

**THE IMPACT OF ARTIFICIAL INTELLIGENCE (AI) ON STUDENT CHARACTER DEVELOPMENT AT MADRASAH ALIYAH**Hamzah Irfanda<sup>1</sup>, Wedra Aprison<sup>2</sup>, Nurhasnah<sup>3</sup>**\*Correspondence :**  
Email : auhtors@ac.id**Authors Affiliation:**<sup>1</sup>Universitas Islam Negeri Sjech M. Djamil Djambang Bukittinggi, Indonesia<sup>2</sup>University Putra Malaysia, Selangor, Malaysia<sup>3</sup>Cambera University, Australia**Article History :**

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**Keyword :** Artificial Intelligence (AI), Character**Kata Kunci :** Kecerdasan Buatan (AI), Karakter**Abstract** (Tahoma 8, Bold, Line Spacing 1, Spacing before 6 pt, Spacing after 2 pt)

Along with the rapid development of artificial intelligence (AI) technology, its use has now penetrated the world of education, including in madrasah aliyah. AI has become an integral part of teaching and learning activities, both for completing assignments, finding references, and communicating online with teachers and fellow students. This phenomenon indicates that AI has the potential to facilitate access to information and accelerate academic work. However, behind these benefits, excessive use of AI can affect students' character building, especially in the aspects of responsibility, independence, and critical thinking skills. Therefore, this research is relevant to understand how much influence AI has on students' character development in madrasah aliyah. This research uses *afield* research with a qualitative approach. Data were collected through questionnaires or interviews, so the source of data came from respondents, namely individuals who answered the researcher's questions. Data analysis is carried out through the stages of data condensation, data presentation, and conclusion drawing. The use of artificial intelligence (AI) in learning has a mixed impact on students' character, especially in terms of decision-making skills, sense of responsibility, communication skills, ability to overcome difficulties, and self-confidence. Most students feel that AI helps them to speed up the learning process, improve efficiency, and provide references that enrich their knowledge. However, there are also concerns that over-reliance on ai may reduce their critical thinking, deep understanding, and social skills. Therefore, while AI can be a valuable support tool, the use of this technology needs to be accompanied by the awareness not to neglect the learning process that is fundamental and important in shaping students' character.

**Abstrak** (Tahoma 8, Bold, Line Spacing 1, Spacing before 6 pt, Spacing after 2 pt)

Seiring dengan pesatnya perkembangan teknologi kecerdasan buatan (AI), penggunaannya kini telah merambah dunia pendidikan, termasuk di madrasah aliyah. AI menjadi bagian integral dalam kegiatan belajar mengajar, baik untuk menyelesaikan tugas, mencari referensi, maupun berkomunikasi secara online dengan guru dan sesama siswa. Fenomena ini mengindikasikan bahwa ai memiliki potensi untuk mempermudah akses terhadap informasi serta mempercepat pengerjaan tugas akademik. Namun, di balik manfaat tersebut, penggunaan AI yang berlebihan dapat berpengaruh pada pembentukan karakter siswa, khususnya dalam aspek tanggung jawab, kemandirian, dan kemampuan berpikir kritis. Oleh karena itu, penelitian ini menjadi relevan untuk memahami seberapa besar pengaruh AI terhadap perkembangan karakter siswa di madrasah aliyah. Penelitian ini menggunakan jenis penelitian lapangan (*field research*) dengan pendekatan kualitatif. Data dikumpulkan melalui kuesioner atau wawancara, sehingga sumber data berasal dari responden, yakni individu yang menjawab pertanyaan peneliti. Analisis data dilakukan melalui tahapan kondensasi data, penyajian data, serta penarikan kesimpulan. Penggunaan kecerdasan buatan (AI) dalam pembelajaran memiliki dampak yang beragam terhadap karakter siswa, terutama dalam hal keterampilan pengambilan keputusan, rasa tanggung jawab, keterampilan komunikasi, kemampuan mengatasi kesulitan, dan rasa percaya diri. Sebagian besar siswa merasa bahwa ai membantu mereka dalam mempercepat proses pembelajaran, meningkatkan efisiensi, serta menyediakan referensi yang



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memperkaya wawasan mereka. Namun, terdapat juga kekhawatiran bahwa ketergantungan berlebihan pada ai dapat mengurangi kemampuan berpikir kritis, pemahaman mendalam, dan keterampilan sosial mereka. Oleh karena itu, meskipun AI dapat menjadi alat pendukung yang berharga, penggunaan teknologi ini perlu disertai dengan kesadaran untuk tidak mengabaikan proses pembelajaran yang fundamental dan penting dalam pembentukan karakter siswa.

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## INTRODUCTION

*Artificial intelligence*, or *artificial intelligence* in foreign languages, comes from the Latin word “intelligo” which means “I understand” (Najib & Darnoto, 2024). Hence, *intelligence* refers to the ability to understand and act intelligently. Artificial intelligence began to emerge in the 1940s, although traces of its development can be traced back to ancient Egyptian times. The main focus of artificial intelligence is the ability of computers to mimic human intelligence. Along with the rapid development of artificial intelligence (AI) technology, its use has now penetrated the world of education, including in madrasah aliyah. AI is becoming an integral part of teaching and learning activities (Dwi Aulia et al., 2024), either to complete assignments, find references, or communicate online with teachers and fellow students. This phenomenon indicates that AI has the potential to facilitate access to information and accelerate academic work. However, behind these benefits, excessive use of AI can affect students' character building, especially in the aspect of responsibility, independence, and critical thinking skills. Therefore, this research is relevant to understand how much influence ai has on students' character development in madrasah aliyah.

While many studies have highlighted the benefits of AI in improving technical and academic skills, there are limited studies that focus on its impact on non-academic aspects such as character building. AI or artificial intelligence means different things to different people. However, all agree that AI will have a significant impact on human work, education, and social life in the future (Lukman et al., 2023). This study is based on the awareness of students in madrasah aliyah of the negative impact of excessive AI use, which can degrade their quality of life. However, the students face difficulties to reduce or limit the use of AI as it has become part of their daily habits. For example, they often utilize AI in writing papers, journals, proposals, essays, as well as to answer questions from teachers or friends in academic discussions.

Based on preliminary observations, students who depend on ai too often tend to show a decrease in responsibility and motivation to learn the material in depth. It is feared that this over-reliance could reduce students' ability to think critically and solve problems independently. This suggests a void of study that needs to be explored more deeply regarding the impact of AI not only from a technical perspective, but also in terms of student character building.

This study aims to fill this gap by examining how the use of ai affects the character of madrasah aliyah students, particularly in relation to the aspects of discipline, independence and responsibility. The study also aims to assess whether ai can make a positive contribution to character development when used wisely and responsibly. Thus, this study seeks to see ai not only as a technical learning tool, but also as a potential factor that can shape students' attitudes and behaviors in the long run.

Furthermore, amidst growing concerns about students' dependence on AI, this research is expected to provide a more comprehensive picture of how AI can be effectively integrated in the educational process without neglecting students' character development. A balanced approach between technology utilization and character building is expected to equip students with stronger critical thinking skills, responsibility, and independence.

Based on this explanation, the hypothesis proposed is: "the use of AI in learning in madrasah aliyah has an impact on student character development, where appropriate use can influence positive characters such as independence and responsibility, while excessive use has the potential to reduce motivation and critical thinking skills." This study seeks to test this hypothesis and provide recommendations regarding the optimal utilization of AI in the madrasah aliyah education environment.

## METHODS

This research uses a type of field research with a qualitative approach. The qualitative approach aims to understand the phenomena experienced by research subjects, such as behavior, perceptions, motivations, and actions, thoroughly through descriptions in the form of words and language in a natural context, by utilizing natural methods (kuntjojo, 2009).

Data is collected through questionnaires or interviews, so the source of data comes from respondents, namely individuals who answer researchers' questions (arikunto, 1991). Data analysis is carried out through the stages of data condensation, data presentation, and conclusion drawing.

## RESULT AND DISCUSSION

### RESULT

The findings in this study are that almost all students have used ai in learning, whether it is for doing assignments at school or outside of school hours. In this study, it is limited to five indicators of student character that are seen as the impact of using ai in learning, namely decision-making skills, a sense of responsibility in learning, communication and collaboration skills, facing difficulties in learning, and confidence in doing assignments, as follows (Keagamaan, 2024):

#### 1. Decision-making skills

On whether the use of AI in learning can teach better decision-making skills. Most respondents agreed that AI helps them in decision-making, mainly because it provides various references and guides that make it easier to sort out information wisely. AI is also perceived to help enrich insights and provide a wider range of options, thus supporting better and more targeted decisions.

However, there is also the opposite opinion, where too much reliance on ai can actually reduce the ability to think critically and independently. Some respondents felt that decisions should come from one's own thinking, not from the influence of technology. It is feared that reliance on AI can erode analytical skills and reduce confidence in decisions made. For them, AI serves more as a support tool, not as a substitute for human thought processes.

#### 2. Sense of responsibility in learning

From the responses given, the majority of respondents stated that ai technology can encourage them to be more responsible in their learning. AI is seen as making it easier to complete assignments, especially when time is limited, thus helping students to be more disciplined in completing assignments on time. Some respondents also felt more motivated to complete assignments well because of the ease that ai offers in finding information and organizing answers efficiently.

However, there was also a different view, where some respondents felt that ai did not fully encourage learning responsibility. They admit that although ai makes it easier to find answers, they often just look for information without really understanding the material. This suggests that the use of ai in learning, while beneficial, does not necessarily guarantee increased responsibility if it is not matched by deep understanding and reflection from the students themselves.

#### 3. Communication and collaboration skills with peers

Based on the responses, there are mixed views on whether AI technology helps students develop communication and collaboration skills with peers. Most respondents agreed that AI can facilitate collaboration, especially in the context of completing group tasks and speeding up communication, for example through platforms such as WhatsApp. AI is also perceived to make it easier to understand language, which can indirectly improve communication skills.

However, there were also respondents who felt that the use of AI did not contribute significantly to improving communication and collaboration skills. Some of them prefer to use AI for individual purposes, such as finding information or completing tasks, without involving interaction with others. In addition, there was a concern that relying too much on AI could reduce social skills and adaptation to face-to-face interactions with friends. This suggests that while AI can support collaboration, its impact depends on how it is used and how often interactions are conducted without the technology.

#### 4. Attitude towards learning challenges or difficulties

From the responses given, the majority of respondents stated that the use of AI was helpful in dealing with learning challenges or difficulties. AI makes it easier to access the sources of information needed, so students can find solutions more quickly when they are stuck in understanding material or completing assignments. Some respondents felt that AI made them more thorough and purposeful in their search for knowledge, thus facilitating the learning process in a more efficient and structured way.

On the other hand, there were also respondents who were concerned that reliance on AI could reduce their motivation to read independently and understand the material more deeply. Some felt that AI is only a tool and not always effective in promoting deeper understanding. While AI can provide answers instantly, not all students feel an improvement in long-term learning skills, especially if they only focus on quick results without putting more effort into processing the information.

#### 5. Confidence in doing assignments or exams

Based on the responses collected, there are mixed views on the extent to which AI technology plays a role in improving students' confidence in doing assignments or exams. Some respondents feel that AI helps them feel more confident as the information presented is usually complete, detailed and supported by various reliable sources. AI also allows students to prepare better before exams by studying the material in more depth and going over related questions.

However, some respondents indicated that AI did not always have a positive impact on confidence. Some felt that the answers from AI were not always correct, so they became hesitant and less confident when they had to rely on it. In addition, some students found it difficult to understand the material presented by AI compared to direct explanation from the teacher. This shows that while AI can be an effective tool, not all students are comfortable or fully assisted by this technology, especially when deep understanding and confidence in the knowledge gained are important factors in building confidence.

Based on the questionnaire results collected, it appears that the use of AI in learning has a diverse impact on students' skills, ranging from decision-making, responsibility, communication, to self-confidence. While some students find AI helpful for improving efficiency in learning and completing tasks, many are concerned about the potential for dependency on this technology. This implication suggests that while AI has the potential to enhance learning, its unwise use can erode students' critical thinking, in-depth analysis, and independence. Therefore, it is important to re-evaluate the role of AI in the educational process so that it serves not only as a tool, but also as a means of supporting the development of more holistic thinking skills.

## **DISCUSSION**

The development of artificial intelligence (AI) will bring big changes in the world of education, including Indonesia. Google's vice president for education, Shantanu Sinha, explained that AI has a number of advantages and negative impacts in the context of education. He said that AI has great potential to continue to grow in the future and help in the digitization of education. The first trend explained by Sinha is the personalization of learning. Each individual and student is considered unique, so they need a personalized approach to learning. Technology, particularly ai, can provide personalized interaction and guidance to students, which will significantly increase student engagement and motivation towards the learning material (Muttaqin et al., 2023).

Artificial intelligence (AI) has experienced various ups and downs over the years, mostly due to a lack of clear understanding of what AI actually is or what its purpose is. One of the main culprits is the misrepresentation that movies, television shows, and books often present, creating unrealistic expectations of AI's capabilities. In addition, the human tendency to attribute human characteristics to technology makes ai seem as if it should accomplish more than what it is supposed to (Santoso, 2023). Generative AI has significant potential to support education by providing diverse teaching materials and enabling more personalized learning. However, one of the main risks is the possibility of inaccurate information. This can affect the quality of learning, confuse students, and potentially negatively impact their academic outcomes (Efgivia, 2024).

Teaching high school students how to utilize artificial intelligence in learning can have a significant positive impact on both students and the education system as a whole, provided it is implemented appropriately. Training in the use of AI plays an important role in developing students' technological skills. Some of the possible impacts includ (Setiawi et al., 2024):

1. Deeper understanding of technology: learning about AI can help students understand the basic concepts of artificial intelligence and related technologies such as machine learning and data analytics. This provides a deeper insight into how the technology works and its application in various sectors.
2. Strengthening technical skills: through AI education, students can acquire technical skills relevant to today's digital age. They can study topics such as computing, programming, statistical analysis, as well as AI-related programming languages such as python.
3. Enhance creativity: by understanding the capabilities of artificial intelligence, students can develop their creativity by utilizing this technology in various projects and solutions. They can design new applications, programs, or tools that optimize the potential of ai.
4. Introduction to careers in technology: an introduction to AI helps students discover various career opportunities in the technology sector. This can encourage them to pursue studies in related fields or even consider a career in the industry.
5. More complex problem solving: artificial intelligence is often applied to solve complex problems. Through this training, students can improve their problem-solving skills by applying AI principles in creating solutions.
6. Interdisciplinary collaboration: in AI training, students can be taught to combine ai concepts with other fields such as social sciences, natural sciences, or healthcare. This encourages cross-disciplinary collaboration that can lead to more diverse innovations.
7. Improve digital literacy: in the digital age, digital literacy is essential. An ai education helps students understand the technical and ethical aspects of using technology, including issues of privacy, security, and social impact.
8. Understanding technology ethics and responsibility: students are also taught about the ethical implications of using AI, including awareness of algorithms that can be misleading, privacy issues, and the social impact of artificial intelligence technology.

9. **Adaptability:** Technology continues to evolve rapidly. AI training helps students develop adaptability to technological change and maintain a desire for lifelong learning.
10. **Preparing for the future:** the use of artificial intelligence is becoming more common in almost all industries. Students trained in the use of artificial intelligence are better prepared to face future challenges in an increasingly automated and connected world.

Teaching high school students to utilize artificial intelligence in learning can have a significant positive impact, especially in student character development. One of the main aspects affected is collaboration skills. In AI training, students not only learn about the technology, but are also invited to work together on projects involving various disciplines. This develops their skills in collaborating, sharing ideas, and combining different perspectives to come up with better solutions. In addition, AI learning also teaches students about their responsibilities towards technology, including an understanding of the ethical and social impacts of artificial intelligence. Students learn to consider the implications of privacy, security, and potential algorithm errors that can affect many people. By understanding how technology works and its impact on society, students can develop a greater sense of responsibility towards its use. The training also shapes students' adaptability to technological change, which is essential for dealing with an ever-evolving world, as well as preparing them to become more prepared, creative and responsible individuals in the face of future challenges.

Character can be defined as morals and manners, so the character of a nation is the same as the morals or manners of that nation. A nation with character is a nation that has good morals and manners, while a nation without character is a nation that lacks or does not have morals, and does not have good standards of norms and behavior (Tsauri, 2015). Habit is one of the important factors in human behavior, because the attitudes and actions that form morals (character) are closely related to habits. Habits refer to actions that are done repeatedly so that they become easier to do. This habit factor plays a crucial role in shaping and fostering morals (character). Therefore, it is important for humans to get used to repeating good actions, so that they become habits and form good morals in themselves (Gunawan, 2022).

Based on the results of presidential regulation (Perpres) number 87 of 2017, there are 4 kinds of good character dimensions to support character strengthening programs, including the ethical dimension (olah hati), literacy dimension (olah pikiran), aesthetic dimension (olah rasa), kinesthetic dimension (olahraga). The following is an explanation of each of the various dimensions of good character (Dirsa et al., 2022).

*Character Count Usa* suggests ten basic human characters that can be developed, namely: 1) trustworthiness; 2) respect; 3) caring; 4) fairness; 5) responsibility; 6) citizenship; 7) honesty; 8) courage; 9) diligence; 10) integrity (Ramli, 2020). In this study, it is limited to five indicators of student character that are seen as the impact of using ai in learning, namely decision-making skills, a sense of responsibility in learning, communication and collaboration skills, facing difficulties in learning, and confidence in doing tasks.

There were mixed views among students regarding the use of AI in learning as a tool to teach decision-making skills. Some respondents stated that AI helps them in this process, mainly due to its ability to provide a variety of references and guides that allow students to sort through information more wisely. With AI, students find it helpful in enriching their horizons and having more options to consider, thus supporting them in making more informed and purposeful decisions (Anderson & Smith, 2022). However, there are also respondents who argue that over-reliance on ai can actually weaken critical thinking skills and independence in making decisions. They believe that decisions should be based on independent thinking, rather than relying on technology that provides answers instantly. Dependence on AI can erode analytical skills and reduce confidence in the independent decision-making process (Johnson, 2023). Thus, while AI can be a valuable support tool, its excessive use needs to be cautioned against reducing cognitive abilities that are essential to students' character development.

Most students consider AI technology as an effective tool to encourage responsibility in learning. AI is considered to be very helpful in helping them complete assignments quickly, especially when facing tight deadlines. Respondents felt more disciplined because of the ease AI offers in accessing information and organizing answers more efficiently, which motivates them to complete assignments on time (Johnson & Miller, 2022). However, this view was not fully shared by all respondents. Some students revealed that while AI makes it easier to find answers, they often focus on the end result without really understanding the material. This suggests that while AI can facilitate the learning process, its excessive use without deep understanding risks diminishing the responsibility of real learning (Lee & Thompson, 2023). Thus, AI can be a valuable support tool, but it still requires awareness from students to use this technology wisely so as not to neglect the fundamental learning process.

Most respondents recognized that AI technology can help them in developing communication and collaboration skills, especially in completing group tasks. The use of AI is perceived as speeding up the process of sharing information and facilitating discussions through digital communication platforms such as WhatsApp. In addition, AI's ability to facilitate language comprehension also contributes to the improvement of communication skills indirectly (Brown & Harris, 2022). However, some respondents revealed that the role of AI in communication and collaboration is not very significant, especially for those who prefer to use AI for individual purposes. They felt that AI was more useful in finding information or completing personal tasks without involving collaboration with friends. Concerns were also raised about AI dependency potentially reducing social skills and adaptability in face-to-face interactions (Lee & Thompson, 2023). These results suggest that while AI has the potential to support collaboration, its effectiveness depends largely on how it is used and how often students engage in direct interaction without the aid of technology.

Most respondents perceived positive benefits from using AI in overcoming learning challenges. Respondents see AI as a tool that makes it easier to access various sources of information, helping them to find solutions quickly when they have difficulty understanding material or completing assignments. AI is also perceived to increase students' rigor and focus in their quest for knowledge, making the learning process more efficient and purposeful (Johnson & Miller, 2022). However, a different view was expressed by some respondents who were concerned that reliance on AI could reduce motivation to read and understand the material independently. For them, AI only serves as a tool and is not always effective in enhancing deep understanding, especially if students only rely on instant answers without trying to process the information more critically. This indicates that while AI can be helpful in the short term, unwise use can limit the development of deeper and sustainable learning skills.

Students' views on the impact of AI technology on their confidence in doing assignments or exams were quite varied. Most respondents stated that AI helped boost their confidence due to its ability to present complete, detailed information supported by reliable sources. With AI, students feel better prepared for exams because they can study the material in more depth and practice related questions before the exam (Smith, 2023). However, on the other hand, there are respondents who actually feel hesitant when using AI. Confidence in the accuracy of the answers provided by AI, so this actually lowers one's confidence (Davis, 2023). In addition, the difficulty of understanding the material presented by AI compared to direct explanation from the teacher is also a challenge for some students (Davis, 2023). The findings emphasize that while AI can be a useful tool, its effectiveness in improving self-confidence depends largely on students' understanding of and trust in the information obtained from this technology.

It can be concluded that while AI technology has a significant impact on students' character development, the results of this study show mixed views regarding its impact on various character indicators, such as decision-making skills, sense of responsibility, communication and collaboration skills, ability to deal with difficulties, and self-confidence. AI

has the potential to enrich the learning process and improve students' efficiency, but its use needs to be accompanied by the awareness not to replace critical thinking and deep understanding. Therefore, it is important for educators and students to utilize AI wisely to optimize its positive impact without compromising holistic character development.

## **CONCLUSION**

The use of artificial intelligence (AI) in learning has a mixed impact on students' character, especially in terms of decision-making skills, sense of responsibility, communication skills, ability to overcome difficulties, and self-confidence. Most students feel that AI helps them to speed up the learning process, improve efficiency, and provide references that enrich their horizons. However, there are also concerns that over-reliance on AI may reduce their critical thinking, deep understanding, and social skills. Therefore, while AI can be a valuable support tool, the use of this technology needs to be accompanied by the awareness not to neglect the learning process which is fundamental and important in the formation of students' character.

Based on these findings, it is recommended that schools and educators integrate AI technology in learning with a balanced approach. Training on the wise use of AI can be provided so that students do not only rely on technology for instant answers, but also encourage them to understand the material deeply and utilize AI as a complement to learning. In addition, there is a need to strengthen more interactive and collaborative learning methods so that students continue to hone their communication and critical thinking skills directly. Teachers can also provide direction to use AI as a supporting tool that can enrich insights, but still emphasize the importance of digital literacy and responsibility in processing the information obtained.

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