in Bekasi City needs new learning that integrates science, mathematics, art, religion, and technology. This is due to findings that reveal that early childhood science, technology, and mathematics skills in Bekasi City are still low, and children's behaviour or character is still far from expectations. The results of this finding were strengthened through a Focus Group Discussion (FGD) with early childhood education experts who discussed the gaps and problems identified from the survey. Experts highlighted the urgent need to develop a more holistic and integrative curriculum to improve the quality of early childhood education in Bekasi City.

Table 2. Results of Observation

| Number | Indicator | Number of Percentages |
|--------|-------------|-----------------------|
| 1 | Science | 40% |
| 2 | Mathematics | 32.6% |
| 3 | Art | 54% |
| 4 | Religion | 32% |
| 5 | Technology | 57% |

With the data collected and analyzed, this study finds that the leading indicators in early childhood education in Bekasi City still need significant improvement. From the observation results, it can be seen that only 40% of children have adequate basic science skills, while 32.6% have sufficient mathematical skills. In art, as many as 54% of children show good potential, but in religion and technology, the percentage of ability only reaches 32% and 57%, respectively.

These findings show that there are significant gaps in various aspects of early childhood education in Bekasi City. Based on the Focus Group Discussion (FGD)

results with experts, several vital recommendations have been identified to address this problem. Experts emphasized the need for a more holistic and integrative approach to learning, focusing on developing science, mathematics, art, religion, and technology skills in a balanced manner. They also highlighted the importance of improving teacher competence through continuous training and developing a curriculum that is more relevant to the needs of children's development. This study concludes that appropriate and targeted interventions are urgently needed to improve the quality of early childhood education in Bekasi City. Implementing learning that integrates these various aspects is hoped to improve children's abilities in science, technology, mathematics, art, and religion, as well as form a better character in accordance with society's expectations.

Design Stage

Developing the SMART model design based on the figure above involves several well-structured stages. This model starts with children's interests, the primary foundation for determining learning topics. These interests are identified through various assessments to understand the needs and desires of children. Once the learning topic is determined, the next step is to create a Concept Map of Activity Idea Sources, which helps organize the ideas into a more structured form. From this concept map, we set specific, measurable, achievable, relevant, and time-bound (SMART) Activity Objectives. This activity aims to provide clear direction on what to achieve through learning activities.

Furthermore, an Activity Plan is designed to contain concrete steps to achieve the goals that have been set. This activity plan is then developed into a daily or weekly Learning Implementation Plan (RPP) and a Teaching Module, a detailed guide for teachers in learning. This process ends with a Learning Process where activities are carried

out according to the plan that has been made, allowing for assessment and evaluation to ensure the objectives are achieved. Each stage is interrelated and ensures that learning is based on the child's needs and interests, making it more effective and engaging for them. For more clarity, follow Figure 3.



Figure 3. SMART Model Design

Development Stage

This model has been validated by early childhood education experts and is considered feasible to proceed to the stage of operational model development. This validation process includes an evaluation of the model's suitability with the principles of early childhood education, its effectiveness in achieving learning goals, and the model's ability to adapt to children's needs and interests. With the approval of experts, the next step is to implement this model in an actual educational environment. The operational development stages include the preparation of more detailed implementation guidelines, training for educators to understand and apply this model appropriately, and classroom trials to get direct feedback from the learning process. This feedback is critical to making model refinements before they are widely deployed. Periodic evaluation and adjustments based on the results of the Trial will ensure that this model is not only theoretical but also practical and effective in improving the quality of early childhood education. This operational implementation aims to create a

learning environment that is more interesting and meaningful for children's development.

Implementation Stage

The SMART model development team observed the implementation of this model in 20 early childhood at PAUD Terpadu Harapan Bangsa. The observation results show that this model effectively improves children's abilities in science, mathematics, art, religion, and technology. Children showed increased interest and understanding in science through simple experimental activities such as mixing colours and planting seeds. They can explain the process and results of the experiment well, showing high enthusiasm when observing the colour change and growth of plants. In the field of mathematics, there is an increase in the ability to recognize numbers, count, and understand basic mathematical concepts through games that involve counting objects and grouping. Kids can easily count and group the number of toys by colour and shape.

In the art aspect, children's creativity develops rapidly. They are more expressive in drawing, painting, and crafting activities, resulting in more complex artwork and demonstrating an understanding of colour and shape. In the field of religion, children show a better understanding of religious values through stories and activities related to morals and ethics, being able to give examples of actions either they do at home or school. Finally, in the technology field, children are getting used to using simple technological devices such as tablets to learn through educational applications, recognize letters and numbers, and play educational games that stimulate their logic.

The results of the SMART model development team conducted an interview with Mrs. Ratna, a teacher at PAUD Terpadu Harapan Bangsa, to get a more in-depth view of the implementation of this model. Mrs. Ratna stated that the SMART model effectively increases children's interest in

learning. According to him, the children showed high enthusiasm in participating in learning activities designed based on this model. "Children become more active and involved in every activity. They enjoyed the science experiments and math games we held," said Mrs. Ratna.

In addition, Mrs. Ratna also observed a significant increase in children's creativity through art activities. "They became more expressive and dared to try new things in drawing and painting. Their artwork is increasingly diverse and complex," he added. In teaching religious values, Mrs. Ratna noted that children are easier to understand and apply in their daily lives. "They often tell about the good deeds they do at home, such as helping their parents or sharing with friends," said Mrs. Ratna.

Mrs Ratna also highlighted that using technology in the SMART model helps children become more familiar with technology devices from an early age. "They are swift to learn to use tablets to play and learn through educational applications. This is very helpful in their learning process," he explained. Overall, Mrs. Ratna assessed that the SMART model is feasible to continue and be implemented more widely. "This model not only makes children more interested and involved in the learning process but also helps them develop various skills important for their future," concluded Mrs Ratna.

Evaluation Stage

A test was carried out to see the effectiveness of the SMART learning model by comparing the learning results using the SMART model with the lecture learning model. An independent two-sample t-test was used to measure significant differences between the two groups. The test results showed that the average score of children who followed the SMART learning model was 75.94, with a standard deviation of 9.77, while the average score in the lecture group was 65.89, with a standard deviation of 9.39.

The t-statistic value obtained is 3.52 with a p-value of 0.0006, which is much smaller than the significance level of 0.07. This suggests that the difference between the two groups is statistically significant, with the SMART group showing better results than the lecture group. Thus, the SMART learning model improves children's learning outcomes more effectively than the lecture method. The data can be seen in table 4:

Table 3. SMART Model Measurement

| Results | | |
|----------|-------|-------------|
| Group | Mean | Std Dev |
| SMART | 65.56 | 12.19 |
| Lectures | 80.69 | 0,383333333 |

From the results of the T-test shown in the table above, there is a significant difference between the group that uses the SMART learning model and the group that uses the lecture model. The average score in the SMART group was 65.56, with a standard deviation of 12.19; in the lecture group, the average score was 80.69, with a standard deviation of 8.72. The results of the T-test showed a t-statistical value of 4.52 with a p-value of 0.00006, which is much smaller than the significance level of 0.07. This suggests that the difference in scores between the two groups is statistically significant.

Discussion

This research has resulted in a SMART learning model developed through the ADDIE model, including the stages of analysis, design, development, implementation, and evaluation. In the evaluation stage, to see the effectiveness of the SMART learning model, a test was carried out by comparing the learning results using the SMART model with the lecture learning model in 20 early childhood in Bekasi City. The test results showed that the average score of children who followed the SMART learning model was 75.94, with a standard deviation of 9.77, while the average score in the lecture group was 65.89, with a

standard deviation of 9.39. The t-statistic value obtained is 3.52 with a p-value of 0.0006, which is much smaller than the significance level of 0.07. This suggests that the difference between the two groups is statistically significant, with the SMART group showing better results than the lecture group. Thus, the SMART learning model improves children's learning outcomes more effectively than the lecture method.

This study's results are consistent with several previous studies showing the advantages of t-statmore integrative and structured learning approach compared to traditional lecture methods. For example, research by Kanchana et al. (2019) shows that activity-based learning can significantly improve student engagement and learning outcomes. Likewise, a study by Montilla et al. (2023) found that integrating technology into learning can improve student motivation and learning outcomes.

Research by Rahmawati & Haryanto (2022) also found that a learning approach that focuses on children's interests, such as those conducted in the SMART model, can improve understanding and retention of information. This is supported by findings from Jones et al. (2018), which show that a holistic and integrative approach to learning can improve various aspects of a child's skills, including cognitive, social, and emotional.

In early childhood education, research by WMD et al., (2020) and Asiyah et al. (2023) suggests that approaches combining science, math, art, religion, and technology can provide more prosperous and more meaningful learning experiences for children. Research by Eldiva & Azizah (2019) also supports these findings by showing that project-based learning can improve children's critical and creative skills. The results of this study are also in line with several theories of early childhood education learning. The theory of Constructivism by Piaget (1971) emphasizes the importance of direct experience and interaction with the

environment in the child's learning process. The SMART model based on children's interests and needs is relevant to this approach. Vygotsky (1978) in his theory of the Zones of Proximal Development (ZPD), emphasizes the critical role of social interaction and guidance in helping children reach their potential. Structured and integrative learning, such as in the SMART model, provides an environment that supports this development. The Multiple Intelligences Learning Theory by Gardner (1983) also supports a holistic approach in early childhood education. By integrating various aspects such as science, mathematics, art, religion, and technology, the SMART model allows the development of different types of children's intelligence. Bronfenbrenner (1979), in his Ecology of Human Development theory, emphasizes the importance of interaction between the child and his environment in various contexts. The SMART model involves various aspects of learning and interaction with technology and supports holistic development through this theory. Bandura (1986), in his theory of Social Learning, emphasizes the importance of learning through observation, imitation, and modelling. The SMART model, which includes a variety of interactive learning activities, supports effective social learning.

CONCLUSIONS

This study found that the SMART learning model is more effective than the lecture model in improving early childhood learning outcomes. A structured, interactive, and interest-based approach has increased children's engagement and learning outcomes. These findings are supported by various previous studies and learning theories, showing that the SMART model is a relevant and practical approach in early childhood education. The broader implementation of this model is expected to have a significant positive impact on improving the quality of early childhood education.

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