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THE EFFECT OF USING THE CHATGPT APPLICATION ON THE CREATION OF CHILDREN'S LEARNING MODULES FOR RAUDLATUL ATHFAL (RA) TEACHERS IN MALANG REGENCY

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ABSTRACT

Abstract *This study aims to analyze the effect of ChatGPT use on the creation of learning modules by Raudhatul Athfal (RA) teachers in Malang Regency, East Java. This study uses a quantitative and correlational approach. The subjects of the study were RA teachers who have utilized ChatGPT in developing learning modules. Data collection was carried out through questionnaires, observations, interviews, and documentation. Data were analyzed using descriptive statistics, validity and reliability tests, normality tests, correlations, and simple linear regression. The results of the study indicate that the use of AI and the quality of learning modules produced by teachers are influenced by the use of AI. Analysis of the dependent and independent variables shows a strong interconnection between the use of ChatGPT and the quality of learning modules as much as 84.83% of the variance with data reliability validation (X) of 100% and validation (Y) of 97.9% has been poured into the form of teacher teaching modules. The research findings show that ChatGPT helps teachers in structuring learning, developing materials in learning activities, and clarifying the content of concepts. However, teachers still play a major role in adapting to understand the results of the answers developed by ChatGPT. It can be concluded that the integration of artificial intelligence is a form of digital transformation in the world of early childhood education.*

Abstrak: Penelitian ini bertujuan untuk menganalisis pengaruh penggunaan ChatGPT terhadap pembuatan modul pembelajaran oleh guru Raudhatul Athfal (RA) di Kabupaten Malang, Jawa Timur. Penelitian ini menggunakan pendekatan kuantitatif dan korelasional. Subjek penelitian adalah guru RA yang telah memanfaatkan ChatGPT dalam mengembangkan modul pembelajaran. Pengumpulan data dilakukan melalui kuesioner, observasi, wawancara, dan dokumentasi. Data dianalisis menggunakan statistik deskriptif, uji validitas dan reliabilitas, uji normalitas, korelasi, dan regresi linier sederhana. Hasil penelitian menunjukkan bahwa penggunaan ChatGPT dan kualitas modul pembelajaran yang dihasilkan guru memiliki pengaruh penggunaan AI. Analisis variable dependen dan independent menunjukkan ada saling keterhubungan yang kuat antara penggunaan ChatGPT dan kualitas modul pembelajaran sebanyak 84,83% varians dengan validasi realibilitas data (X) sebanyak 100% dan validasi (Y) Sebanyak 97,9% telah dituangkan pada bentuk modul ajar guru. Temuan penelitian menunjukkan bahwa ChatGPT membantu guru dalam menyusun pembelajaran, mengembangkan materi dalam kegiatan pembelajaran, dan memperjelas isi konsep. Namun, guru masih memainkan peran utama dalam mengadaptasi untuk memahami hasil jawaban yang dikembangkan oleh ChatGPT. Hal tersebut dapat disimpulkan bahwa integrasi kecerdasan buatan sebagai bentuk transformasi digital dalam dunia pendidikan anak usia dini.

INTRODUCTION

In today's era, the development of digital technology requires teachers to be proficient in digital techniques and able to design creative and innovative learning. They also utilize technology and information in learning. Intensive technology training is needed to develop teachers' capacity in designing technology-based learning. If teachers have digital literacy skills, they are able to design innovative learning. Teacher competencies that must be possessed in the 21st century are the ability to collaborate in developing knowledge about operating technology as access, and digital literacy can help present more relevant and meaningful learning interactively through several types of applications that have AI features. AI applications, which are booming in the era of digitalization development, are an alternative to help with anxiety in completing teaching administration. AI applications, also known as Artificial Intelligence, fall into the category of applications that will have an impact on artificial intelligence. Where, AI-based technology is a simulation technology specifically for designing ways of thinking, learning, and solving problems based on computer systems. Developed AI applications include ChatGPT, General AI, Super AI, Midjourney, Canva Magic Studio, Grammarly, Google Translate, Face Recognition, TikTok Filters, Machine Learning & Deep Learning, Google Assistant, Runway ML, Canva, Notion AI, GitHub Copilot, Cursor, Codex, and Gemini AI. This research focuses primarily on the use of ChatGPT as a teaching aid for teachers in developing learning modules. Furthermore, it identifies the involvement of other AI applications as a support in creating educational and interactive media.

The development of artificial intelligence (AI) has become part of human life in recent years, so its existence has a very significant impact. AI also influences the field of education in terms of the usefulness of artificial intelligence in helping to compile desired learning materials (Gagaramusu, et al., 2025). AI is also used to enrich learning materials with interactive, adaptive, and responsive features to students' learning needs, meaning enriching as an information center in expanding the renewal of student learning material concepts (Irmawati, et al., 2025). Artificial intelligence greatly supports the learning process to meet the administrative needs of teachers and learning media. This research is the main focus on the use of ChatGPT, one of the most popular Chatbots among AI users is ChatGPT. ChatGPT is an artificial intelligence-based Chatbot developed by OpenAI which was released in 2022. ChatGPT users can search for data based on questions entered in the application. In the educational context, ChatGPT functions as an alternative learning medium for educators to expand access to information about teaching materials (Mertayasa, et al., 2025). ChatGPT can help understand the breadth of learning materials in supporting thinking skills to search for material keywords systematically (Hasibuan, et al., 2025).

RA educators at the Malang Regency Educational Institution benefit from several AI applications as a stimulus for technology-based artificial intelligence. The primary goal is to help reduce administrative workloads. Furthermore, the ability to focus on the learning process is not limited by time constraints. Teacher capacity in teacher learning situations affects current teacher performance. The increasing administrative workload of teachers, coupled with the imbalance in

teacher salaries, has impacted teacher motivation and performance, which has been widely complained about. Therefore, AI applications have become an alternative for teachers in completing administrative tasks comprehensively. One AI application, ChatGPT, is used by almost 100% of AI tool users throughout Indonesia. The goal is to find inspiration for desired creative ideas, not only in the world of education but also in the creative industry, utilizing AI applications to support user productivity (Sousa & Cardoso., 2025). Based on strengthening data analysis by researchers through quantitative data literature, describing AI applications shows the percentage of daily AI users as much as 77.8% of global scale achievements based on goals and functions. When viewed from the global population, around 16.3% of the world's population adopted generative AI tools in early 2026, increasing from 15.1% in mid-2025. This shows that AI applications have been used based on the object of use as a goal of human productivity. Research studies show that users at the Higher Education level use ChatGPT in developing complex learning studies, the study focuses on several AI applications as a systematic support in current student learning studies (Putri & Trisnawati., 2025). Empirically, the largest user of artificial intelligence is ChatGPT based on comparative literature studies and case study analysis at certain Educational Institutions.

Survey results of 48 RA teachers from different educational institutions. The intensity of ChatGPT use in educational settings is increasing, but its implementation is still concentrated on the functionality level of the AI application. Sometimes doubts arise about whether AI applications can meet teachers' needs, or the systematics are still complex. This sparks teachers' curiosity in examining current forms of AI applications for experimentation. This also analyzes the forms of convenience that can be used to support teacher performance. Therefore, educators are expected to avoid manual work when using developed AI applications. This is a form of learning motivation offered by AI applications that have the benefit of providing convenience features for their users, but are unaware of the impact they experience. If they cannot interpret the form of AI applications based on their characteristics and functions, current empirical evidence shows that applications have a positive function in the world of education if they can be utilized based on the quality of teachers' ideas and skills.

The use of ChatGPT in comprehensive learning across various skill areas in supporting the learning environment, ChatGPT has a major influence on all groups, especially in the learning process such as testing creativity and understanding of interactive application knowledge (Rizki, et.al., 2025; Hasibuan, et al., 2025; Purwatiningsih, et al., 2025). However, several studies also show the implications of using ChatGPT have negative aspects such as dependency on use, and decreased cognitive function (Arini, et al., 2024; Salmi & Setiyanti., 2023). In line with previous research in examining AI applications as a tool to develop teacher skills as a medium to help compile learning materials, assess children, and produce creative learning media (Nurwahyuni, et.al., 2026). Many teachers claim to be more confident and motivated to improve the quality of teaching after being able to utilize AI. This will have an impact on intelligence and influence the current teaching process of teachers based on desires rather than making teachers' needs explicitly.

If teacher skills are influenced by AI, then the perspective of teacher skill needs will be assessed as doubtful about the quality of education in the technological era.

The results that have emerged with the needs of AI application users in the world of education, such as AI learning content (AI videos, interactive comics), AI-based adaptive learning, generative AI (e.g. ChatGPT), and AI for academic writing. Research findings by Rozi & Najiyah., (2025) show that the use of AI-based animation can improve students' understanding of material and digital literacy skills at the education level. In line with research conducted by Lestari, et.al., (2025) shows that the creation of digital comic media through the use of AI can effectively actualize students' reading comprehension skills. The academic world, AI is able to facilitate the search for references that are relevant to specific applications of AI (Alatas, et al., 2024). In line with the positive impact of AI tools, there are challenges in their use in searching for references, but it is necessary to question the proof of the authenticity of reference sources is still debated and regulations need to be regulated in the use of AI Chatbots (Mertayasa, et al., 2025). The existence of massive duplication of writing is a very clear regulation when dealing with AI or digital literacy in each of its users (Salmi and Setiyanti 2023).

The impact of ChatGPT usage in particular is still limited in terms of quality, efficiency, and practice in the process of creating teaching modules by RA teachers in Malang Regency. The empirical gap between general studies of AI in education and contextual studies underscores the urgency of research on this AI, given the fundamental weaknesses in ChatGPT's reliance, such as the form of answers that require valid source verification in their descriptions (Anastassiaa et al., 2024; Anwar et al., 2025). Excessive use of ChatGPT can reduce the brain's ability to think critically or show symptoms of brain damage (Salsabila et al., 2026). Moral ethics and healthy thinking in using ChatGPT are also needed as personal boundaries for its users (Faiz & Kurniawaty, 2023). This study aims to determine the influence of ChatGPT on teacher learning modules and to understand teachers' perspectives on the use of ChatGPT through the experience of the early childhood learning process by Raudhatul Athfal (RA) teachers in Malang Regency, East Java.

RESEARCH METHODOLOGY

This study uses a quantitative approach in the correlational research type. Quantitative research refers to data collection methods based on numbers and statistics. According to Sugiyono (2016), quantitative methods can be interpreted as research methods based on the philosophy of positivism, used to study certain populations or samples, collect data using research instruments, and conduct quantitative data analysis with statistics in several techniques to test predetermined hypotheses. The philosophy of positivism argues that reality/symptoms/phenomena can be classified as relatively fixed, concrete, observable, measurable, and that the relationship between symptoms is causal (Amruddin, 2022). This research will be conducted by researchers at Raudhatul Athfal (RA) institutions throughout Malang Regency, East Java. This research was conducted from January to May 2026. The research population consisted of all RA teachers in

Malang Regency who met the criteria for being active in developing learning modules for ChatGPT users.

The instruments in this study include questionnaires, observation sheets, interviews, and documentation. The questionnaire with independent variables (X) covers the use of ChatGPT in creating learning modules, and the dependent variable (Y) about the quality of RA teacher learning modules. Observation is a component of the research instrument used to assess the results of teacher pedagogical competence in creating early childhood learning modules, the form of applications as support, teacher experience in using AI applications, how long it takes to create module designs if using AI applications, concepts and analysis in the breadth of material content. Aspects observed to support the quality of teacher teaching material modules include the use of AI applications, the compilation process, content suitability, design creativity, and language breadth. The interview guide focuses on understanding the types of AI applications that have been studied, teacher experience and abilities, perspectives on how to interpret AI applications in terms of usefulness, analyzing the form of obstacles to use, collaboration of the module creation work team and adaptation of the impact of ChatGPT use in the long term. Data analysis techniques with several aspects, including the first level of respondent achievement (TCR). TCR analysis aims to describe the validity of the test group of research variables conducted. By presenting data in a data reliability table, normality test by calculating the comparison of the average ANOVA scores, the final results of the hypothesis in the coefficient test and interpreting the form of influence that can be linked to several aspects of the dependent and independent research variables.

Reliability is used to assess the consistency of data in an instrument is considered reliable. If it produces consistent results when used to measure objects that are repeated. Cronbach's Alpha is a statistic used to assess the average reliability of research variables. According to Sugiyono., (2016) stated that the data collection technique in the normality test is a test carried out to assess whether the variable is normally distributed or not. The normality test in this study uses the nonparametric Kolmogorov-Smirnov (K-S) test. The data to be tested is residual data. The Kolmogorov-Smirnov test has conditions, including if the p-value is greater than 0.05, the data is considered normally distributed, if the significance value is less than 0.05, the data is not normally distributed. Hypothesis testing with the R^2 test (Coefficient of determination). The coefficient of determination is a measure of the suitability or accuracy of the regression line in predicting sample data. If the correlation coefficient value is known, then the coefficient of determination can be obtained by squaring it. The magnitude of the coefficient of determination can be calculated using, including the criteria for analyzing the coefficient of determination are: if Kd has a value of zero (0), then the influence of the independent variable on the dependent variable is weak.

RESULTS AND DISCUSSION

This research was conducted by involving Raudhatul Athfal (RA) teachers from several educational institutions in Malang Regency, East Java, to test the influence of ChatGPT on the creation of learning modules. The approach used was quantitative in viewing the correlational form of data that had been systematically generated. The testing was carried out through analysis of

teacher teaching module products and instrument data on the use of ChatGPT. The independent variable (X) is the use of ChatGPT, while the dependent variable (Y) is the quality of the learning module with 48 RA teachers from Malang Regency as the research object in filling out the questionnaire. The collected data will be processed through statistical tests, validity and reliability tests, normality tests, and simple linear regression to determine the level of influence of ChatGPT among RA teachers currently. The data shows that most respondents have used ChatGPT as a tool to create learning modules starting from the planning, design, and evaluation stages. Thus, the products created do not have originality in the form of conceptual design. AI technology supported by the Canva application is the main application in assisting teachers in creating teaching modules for students. Ultimately, teachers are more dependent on ChatGPT for determining their desired outcomes, rather than on the creative design needs of contextual learning concepts. Therefore, teacher creativity is easily discerned if the teaching modules are not developed purely from their own concepts, but with the assistance of AI (ChatGPT). Teachers' dependence on AI will alter AI functionality, potentially impacting their ongoing intelligence. Teachers have likely used many AI applications to assist them in completing their work. This isn't just about creating teaching materials, but also about assessing student progress, which can be managed through ChatGPT. However, this research focuses on two main aspects: the use of ChatGPT and the quality of the learning modules produced by teachers.

Research data shows that the use of ChatGPT through the process of developing learning modules has received a positive response from all educators globally. It cannot be ruled out that AI applications are easily accessible through technological developments that have begun to be upgraded in each version of the available PC/mobile phone features. In fact, the capacity of AI applications is now rampant in global application systems. These findings indicate that AI, as a form of technology, aims to shape artificial intelligence in the digital transformation process, accessible to all in the world of education. The statistical data description focuses on the use of ChatGPT and teacher learning modules. This can be seen in Table 4.1, as follows:

Table 4.1 Descriptive Normalitas Statistics of One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test			
		ChatGPT	**Modul Ajar**
N		48	48
Normal Parameters[a,b]	Mean	53,5625	71,2083
	Std. Deviation	13,22619	15,19653
Most Extreme Differences	Absolute	0,115	0,128
	Positive	0,084	0,094
	Negative	-0,115	-0,128
Test Statistic		0,115	0,128
Asymp. Sig. (2-tailed)		.133[c]	.049[c]

The results of the data in Table 4.1 show that the number of research objects, as many as 48 respondents from among RA teachers in Malang Regency, showed active use of the AI application, namely ChatGPT, in creating learning modules for students. Teachers' perspectives

on AI use lead to providing stimulus to assist teachers' work without overly complex thinking. Testing each indicator item, the highest value was in the aspect of ease of use of ChatGPT at 0.115, while the lowest was the intensity of repeated use at 0.084. The results indicate that ChatGPT has become the main tool in terms of the use of learning modules when systematics are needed, not in the intensity of the level of use. The aspect of use is intended to find learning ideas that can serve as references in creating learning modules for the steps of learning activities. Where teachers have limited time in the process of creating as administrative support for learning. Therefore, ChatGpt becomes a solution for teachers in assisting the creation of learning modules without considering the level of quality and creativity of the module. It can be seen from the data in Table 4.1 that the most extreme difference in the quality of the teaching module at 0.128 has indicated that there is an active use of the ChatGPT application. The results of the quality of the teacher learning module are highly manipulative, with the product meeting high structural criteria in terms of conceptual content (material), visual ideas, and language clarity. Therefore, the learning creativity indicator is categorized as quite valid, while the module structure indicator exhibits greater variation. This is demonstrated by the reliability test using statistical data on ChatGPT activities in the teacher learning module at the Raudlatul Atfal Educational Institution in Malang, as shown in table 4.2, as follows:

Table 4.2 Statistics Data on Reliability Test of ChatGPT Usage activity for teacher learning module acquisition

Variable	Reliability Statistics	
	Cronbach's Alpha	**N of Items**
ChatGPT Usage	0,969	15
Teaching Module Variables	0,985	20

Data table 4.2 shows a Cronbach's Alpha analysis of ChatGPT usage and Teaching Module Variables, showing a difference of -0.16 from the statistical data whose consistency has been measured, between 0.969 (ChatGpt) and 0.985 (learning module). This means that the statistical data in the reliability test is related to the use of ChatGPT for several teachers who understand the application in creating learning modules. This is not in terms of generating creative ideas, but rather determining the selection of concepts provided by the application. Therefore, teachers tend to choose quick steps to fulfill teaching administration needs rather than purely creating original products. This application has a significant impact on the world of education, especially on teacher creativity today. Unlike education in the past, when there were not many applications available, teachers chose to buy textbooks to support children's learning. However, with technological developments, teachers can independently create teaching modules, especially if the technology is based on AI (Artificial Intelligence). This has been validated by a validity test on measurement figures (Cronbach's Alpha) between the use of ChatGPT and the Learning Module. This can be seen in Table 4.3 as follows:

Table 4.3 Summary of Validity Tests

Processing Summary Validity Tests			
		N	%
ChatGPT Usage	Valid	48	100,0
	Excluded[a]	0	0,0
	Total	48	100,0
Teaching Module Variables	Valid	47	97,9
	Excluded[b]	1	2,1
	Total	48	100,0

The validity test data between data (X) and data (Y) in table 4.3 shows that the validity reaches 100% for 48 respondents who have used ChatGPT (X). Meanwhile, the validity of the results of the learning module (Y) created through ChatGPT reached 97.9% of 47 respondents, the results show that there are differences in the narrative part of the answers as the content of the concept provided by ChatGPT. without exception with one respondent who uses the application, but still shows the originality of the concept of the teaching material module that has been reviewed in terms of the narrative answers that have been made. but still requires processing sentences in the concept of the material, not just simply following the sentence. The data integrated in the comparison graph of test results, can be seen in figure 4.1, as follows:

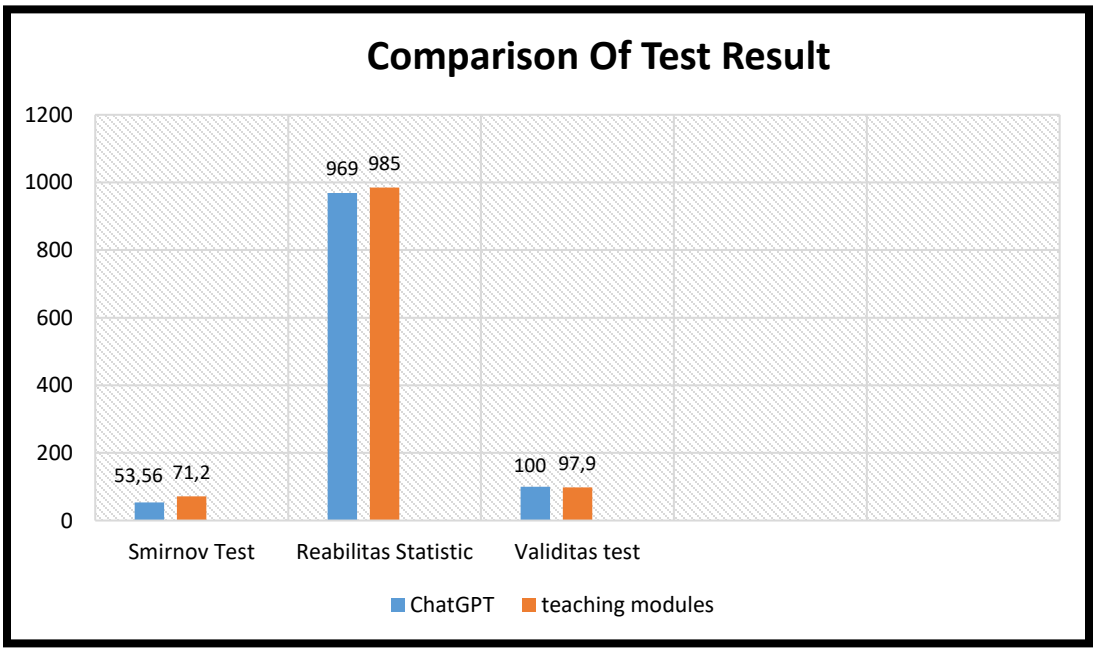

Figure 4.1 Graphic Comparison Of Test in to ChatGPT Usage on Application Of Teaching Module Variables

The average results analyzed in graph 4.1 will undergo further testing to strengthen the statistical data. The aim is to determine the average differences through the regression and residual models in a group of respondents using the ANOVA test. The regression model is used to investigate the relationship between the dependent variable (outcome) and the independent

variable (predictor). Meanwhile, the residual model is used to determine whether the two variables truly have a significant difference. This can be seen in table 4.4 of the ANOVA statistics data, as follows:

Table 4.4 ANOVA Statistics Data (Validity of Chatgpt Usage Variables in Teacher Teaching Modules)

ANOVA[a] Statistics					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Regression	6621,462	1	6621,462	71,965	.000[b]
Residual	4232,455	46	92,010		
Total	10853,917	47			

Table 4.4 presents statistical ANOVA data based on the regression and residual diagnostic model, with a comparison of the average numbers between 6621.462 and 4232.455, indicating that the use of AI is not limited to ChatGPT as a supporting application for teachers in creating learning modules. There are also AI applications that support the creation of these products, such as Canva Magic Audio or Gemini AI. Furthermore, each AI application has different usage characteristics and functions. The created learning modules are structured and clear, without any revision stages carried out gradually by media and material validators. Therefore, the researcher conducted the final stage of the normality test on the statistical coefficients data. The aim was to determine the effectiveness or influence between the two dependent and independent variables in the related research subjects, this can be seen in table 4.5, as follows:

Table 4.5 Data Statistics Coefficients ChatGPT Usage Variables to create Teaching Module Variables

Coefficients[a] Statistics					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	23,141	5,833	0	3,967	0,000
ChatGPT	0,897	0,106	0,781	8,483	0,000

The relationship in Table 4.5 shows a strong positive correlation between the use of ChatGPT and the quality of the teaching module. The regression equation obtained through a constant value of 5.833%, the value of the teaching module without ChatGPT. The regression coefficient of 0.897 indicates that each use of ChatGPT affects the quality of the teaching module. With the final result of 84.83%, ChatGPT has had a significant influence on the creation of learning work that has been created by teachers through learning modules for early childhood. The use of ChatGPT significantly influences the creation of teaching modules. The results of the study indicate that the use of ChatGPT significantly affects the quality of teaching modules for RA

teachers. This finding is in line with previous research showing that AI technology can influence teacher creativity in the efficiency of lesson planning. The use of ChatGPT helps teachers set learning objectives, develop activities, and help enrich the material. This is in line with constructivist theory, which emphasizes the use of technology as a planner in the learning process. Teachers can produce more diverse and context-specific activities but are not original and innovative in learning. This indicates that the teacher's role remains dominant in the module preparation process to strengthen the concept of technology as a pedagogical tool. ChatGPT functions as a cognitive assistant that helps teachers design lessons. Therefore, teachers' creative abilities need to be reexamined in terms of original skills, even when using technology through various applications.

CONCLUSIONS AND SUGGESTIONS

The use of ChatGPT has a positive and significant impact on the creation of learning modules for RA teachers in Malang Regency, East Java. The use of artificial intelligence technology helps teachers in compiling modules, developing learning materials, and clarifying the language used in learning modules. The results of the study also show a very strong relationship between the use of ChatGPT and the quality of the resulting learning modules through Analysis of dependent and independent variables shows a strong interconnection between the use of ChatGPT and the quality of learning modules as much as 84.83% of the variance focuses on the content of the concept. The elaboration system is fixated on AI (ChatGPT) answers. Data reliability validation tests (X) of 100% and validation (Y) of 97.9% have been poured into the form of teacher teaching modules. These findings confirm that integrating AI technology into early childhood education can be part of a digital transformation of learning that supports teacher effectiveness and efficiency. The implications of this study suggest that ChatGPT functions not only as a technical tool but also as a pedagogical support, helping teachers develop more innovative and contextually relevant lesson plans. However, the role of teachers remains a key factor in adapting ChatGPT results to the needs, characteristics, and developmental requirements of early childhood. Therefore, the use of ChatGPT needs to be balanced with teachers' digital literacy skills and pedagogical competencies to ensure the quality of learning modules remains focused and aligned with learning objectives. Based on the research findings, educational institutions and policymakers are advised to provide training on the judicious and effective use of AI to develop learning tools. Further research is expected to expand this study by using a larger sample size and a mixed-methods approach, as well as by examining the impact of ChatGPT on children's learning outcomes, teacher creativity, and learning innovation at various levels of education.

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