



From Awareness to Practice: ChatGPT Integration and Teacher Digital Empowerment in Islamic Religious Education

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Abstract

Artificial intelligence (AI) has significantly transformed educational practices in the digital era. However, the integration of AI-based technologies in Islamic Religious Education (IRE) remains limited due to inadequate digital literacy, limited pedagogical adaptation, and varying levels of teacher readiness in utilizing digital tools effectively. This study examines the role of ChatGPT in enhancing IRE learning and supporting teacher digital empowerment. This research employed a qualitative case study approach involving 26 Islamic education teachers from various educational levels. Data were collected through open-ended questionnaires and analyzed using data reduction, data display, and conclusion-drawing techniques. The findings reveal that although 53.8% of teachers are familiar with ChatGPT, only 30.8% actively use it in the learning process, indicating a considerable gap between awareness and practical implementation. Teachers who utilized ChatGPT reported that it assisted lesson planning, supported the development of learning materials, and improved instructional efficiency. Furthermore, ChatGPT contributed to increasing student engagement, encouraging critical thinking, and expanding access to learning resources. Nevertheless, several challenges remain, including limited digital literacy, potential dependency on AI tools, and concerns regarding content accuracy. This study concludes that ChatGPT has substantial potential to improve the quality of IRE learning and strengthen teachers' digital competencies. The study also contributes theoretically to the discourse on AI integration in Islamic education and practically provides insights for developing more adaptive and technology-oriented learning practices among IRE teachers.

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INTRODUCTION

Artificial intelligence (AI) has experienced rapid development in recent years, marked by the emergence of various applications in the industrial sector. One example is the development of natural language generation systems such as ChatGPT (Fill et al., 2023), which can produce text

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both in written and spoken form (Aydin & Enis, 2023). The benefits of ChatGPT include providing convenient communication and time efficiency (Chu, 2023). However, the use of ChatGPT also requires careful consideration due to its potential positive and negative impacts (Kocoń et al., 2023). Including the spread of unethical content (Mahomed et al., 2024), an increasing digital divide (Khowaja et al., 2023), problems with intelligence threats (Kalla et al., 2023), the spread of false information and invasion of privacy (Gupta et al., 2023), replacement of human labor (Zarifhonarvar, 2024), and neglect of human language skills or dependence on technology (Yankouskaya et al., 2024).

Due to these concerns, different countries have adopted varying approaches toward the use of ChatGPT in education. Some countries, such as France and Australia, tend to limit its use (Nikitina & Tetyana, 2023), while others, such as Singapore, promote its integration into educational systems (Adel et al., 2024). This integration is accompanied by efforts to prepare teachers and students to use AI responsibly (Tam et al., 2023) and to redesign assessment strategies to prevent misuse (Gamage et al., 2023). According to the researcher, various skills are not easily replaced by artificial intelligence tools (Oranga, 2024), such as independent and collaborative learning skills (Rasul, 2023), inventive thinking obtained from leadership roles, project work, and experiential learning (Rasul, 2023).

In educational practice, ChatGPT has demonstrated potential in supporting learning processes, including assisting students in understanding complex materials and helping teachers design instructional content (Murphy et al., 2023). It also enables students to engage in critical thinking through question generation and information analysis (Seo, 2024). At the secondary level, ChatGPT can support learning in various subjects, including mathematics, language, and literature, by providing explanations and step-by-step solutions (Seo, 2024). Additionally, it can assist teachers in creating instructional materials, such as quizzes and exercises, to enhance students' understanding (Rahman & Watanobe, 2023). In the context of Islamic Religious Education, ChatGPT can support teachers in developing learning materials related to Islamic values, moral education, Qur'anic interpretation, and character-building activities. It may also facilitate reflective discussions on ethical issues, religious moderation, and students' daily moral practices, thereby supporting the integration of digital technology with character education.

These challenges become more complex in the context of Islamic Religious Education (IRE), which emphasizes not only cognitive learning outcomes but also moral, spiritual, and contextual dimensions (Azizah et al., 2025). The integration of AI in this field therefore requires careful consideration to ensure that technological use aligns with educational values (Azman & Tümkaya, 2026). Although research on ChatGPT in education has grown rapidly, most studies focus on general educational contexts, while limited attention has been given to its implementation in IRE, particularly regarding teachers' perceptions, levels of usage, and its role in supporting religious and character-based learning. Despite the growing body of research on ChatGPT, most studies focus on general educational contexts, while limited attention has been given to its application in Islamic education. In particular, previous studies have not sufficiently examined several contextual limitations surrounding the integration of ChatGPT in Islamic Religious Education (IRE), such as inadequate digital infrastructure in schools, limited teacher competence in utilizing artificial intelligence-based learning tools, cultural resistance toward AI-assisted religious learning, and ethical concerns regarding the accuracy and appropriateness of religious content generated by AI. These limitations are important because Islamic education involves not only cognitive learning outcomes but also moral, spiritual, and value-based dimensions that require careful pedagogical and ethical consideration. Therefore, further research is needed to explore how ChatGPT can be implemented effectively and responsibly within the unique context of Islamic education (Mainuddin et al., 2025).

In addition, empirical evidence concerning teachers' digital readiness and empowerment in utilizing AI tools within IRE classrooms remains limited (Kotsis, 2025). Teachers were selected as the primary focus of this study because they play a central role in determining how artificial intelligence technologies are adopted, managed, and integrated into classroom practices. In the context of Islamic Religious Education, teachers are not only responsible for delivering knowledge

but also for ensuring the ethical, spiritual, and pedagogical appropriateness of learning materials. Furthermore, teachers' readiness, digital literacy, and ability to adapt pedagogical strategies are critical factors influencing the effective and responsible integration of AI tools such as ChatGPT in educational settings. This gap is important because teachers play a central role in determining the success of technology integration and fostering meaningful digital learning experiences (Abuhassna et al., 2025). Previous studies have also shown that teachers' digital competencies significantly influence the effectiveness of AI-supported learning environments and students' engagement in technology-enhanced education (Aziz et al., 2025). Therefore, investigating teachers' awareness and use of ChatGPT in IRE is essential for understanding how AI can support both instructional quality and character-oriented learning. This study is also relevant to Sustainable Development Goal (SDG) 4, which promotes inclusive and quality education through innovative learning approaches, as well as SDG 9, which encourages innovation and the responsible integration of advanced technologies, including artificial intelligence, in educational systems.

Therefore, this study aims to analyze (1) teachers' level of awareness of ChatGPT, (2) patterns of its use in IRE learning, and (3) its perceived effectiveness in supporting teaching and learning processes. Therefore, this study aims to analyze (1) teachers' level of awareness of ChatGPT, (2) patterns of its use in Islamic Religious Education (IRE) learning, and (3) its perceived effectiveness in supporting teaching and learning processes. Unlike previous studies that primarily focus on the use of ChatGPT in general educational settings, this study specifically explores how IRE teachers perceive and utilize ChatGPT within religious and character-based learning contexts. The novelty of this study lies in its emphasis on the digital empowerment of IRE teachers, particularly in understanding how AI technologies can support pedagogical practices while maintaining moral and religious values in the learning process. This study contributes theoretically by enriching the discourse on AI integration in Islamic education and teacher digital empowerment. Practically, it provides insights for educators and policymakers in designing more adaptive, ethical, and technology-oriented learning strategies while minimizing the potential risks of AI use in religious education.

METHOD

This study employed a qualitative approach with a case study design to examine the role of ChatGPT in enhancing Islamic Religious Education (IRE) learning and supporting teacher digital empowerment (Priya, 2020). A qualitative approach was selected to obtain an in-depth understanding of teachers' experiences, perceptions, and practices in utilizing artificial intelligence in the instructional process. The case study design was chosen because this study focuses on a specific and contextualized phenomenon, namely the use of ChatGPT in IRE learning, which is considered unique as it encompasses not only cognitive aspects but also moral and spiritual dimensions. Therefore, this study provides valuable insights into the opportunities and challenges of integrating artificial intelligence within the context of Islamic education.

The research was conducted in Central Java Province, Indonesia, particularly in several public schools and Madrasahs in Banyumas District. The research was conducted in several public secondary schools and Madrasahs in Banyumas District, Central Java, Indonesia. This study employed a case study approach focusing on teachers of Islamic Religious Education (IRE) working in institutions with varying levels of digital learning implementation. The selected schools and Madrasahs represent both general public schools and Islamic educational institutions under the Ministry of Religious Affairs, providing diverse institutional contexts for examining the integration of ChatGPT in learning practices. Banyumas District was purposively selected because of its growing adoption of digital learning technologies and its representative educational diversity within Central Java. The case boundaries were therefore limited to IRE teachers' awareness, perceptions, and experiences in integrating ChatGPT within these institutional settings. The participants consisted of 26 respondents, including one school principal and 25 Islamic religious education teachers. The distribution of participants included 20 teachers from the primary school level, 4 teachers from the lower secondary school level, and 2 teachers from the upper secondary

school level. Participants were selected using purposive sampling based on specific criteria, namely teachers who actively teach Islamic Religious Education and have experience or familiarity with digital learning technologies. The unequal distribution of participants across educational levels reflects differences in participant accessibility and response rates during the data collection process. Since most participants were drawn from the elementary education level, the findings primarily represent the perspectives and experiences of primary education teachers. Consequently, the interpretation of the results was conducted contextually, with careful consideration that the patterns of ChatGPT use and digital readiness may vary across educational levels.

Data were collected through a Google Forms-based questionnaire consisting entirely of open-ended questions. Data were collected through a Google Forms-based questionnaire consisting entirely of open-ended questions. The use of open-ended questionnaires as the primary data collection technique was intended to provide participants with flexibility in expressing their experiences, perceptions, and opinions regarding the use of ChatGPT in Islamic Religious Education learning. This approach also enabled the researchers to collect qualitative data from participants across different educational levels efficiently while still capturing rich and descriptive responses relevant to the research objectives. These questions were designed to explore in depth teachers' experiences, perceptions, and practices related to the use of ChatGPT in IRE learning, including its benefits, usage patterns, and challenges. Thus, qualitative data were obtained from narrative responses provided by participants, without employing closed-ended questions or conducting direct field interviews. The questionnaire was distributed purposively to selected participants rather than randomly, ensuring consistency with the sampling technique. To ensure the depth and richness of the qualitative data, the questionnaire was designed using exploratory and reflective open-ended questions that encouraged participants to provide detailed explanations of their experiences, perceptions, and teaching practices related to the use of ChatGPT in Islamic Religious Education. Participants were also given sufficient space and flexibility to elaborate on their responses in narrative form. This approach enabled the researchers to capture descriptive and contextually meaningful data despite the absence of direct interviews.

The research instrument was an open-ended questionnaire developed based on key indicators, namely awareness, usage, effectiveness, and challenges in the use of ChatGPT. Data analysis was conducted using the interactive model of Miles et al., as shown in Figure 1 (Miles et.al, 2014):

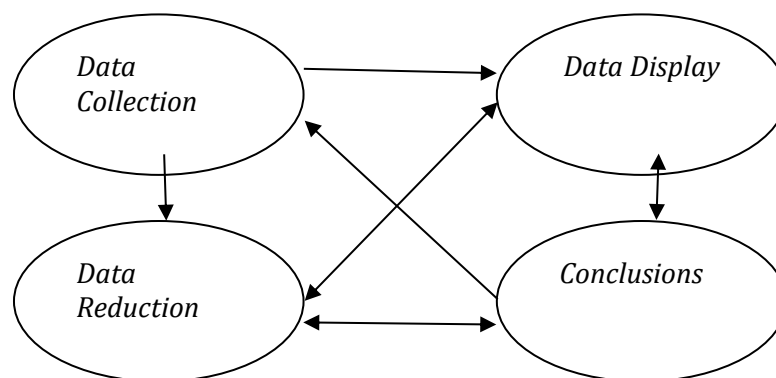


Figure 1. Components of Qualitative Data Analysis

From Figure 1, it can be seen that the first step in the data analysis process is data collection. In this paper, in addition to strengthening the data with various previous studies, it is also supported by the results of questionnaires distributed to the research subjects. Once the data is collected, the next step is data reduction, which involves selecting data that is relevant to the needs of this paper. This provides a clear and concise overview, making it easier to proceed to the next stages. After the data is reduced and displayed, and to facilitate understanding for readers, the data is presented not only in tables but also in diagrams. Once all the data are displayed through these stages, the final step is concluded. In practice, the questionnaire responses were analyzed using

thematic analysis procedures. All participants' responses were first read repeatedly to obtain a comprehensive understanding of the data. During the coding process, important statements and recurring ideas related to the use of ChatGPT in Islamic Religious Education (IRE) were identified and assigned initial codes. Similar codes were then grouped into broader categories and themes, such as teachers' awareness of AI, pedagogical benefits, ethical concerns, and challenges in technology integration. The interpretation process was conducted by relating the identified themes to previous studies and relevant theoretical perspectives in educational technology and digital literacy. This process enabled the researchers to systematically interpret participants' perspectives before concluding.

To enhance the credibility of the data, the researchers conducted repeated readings and cross-checked participants' responses to identify recurring patterns, similarities, and variations. The findings were also compared with relevant previous studies and theoretical perspectives to strengthen the interpretation and consistency of the data analysis.

RESULTS AND DISCUSSION

Development of Artificial Intelligence in the Industrial Revolution 4.0 era

Participants reported that the integration of digital technology, particularly ChatGPT, has influenced their learning experiences in Islamic Religious Education (IRE). Rather than merely functioning as a source of information, ChatGPT was perceived as an interactive learning tool that helped students understand religious materials, answer academic questions, and support independent learning activities. Several participants explained that the platform enabled faster access to explanations related to Islamic concepts and assisted them in completing assignments more efficiently. In addition, participants highlighted that the conversational features of ChatGPT created a more flexible and engaging learning experience, especially when they encountered difficulties in understanding classroom materials. These findings demonstrate that the use of AI-based technology in IRE learning is not only associated with technological advancement but also with changes in students' learning behaviors, learning autonomy, and patterns of interaction with educational resources. This is called smart technology, or artificial intelligence (AI) (Păvăloaia & Necula, 2023). The era of the Industrial Revolution 4.0 creates a necessity for every human being in various fields, such as social, religious, economic, educational, artistic, health, cultural, and communication, to run them on a digital technology base. With the existence of technology, human activities in various fields can be carried out efficiently, easily, and pleasantly.

Artificial intelligence (AI) has become an important part of digital technology development in education, including Islamic Religious Education (IRE). In this study, AI applications such as ChatGPT were utilized by participants to support learning activities, particularly in accessing information, understanding religious materials, and completing academic tasks more efficiently (Doroudi, 2022). From there, AI continues to experience rapid development and has given birth to several algorithms and new techniques that allow machines to be able to learn and carry out solutions like humans. The foundations central to the development of artificial intelligence include facial and written recognition, machine learning, and speech recognition applications (Kufel et al., 2023). There are two AI developments based on usage allocation (Tatineni & Naga, 2024). The first, *weak*, means weak or narrow artificial intelligence, which can be interpreted as an AI development system designed so that it can be trained to carry out certain jobs. Second, strong AI in this category is defined as strong learning. The development of artificial intelligence has cognitive abilities or intelligence possessed by humans in general (Korteling et.al, 2021; Santana & Díaz-Fernández, 2023).

Many changes are predicted to shape future educational practices within the next 5–7 years (Hussin, 2018), including classroom transformation (Jin & Peng, 2022), the integration of virtual and augmented reality (Zadorina et.al, 2024) systems, and the expansion of online learning platforms. However, in the context of Islamic Religious Education (IRE), the implications of AI extend beyond general educational trends. The findings of this study indicate that AI-based tools such as ChatGPT have influenced students' learning behaviors by enabling faster access to Islamic

knowledge, supporting independent learning, and facilitating interactive learning experiences. At the same time, participants also expressed concerns regarding the accuracy and reliability of AI-generated religious information, particularly when discussing sensitive Islamic issues. These findings suggest that although AI has the potential to enhance learning effectiveness and accessibility, the role of teachers remains essential in guiding students' critical understanding, ethical awareness, and verification of religious knowledge in AI-assisted IRE learning (Novia et.al, 2024).

ChatGPT has increasingly been utilized in educational contexts to support interactive learning and information access (Meyer et.al., 2023; Roumeliotis & Tselikas, 2023; Haleem et.al., 2022). In this study, participants reported that ChatGPT assisted them in understanding Islamic learning materials, answering academic questions, and supporting independent learning activities in IRE contexts (Kocoń et al., 2023). Thus, this can happen because ChatGPT can return text data entered by the user (Frandida et.al., 2023). From that, it can be said that ChatGPT can provide answers to questions asked well from the aspect of its arrangement (Javaid et al., 2023), the series between words has the right accuracy (Davis, 2024), and it can memorize previous conversations and produce journals or scientific articles quickly (Zhai & Santoso, 2023). ChatGPT technology can be used in various fields, including education (Yu, 2023). Through the capabilities available in ChatGPT, it can be used as an assistant for the learning process (Özçelik & Gonca, 2024). That's because ChatGPT helps teachers provide answers to students' questions in a timely and short time (Božić & Indrasen, 2023). ChatGPT can ease students' understanding of concepts that are difficult to understand because it provides clearer and easier-to-understand explanations (Liu et.al., 2023; Shoufan, 2023).

The advantages of the first ChatGPT can overcome problems if you have difficulty writing the first sentence when compiling a piece of writing (Barrot, 2023). Second, teachers can easily search for material that is difficult to understand so that it can be an additional reference (Fitria, 2024). Third, for students, it can be used for further knowledge in independent learning activities (Zhai et al., 2021). ChatGPT offers interesting potential, which can help teachers provide learning materials, provide assignment assistance, and act as a virtual assistant for students (Javaid et al., 2023). The existence of ChatGPT for students can help in finding or looking for final project topics that are by the field of study (Xue et al., 2024). The existence of ChatGPT can provide recommendations for final project topics according to students' interests and abilities so that searches for final project topics can be carried out effectively and efficiently (Rasul, 2023).

The disadvantages of ChatGPT, first: learning needs direct interaction by teachers, and there need to be examples in the learning process to achieve academic success, while ChatGPT cannot do this (Uğraş et al., 2024). Second, learning needs creativity to create innovations and new ideas given to students to get feedback that individual students can develop, while ChatGPT doesn't have the creativity that humans have (Rasul, 2023). Third, ChatGPT cannot capture the nuances and learning styles of students, which is very possible because each student has a different learning style (Alnaqbi & Fouda, 2023). Fourth, in the social aspect, relying too much on ChatGPT makes students have an insecure nature because they do not understand how to interact with the social environment. Fifth, from a psychological aspect, relying too much on ChatGPT can weaken students' critical thinking so that when problems arise in students' daily lives, it is difficult to overcome them (Alawida et al., 2024).

Several risks are associated with the use of ChatGPT, particularly concerning data security and the replacement of human jobs (Charfeddine et al., 2024). The primary drawback of ChatGPT is its potential to generate text or responses that may contain bias or inaccurate information (Zhou et al., 2023). In addition, based on searches made through ChatGPT, in terms of references, when searching for such references through Google Scholar, not all references listed on ChatGPT are available in Google Scholar (Walters & Wilder, 2023). From there, it becomes one of the weaknesses of ChatGPT, so when using ChatGPT, especially at the student level, it is necessary to double-check the information provided to ensure that what is displayed is accurate. ChatGPT users should use it as an assistant in solving problems that should be reviewed, not necessarily providing answer results only derived from ChatGPT answers, so that teachers are still able to distinguish between

answers from students who complete their tasks independently and AI-assisted students (George et al., 2023).

To examine the level of awareness of ChatGPT among teachers of Islamic Religious Education (IRE), a questionnaire was distributed to selected respondents using Google Forms. The results of this survey are presented in Figure 2.

Do you know about ChatGPT? (26 responses)

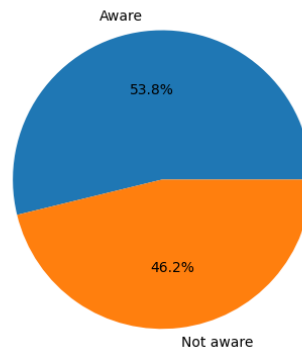


Figure 2. Questionnaire Results 2023

Figure 2 aims to determine how knowledgeable teachers are about ChatGPT. Of the 26 respondents who responded, the percentage rate of those who know about ChatGPT is greater than that of those who do not know about ChatGPT. The percentage of those who know about ChatGPT is 53.8%, while for those who don't know about ChatGPT, the percentage is 46.2%. From that, it is concluded that ChatGPT is known in the world of academia.

Figure 3 presents the proportion of teachers who use ChatGPT in the learning process.

Do you use ChatGPT to support the learning process? (26 responses)

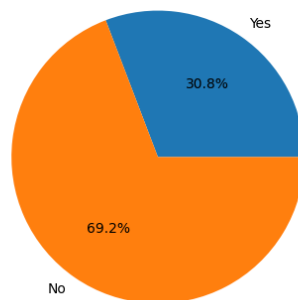


Figure 3. Questionnaire Results 2023

Figure 3 above aims to determine whether teachers use ChatGPT in learning. Of the 26 respondents who have used ChatGPT in learning, only around 30.8% do so, while the remaining 69.2% of IRE teachers do not use ChatGPT in the learning process. From this, it is concluded that although the percentage of knowledge level of IRE teachers among those who know about ChatGPT is higher than that of those who don't know, as shown in Figure 3, not necessarily IRE teachers use ChatGPT in the learning process. Based on the questionnaire results, it was found that teachers use ChatGPT to assist in lesson preparation, such as creating Lesson Plans (Rencana Pelaksanaan Pembelajaran/RPP), searching for learning materials, finding examples of assessment instruments, and locating appropriate learning modules related to the subject matter. This low level of adoption may be influenced by several factors. First, some teachers still have limited digital literacy and lack sufficient understanding of how AI-based technologies can be integrated into IRE learning activities. Second, concerns regarding the accuracy and reliability of AI-generated religious information may reduce teachers' trust in using ChatGPT, particularly in relation to sensitive Islamic topics that require careful interpretation. Third, several teachers may prefer conventional teaching approaches and direct interaction methods that are considered more appropriate for religious education. In addition, limited training opportunities, institutional support, and access to

technological resources may also contribute to the low implementation of ChatGPT in IRE classrooms. These findings indicate that the integration of AI in IRE learning requires not only technological availability but also pedagogical readiness, digital competence, and critical awareness among teachers.

Next, the following figure shows the sources from which teachers obtained information about ChatGPT.

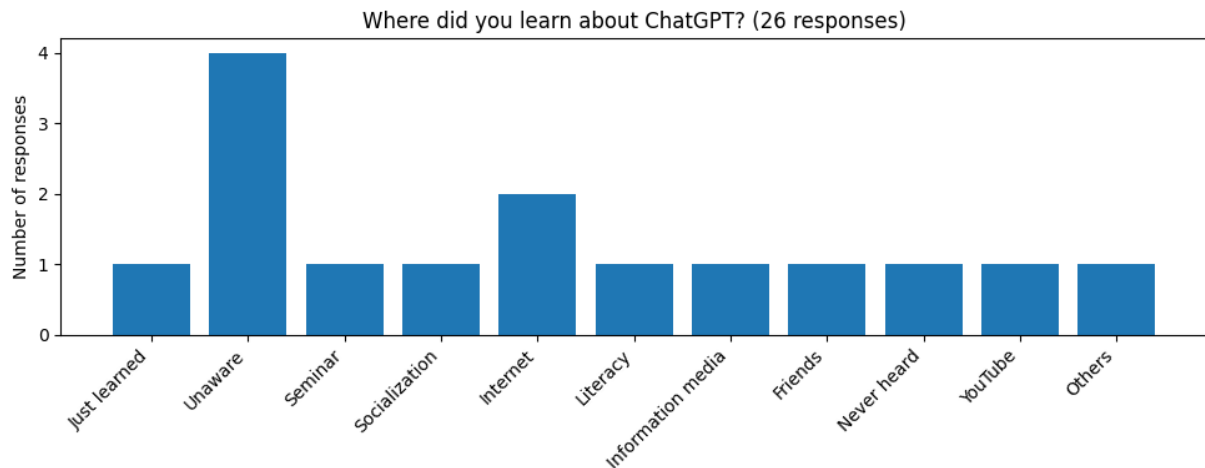


Figure 4. Questionnaire Results 2023

Based on Figure 4, there is some information regarding how respondents learned about ChatGPT. From this information, it can be interpreted that the highest percentage falls into the "unaware" category, at 15.4%, because they had not received any information about ChatGPT. Next, the data for the respondents who were aware of ChatGPT shows that they primarily learned about it from the internet. This percentage is the highest, at 7.7%. In addition, some respondents indicated that they knew about ChatGPT through seminars, socialization activities, literacy resources, or YouTube, with each of these categories contributing an equal percentage of 3.81%. Furthermore, some respondents stated that they had only recently become aware of ChatGPT or had never heard of it, possibly because they felt they did not need to use it. Thus, it can be concluded that the use of ChatGPT is not yet widely known by everyone.

Next, Figure 5 depicts the frequency of ChatGPT usage among teachers in instructional activities.

How often do you use ChatGPT to help with learning?

26 responses

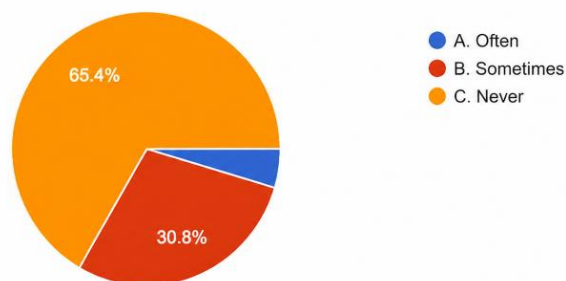


Figure 5. Questionnaire Results 2023

Figure 5 aims to determine how often teachers use ChatGPT to assist in learning. The ChatGPT usage scale for frequent categories only obtained a percentage score of 3.8%; for occasional category usage, it obtained a percentage score of 30.8%; and for the never category, it obtained a percentage score of 65.4%. From this, it can be concluded that although teachers are aware of ChatGPT, its usage in the learning process falls into the "Never" category.

The Effective Role of ChatGPT in Improving the Quality of Learning IRE

To find out the effectiveness of using ChatGPT in improving the quality of IRE learning, the following is presented in Table 1: an interpretation of some previous writings that discuss similar topics.

Table 1. The Effective Role of ChatGPT in Learning Quality

Source	The role of ChatGPT in learning
Windarsih et al., 2024	Prepare a learning implementation plan (RPP)
Lo, 2023	Test students' understanding of the subject matter
Song & Song, 2023	Improvement of students' writing and reasoning skills, student participation and interaction in learning, <i>personalized learning experience</i> , <i>automatic description exam question scoring system</i> , <i>automatic translation</i> , <i>adaptive and active learning</i>
Aji et al., 2024	Development of learning media for teachers
Javaid et al., 2023	Acting as a tool in learning by adjusting to student learning needs

ChatGPT in learning plays a role in the preparation of Learning Implementation Plans (RPP) (Windarsih et al., 2024), testing students' understanding of the subject matter (Lo, 2023), improvement of students' writing and reasoning skills, student participation and interaction in learning, experience personalize learning, automatic description exam question scoring system, automatic translation, adaptive and active learning (Song & Song, 2023), development of learning media for teachers (Aji et al., 2024), as well as acting as tools in learning by adjusting to student learning needs (Javaid et al., 2023). Based on the results of questionnaires completed by IRE teachers who use ChatGPT in teaching Islamic religious subjects, it was found that ChatGPT assists teachers in finding additional materials that are not available in textbooks and in preparing lesson plans (RPP). Several participants explained that ChatGPT helped them access broader references and organize learning materials more efficiently. One participant stated, "ChatGPT helps me find supporting Islamic materials that are not fully explained in the textbooks." Another participant noted, "I use ChatGPT to assist in preparing lesson plans and developing learning activities more quickly." These responses indicate that ChatGPT is perceived not only as an information source but also as a practical tool that supports teachers' instructional preparation and learning management in IRE contexts (Source: Questionnaire results, 2023).

The use of ChatGPT in IRE learning was perceived as beneficial in supporting teachers' instructional preparation, particularly in developing lesson plans (RPP). Participants indicated that ChatGPT helped them organize learning activities more efficiently and provided alternative ideas for classroom instruction. Nevertheless, teachers emphasized that the generated content still required adjustment to educational regulations, learning objectives, and ethical considerations in IRE teaching. These findings suggest that although ChatGPT can support instructional planning, the role of teachers remains essential in evaluating and contextualizing AI-generated materials before implementation in the classroom (Windarsih et al., 2024). ChatGPT plays a role in testing students' understanding of the subject matter (Lo, 2023). If IRE teachers use ChatGPT for this purpose, the testing process can be carried out effectively and efficiently. In addition, it can train teachers and students to think critically. The thing that needs to be considered for teachers is the need to double-check on reliable reference sources whether the results of ChatGPT are accurate or not, especially if the problem is related to the content of Qur'anic verses and Hadith, so as not to cause misinterpretation.

The roles of ChatGPT are improving students' writing and reasoning skills; student participation and interaction in learning; experience personalizing learning; an automatic description exam question scoring system; automatic translation; and adaptive and active learning (Song & Song, 2023). From this, the existence of ChatGPT can help students find out whether the information displayed on ChatGPT is accurate or not. In addition, each of the students is ensured to have different views so that they can exchange information with each other and indirectly create active and adaptive learning conditions. The fourth relates to the development of learning media for teachers (Aji et al., 2024). The existence of ChatGPT makes it easier for IRE teachers to find

learning materials along with reference sources that can be used. However, every IRE teacher who uses ChatGPT needs to ensure that the information displayed matches the references shown on ChatGPT so that it can be proven accurately.

The five roles of ChatGPT as a tool in learning are adjusted to student learning needs. The existence of ChatGPT can make it easy for IRE teachers to provide certain explanations or concepts to students, and students can understand the explanation of the material easily. In addition, the existence of ChatGPT can facilitate IRE teachers in the process of making assignments or quizzes in preparation for conducting exams for students. This is because teachers are given the convenience of ChatGPT to obtain the widest possible information, especially for material that is not explained in the available books. The use of ChatGPT in learning can be done by providing specific questions about certain topics to make learning conditions more interesting and interactive. For example, by creating conversational simulations or text-based games. Next, teachers need to design learning designs assisted by available tools (Javaid et al., 2023).

Implications of ChatGPT in IRE Learning

In this section, there are several interpretations of the results of previous writings that discuss the implications of ChatGPT in IRE learning. This can be seen in Table 2:

Table 2. Implications of ChatGPT in Learning

Source	Implications of ChatGPT in learning
Cetin et al., 2024	Making students lazy for literacy
Ali et al., 2023	Increase enthusiasm for learning and provide ease in obtaining information
Su & Tran, 2024	Making students uncreative and lazy to think
Yilmaz & Yilmaz, 2023	Causes a lack of creativity, reduces literacy levels, and makes lazy thinking and looking for information
Mbwillo, 2023	Improve learning experience, student engagement, competency-based learning, learning in foreign languages, and educational accessibility

ChatGPT provides both positive and negative implications for learning. The findings of this study support previous research indicating that AI-based technologies can enhance learning accessibility, support independent learning, and assist teachers in instructional preparation. Participants in this study similarly reported that ChatGPT helped them obtain additional Islamic learning materials, organize lesson plans, and facilitate faster access to information. These findings reinforce earlier studies emphasizing the practical benefits of AI in educational contexts. However, this study also extends previous research by highlighting specific challenges in Islamic Religious Education (IRE), particularly related to the accuracy, interpretation, and ethical use of AI-generated religious information. Participants expressed concerns that excessive dependence on ChatGPT could reduce critical thinking and weaken direct interaction between teachers and students. Therefore, this study contributes to the existing literature by demonstrating that the integration of AI in IRE learning requires not only technological adoption but also critical digital literacy, ethical supervision, and the active role of teachers in validating religious content. ChatGPT provides several positive and negative implications for learning. The positive implications of ChatGPT are that it can increase students' enthusiasm for learning and ease the process of finding information (Ali et al., 2023). In addition, ChatGPT can enhance the learning experience, increase student engagement, enhance competency-based learning, improve learning in foreign languages, and improve educational accessibility (Mbwillo, 2023). However, it is undeniable that the existence of ChatGPT also has negative implications, namely reducing the level of literacy so that student creativity becomes low because they are too lazy to think and find information (Cetin et al., 2024; Su & Tran, 2024; Yilmaz & Yilmaz, 2023). Based on the results of the questionnaire prepared, the positive implications of ChatGPT are that it is a medium for increasing insight because of its sophistication, making it easier, especially for teachers, to find additional material, helping smooth teaching and learning activities, creating interesting learning conditions, making it easier to work on questions, and making it more time-efficient (questionnaire results, 2023). The negative impact

of ChatGPT is that it makes students dependent on using it, and specifically for IRE subjects, it does not cover all aspects, only the cognitive aspects (questionnaire results, 2023).

It can be interpreted as having positive implications for ChatGPT when applied to IRE subjects, allowing it to create teaching and learning conditions that are different from what is usually done. Students do not feel bored and can create enthusiasm to follow learning. The negative implications of ChatGPT can cause dependency, so students will lazily seek information from various sources because they depend only on the results displayed on ChatGPT. Thus, there is a need for guidance from IRE teachers, who still limit the use of ChatGPT. In addition, IRE teachers who use ChatGPT need to check reliable sources for the results displayed. This is to anticipate misunderstandings due to differences in information from several sources with search results using ChatGPT. Especially when checking the references displayed by ChatGPT, some references are not found on the Google Scholar page, thus raising concerns about the accuracy of the information shown.

LIMITATION

This study has several limitations that should be considered. First, the relatively small sample size of only 26 respondents limits the generalizability of the findings to a wider population. Second, the use of questionnaires via Google Forms as the primary data collection method may introduce response bias and relies heavily on self-reported data without direct observation. Third, the qualitative descriptive approach with limited in-depth exploration may not fully capture the complexity of teachers' experiences in using ChatGPT in IRE. Additionally, the scope of this study is restricted to Islamic Religious Education (IRE) subjects, making it less representative of other disciplines. Finally, the rapid development of artificial intelligence technology may affect the relevance of the findings over time, and this study does not deeply address technical, ethical, and long-term impacts of ChatGPT use, which require further investigation.

CONCLUSION

The era of Industrial Revolution 4.0 is marked by the development of smart technology, or artificial intelligence (AI), making it more convenient, especially in education. One AI that is often in the spotlight because of the large number of users, both teaching staff and students, is ChatGPT. The use of ChatGPT is considered quite effective because it is able to provide various information needed to create increased educational accessibility. However, as a ChatGPT user, it is necessary to be a wise user because it is very possible for inaccuracies in the information received. Especially related to IRE subjects, it is feared that it will cause misinterpretation between existing legal sources and ChatGPT results. Therefore, teachers of IRE or teachers who teach Islamic religious science subjects need to limit the use of ChatGPT and continue to check the results displayed to prevent disputes of views.

AUTHOR CONTRIBUTIONS

SS: Conceptualization, methodology, supervision, project administration, writing original draft. KF: Investigation, data collection, formal analysis, writing—original draft. SA: Methodology, validation, formal analysis. IH: Investigation, data curation. EA: Formal analysis, validation, visualization. ES: Literature review, data interpretation, validation. AR: Investigation, data curation, literature review. ZN: Supervision, methodology, validation.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this work, the authors used ChatGPT (OpenAI) for language editing and improving the readability of the manuscript. The authors subsequently reviewed and edited the content as necessary and take full responsibility for the content of the publication.

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