The Potential of Use Artificial Intelligence in Implementing Character Education in Arabic Language Subjects

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Abstract:
This study aims to examine one approach to addressing the nation's character issues by utilizing artificial intelligence as a means to instill character values in Arabic language learning. The research method used in this study is literature review, focusing on the latest scientific studies from the past five years, with the subjects being artificial intelligence, character education, and Arabic language. The findings of this study indicate that artificial intelligence, commonly used as a tool for Arabic language learning, has the potential to be optimized for character education during the learning process. From the study's results, it is concluded that this approach can be implemented by utilizing artificial intelligence as an aid in creating Arabic language learning content, which includes both explicit skills and hidden character values. Therefore, students using this material are expected to be encouraged to develop positive personalities and characters, thus reducing bullying or other misbehavior among students.

Keywords: Artificial Intelligence; Character Education; Arabic
Potensi Penggunaan Kecerdasan Buatan dalam Implementasi Pendidikan Karakter pada Mata Pelajaran Bahasa Arab

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Abstrak:
Penelitian ini memiliki tujuan untuk menelaah salah satu pendekatan dalam penguraian masalah karakter bangsa tersebut yaitu dengan memanfaatkan kecerdasan buatan sebagai sarana untuk menanamkan nilai-nilai karakter dalam pembelajaran bahasa Arab. Metode penelitian yang digunakan dalam studi ini adalah penelitian kepustakaan dengan subjeknya berupa kajian ilmiah terbaru lima tahun terakhir, adapun objeknya ialah kecerdasan buatan, Pendidikan karakter dan Bahasa arab. Temuan dari penelitian ini menunjukkan bahwa kecerdasan buatan yang biasa digunakan sebagai media pembelajaran bahasa Arab memiliki potensi untuk dioptimalkan dalam penanaman pendidikan karakter selama proses pembelajaran. Dari hasil kajian, disimpulkan bahwa pendekatan ini dapat dilakukan dengan memanfaatkan kecerdasan buatan sebagai alat bantu dalam pembuatan konten pembelajaran bahasa Arab, yang mencakup baik kemampuan eksplisit maupun nilai-nilai karakter yang tersembunyi. Dengan demikian, siswa yang menggunakan materi ini diharapkan akan ter dorong untuk mengembangkan kepribadian dan karakter yang positif, sehingga dapat mengurangi tindakan perundungan atau perilaku kenakalan lainnya di antara siswa.

Kata Kunci: Artificial Intelligence, Pendidikan Karakter, Bahasa Arab
INTRODUCTION

Currently, the state of education in Indonesia is not satisfactory (Karlina 2020). Students, who are supposed to be the subjects of education and nurtured to have intelligence so they can contribute to the nation's life and develop into fully realized individuals, are unfortunately turning into individuals who harm themselves and others (Mukti and Nurchayati 2019). As noted by Republika, from January to August 2023, there were 87 reported cases of bullying submitted to the Indonesian Child Protection Commission (KPAI) (Borualogo and Gumilang 2019).

Furthermore, both theoretically and scientifically, the causes of delinquency that arise and then spread among students are attributed to moral degradation and character deterioration (Revalina, Moeis, and Indrawadi 2023).

This condition inevitably demands that the education sector realign itself and pay closer attention to this issue (Kuntari, 2019). Education fundamentally entails the process of shaping individuals from ignorance to knowledge and involves the internalization of culture, transforming a less civilized society into a civilized one. However, society often views education merely as an academic pursuit, overlooking its role in shaping the morals or behavior of students. Yet, education encompasses more than what is commonly perceived. In the National Education System Law No. 20 of 2003, Article 1 describes education as a conscious and planned effort to create a learning environment and learning processes that enable students to actively develop their potential (Pelawi, Idris, and Is 2021). The aim of this education is for students to acquire spiritual and religious strength, self-control, positive personality formation, intelligence development, practice noble morals, and acquire the necessary skills for themselves, society, nation, and state. In this context, education is not solely aimed at academic knowledge enhancement but also at shaping spiritual, moral, and practical skill dimensions necessary for daily life and contributing to community and nation-building (Kesuma 2020). Therefore, education is directed towards shaping individuals who are not only intellectually intelligent but also morally upright, possess religious values, and are capable of making positive contributions in a broader context (Matlani and Khunaifi 2019).

It is crucial to understand that character education within the educational context is a highly significant aspect that cannot be overlooked in the learning process. Strengthening character even becomes a core value in the educational goals of Indonesia, demanding that all aspects of learning also instill its character values. This duty or responsibility is held and imposed upon all subjects or all forms of learning, including Arabic language instruction.

Arabic language is known to possess inherent strengths that can instill character education values (Hasnil Oktavera 2019). This is because the Arabic language has a strong religious aspect closely associated with Islam, such as the Holy Quran, reference books for worship rules, sacred places of Islam, and the prophets, all of which use Arabic (Kartini, Bakri, and Wulandari 2021).

Despite the religious values inherent in the Arabic language, the process of integrating or applying character values in Arabic must still be done effectively and appropriately. One way is by paying attention to and utilizing Arabic language learning content, such as in the areas of listening (Maharah Itima'), speaking (Kalam), reading (Qiro’ah), and writing (Kitabah) skills.
Regarding the creation of Arabic language learning content, in the modern era, digital tools based on the internet and technology have emerged to support learning. One of the hot topics currently being discussed is Artificial Intelligence (AI).

The utilization of Artificial Intelligence has proven to be immensely beneficial for the learning process. AI is employed as a tool for creating instructional illustrations, generating PowerPoint presentations, summarizing lengthy texts, solving complex problems, and even generating learning content or textual materials (Tjahyanti, Saputra, and Gitakarma 2022).

Several studies reviewed by researchers related to the research theme of utilizing AI for Arabic language learning have shown significant progress to date. However, the utilization for broader applications is still not fully evident. So far, AI has primarily been used as a learning tool.

For instance, researchers Aidah Novianti Putri and Moh. Abdul Kholiq Hasan (Aidah Novianti Putri and Moh. Abdul Kholiq Hasan 2022) revealed the potential use of Artificial Intelligence in Arabic language learning. Their study uncovered the utilization of Artificial Intelligence as an assistive tool or learning media for Arabic language learning. Because artificial intelligence can overcome human limitations as teachers or tutors in the learning process. More specifically, they identified several AI models that can be utilized, including Intelligent Tutoring System (ITS), Voice Assistant, Personalized Learning, Virtual Mentor, Smart Content, Automatic Assessment, and Educational Games.

Furthermore, the utilization of Artificial Intelligence as a tool to predict interest in learning Arabic was examined by Ratih Enggar Pawening, Nurul Arifah, and Qurrotu Aini. They used Data Mining with the Association Rule Mining Method to predict students’ or santri’s interest in learning Arabic. The results showed that the use of ARM could explore further variables influencing interest in learning, not just based on a few variables as typical in quantitative research.

Lastly, a study by Wissam Antoun, Fady Baly and Hazem Hajj assessed the suitability of the AI chatbot AraElectra-SQuAD for use as an Arabic language chatbot capable of processing Arabic language proficiently. The study concluded that AraElectra-SQuAD demonstrated outstanding performance, high confidence, and robustness, highlighting its potential practical application in natural language processing tasks for Arabic language chatbots (Antoun, Baly, and Hajj 2020). This study suggests that language transformers can be further enhanced and used for various tasks, such as specialized chatbots, virtual assistants, and information retrieval systems for Arabic-speaking users.

The potential of Artificial Intelligence is further emphasized by the study conducted by Ferani Mulianingsih and colleagues, which examines Artificial Intelligence in the Formation of Values and Character in Education. The findings suggest that Artificial Intelligence can support the cultivation of character values and, when combined with appropriate teaching methods, can significantly enhance the outcomes of character value cultivation (Aziza, Lady Farah 2020).

Unfortunately, the depth of incorporating Artificial Intelligence into Arabic language learning, specifically to aid in character cultivation, remains limited. Thus, this research aims to focus on the potential use of Artificial Intelligence in Arabic language education, across all learning aspects, to instill character education values.
METHOD

The research method is crucial in any study; hence, the researcher adopts a qualitative approach, specifically literature review (library research). Qualitative approach is characterized by its nature of describing data within the natural context or as it is, without transforming it into symbols or numbers (Hadari. 2007).

Literature review, also known as library research, refers to a research approach in which the researcher gathers information from various literary sources such as books, journals, textbooks, articles, and specialized writings. In the concept presented by Muhammad Nazir, a literature review is defined as a data collection method involving in-depth analysis of various literary materials, including books, notes, and reports that are relevant to the problem to be addressed (Nazir 2013).

This research constitutes pure library research, which involves examining literary materials or literature related to the research problem (Nazir 2013). The literature research in this study relies on written language data or from books related to the research problem, specifically on Arabic language textbooks. The researcher conducts library investigation by collecting data obtained from library materials, which are then selected, categorized, and classified according to the research’s needs.

RESULTS AND DISCUSSION

Before delving into the critical aspects of this research, such as discussion and analysis, it is essential to consider the description based on findings from previous studies and other data sources regarding artificial intelligence and character education.

Artificial Intelligence (AI) can be defined as artificial intelligence, which refers to the process of creating or configuring machines, such as computers, to have a level of intelligence that reflects human behavior. Essentially, the primary goal of Artificial Intelligence is to enable computers to execute commands or tasks in a manner similar to human capabilities (Chi and Turban 1995).

Artificial Intelligence (AI), according to John McCarthy, can be defined as the science and technology related to the creation of machines that exhibit intelligent capabilities, particularly in the development of intelligent computer programs or applications. In this context, AI is an effort to create computers, robots, or applications/programs that can operate with intelligence, resembling human capabilities (McCarthy 2007).

The field known as Artificial Intelligence (AI) focuses on the automation of intelligent behavior and is an integral part of computer science. This definition emphasizes the need for a strong theoretical foundation and applicable principles that can be effectively implemented within its discipline. These components include data structures to represent knowledge, algorithms needed to apply knowledge, and languages and programming techniques used in implementation (Eriana and Zein 2023).

A deep understanding of Artificial Intelligence (AI) technology has permeated various fields, including robotics, computer vision, artificial neural networks, natural language processing, speech recognition, and expert systems. With reference to these aspects, AI strives to develop machines or computer programs
capable of performing intelligent tasks such as decision-making, understanding human language, and solving complex problems.

Etymologically, character education can be elucidated from two major words, namely "education" and "character." The term "education" originates from the word "didik," prefixed with "pen-", implying an endeavor. "Didik" itself refers to the act of nurturing or providing training related to morals and intellectual capabilities. With the prefix "pen-", the term "education" carries the meaning of the process of altering someone's or a group's attitudes and behaviors through teaching and training efforts. Simply put, education can be defined as a process or means of self-transformation for an individual.

In the education sector, in accordance with the definition outlined in Article 1, Clause 1 of the National Education System Law Number 20 of 2003, education can be characterized as a conscious and planned effort to create a learning environment and learning process (Sujana 2019). The main goal is to enable students to actively develop various potentials, including spiritual dimensions, self-control, personality formation, intelligence, good morals, and useful skills for themselves as well as to make positive contributions to society, the nation, and the country.

In this scenario, the significance of education is not solely focused on the delivery of academic knowledge but also on character formation and the mastery of practical skills relevant to everyday life. Education is directed towards creating individuals who are not only intellectually intelligent but also possess spiritual strength, self-control, good personality, and high morality. Additionally, it is hoped that students will be able to develop skills that can contribute positively to society, the nation, and the country.

The legal standing explicitly states that education is not merely about transferring knowledge, but rather a conscious and directed journey towards holistic self-development. Therefore, the government and education stakeholders have a responsibility to create an environment that supports this process, enabling every student to reach their potential optimally and contribute positively in various aspects of life.

Etymologically, the word "personality" refers to the word "person" with the prefix "ke-" and ending with the suffix "-an," indicating prominence as a distinct entity. "Person" itself conveys the meaning of an individual human, one's self, or oneself. Thus, "personality" entails the inherent quality reflected in one's attitude or that of a nation, distinguishing it from others.

In terminology, character is defined as the nature, temperament, and morals that are integral parts of a person’s personality. This character emerges through internalization processes and functions as the foundation for thinking and behaving, shaping distinctive traits in that individual. In other words, character can be likened to a reflection of the soul manifested in one’s actions and behavior.

Character education, when analyzed from the simple meanings of the words that form it, can be interpreted as a consciously organized effort to create a learning environment and learning process. Its main goal is to enable students to actively shape their personalities, habits, and noble morals. Additionally, character education also involves introducing the system of character values to all members of the school community. This system involves components of knowledge, awareness or willingness, and action as integral parts in applying these values.
With this approach, character education is not just about transferring knowledge but involves deeper aspects such as personal development, morality, and positive attitudes. Essentially, character education aims to shape individuals who not only have academic intelligence but also possess positive personalities, strong moral values, and the willingness to apply these values in daily life. This approach encourages students to become individuals who contribute positively to the community environment.

The main goal of character education is essentially aligned with the goals of national education. However, through deeper analysis, the purpose of character education is fundamentally to shape a resilient, competitive, morally upright, ethical, tolerant, cooperative, patriotic nation, dynamically developing, and oriented towards science and technology. All these aspects are driven by faith and devotion to the One Almighty God, based on the values of Pancasila.

In other words, character education aims not only to create individuals who are intelligent and knowledgeable but also have moral integrity, good attitudes, and a sense of responsibility towards society and the nation. Through character education, it is hoped that every citizen can become a positive contributor to building and developing the nation based on noble values and independence (Ali and Aisyah 2018). The statement issued by the Directorate of Higher Education emphasizes that the implementation of character education is considered an integral part of efforts to achieve the goals of national education. The aim of this endeavor is to unearth the potential of students so that they can grow into healthy, knowledgeable, skilled, creative, independent individuals, and become democratic and responsible citizens.

Thus, character education serves as a tool to shape individuals who not only possess knowledge and skills but also have morality, positive attitudes, and the ability to act independently. The overall goal of character education is to engage students in a holistic learning process, enabling them to become contributing members of society with strong moral values. This approach includes the development of personal aspects involving character, ethics, and positive mental attitudes, ultimately helping them become individuals who are not only intelligent but also responsible and competitive in society (Ali and Aisyah 2018).

Character education plays a role in shaping intelligence across various dimensions, involving intellectual, emotional, social, and spiritual aspects (Efendi and Ningsih 2020). Intellectual intelligence refers to a person's ability to think logically, enabling the development of rational and creative reasoning, as well as the capability to address various issues with structured thinking. On the other hand, emotional intelligence relates to an individual's capacity to manage and understand their emotions, allowing them to maintain self-control in various situations with a commitment to truth and goodness values, and having an orientation towards future goals.

Social intelligence encompasses an individual's ability to interact with others and the surrounding environment, including the ability to adapt to social dynamics. Meanwhile, spiritual intelligence refers to a person's capacity and engagement in their spiritual dimension, which is reflected in their daily practices and understanding of spiritual values.

The sixth President of the Republic of Indonesia, Susilo Bambang Yudhoyono, stated that there are five basic principles that serve as the goals of the national
character education movement. The aim of this movement is to produce individuals who excel in science and technology (Narwanti 2013). The five basics are:

a. Indonesian citizens are expected to have high morality, good character and positive behavior.

b. Indonesian society is directed to develop into an intelligent and rational-thinking community.

c. Indonesian people are encouraged to be innovative, pursue progress, and work hard to change living conditions.

d. It is important to strengthen your spirit, remembering that there is no problem that cannot be overcome with the right answer, no matter how serious the problem is.

e. Indonesian individuals are expected to become true patriots with deep love for their nation, state and homeland.

Initially, there were 18 characters included in the character values framework. However, in the current curriculum known as "Merdeka Belajar," the number of characters has been simplified to just six. These six characters are known as the Pancasila Student Profile, in accordance with the provisions in Minister of Education and Culture Regulation Number 22 of 2020. The six characters involve: 1) having faith, devotion to the One Almighty God, and noble character; 2) being active in mutual cooperation; 3) demonstrating independence; 4) supporting global diversity; 5) showing creativity; and 6) possessing critical thinking skills.

The Pancasila Student Profile can be grouped into various types of intelligence, including moral intelligence (involving elements of faith, piety, and noble character), social intelligence (consisting of a spirit of mutual cooperation and acceptance of global diversity), intellectual intelligence (involving creativity and critical thinking skills), and productive intelligence (emphasizing independence). Moral intelligence is considered the determinant of civilization and human nobility, reflected in attitudes, behaviors, positive outlooks, and a reluctance to violate religious norms. In this context, education is intended to develop the humanistic aspect of humanity, in line with the perspective stated by Dick Hartoko.

Character education in the context of the Ministry of Religion is then translated as the student profile of rahmatan lil alamin. Student profiles in this madrasah also practice Islamic values, namely: Civilization (Ta'addub), citizenship and nationality (Muwutanah), exemplary (Qudwah), Deliberation (Shura’), Balanced (Tawazun), Taking the middle path (Tawassut), Straight and firm (I'tidal), Equality (Musawah), Tolerance (Tasamuh), Dynamic and innovative (Tathawwur wa ibtikar) (Ariyanti, Khoirunnisa, and Hidayah 2024).

The foundation of social intelligence relies on the understanding that humans are social beings who cannot live in isolation and require cooperation, especially through the principle of mutual assistance. This aspect of intelligence is manifested in attitudes and behaviors that accept, respect, and treat differences with the principle of equality. In this context, the role of education is to shape and instill a sense of social responsibility in students.

The potential of intellectual intelligence is related to the intellect (reason) bestowed by God. Developing this potential is necessary for humans to understand natural laws and preserve the functions of nature. This intelligence includes the ability to analyze, plan, evaluate, and make decisions. Therefore, education aims to train healthy reasoning and critical thinking skills using critical questioning.
Productive intelligence aims to ensure that individuals do not become burdens or dependent on others. This competency demands that each individual has adequate knowledge and skills. The role of education in this context is to develop the potential of students. According to Gardner’s view, every child possesses multiple intelligences that need to be enriched and developed through the education process.

Then the results of deeper analysis according to the theme of this research are divided into several points, namely:

**Gaps and Potential Utilization of Artificial Intelligence in Arabic Language Learning from a Character Education Perspective**

Artificial Intelligence, as outlined above, undeniably holds tremendous benefits for the advancement of Arabic language learning. However, there is still a gap that, in the author’s opinion, remains largely unexplored and underexamined for its potential. This gap plays a crucial role as a contribution to Arabic language education in building education in Indonesia. The gap lies in the utilization of AI to optimize the cultivation of character education values in Arabic language learning. Why does the researcher call it a gap and potential? Because noble character traits possessed by students, such as those currently experiencing a decline. The tangible manifestation of the decline in students’ character values is the prevalence of adolescent delinquency and bullying behavior among students. This condition is undoubtedly a burden for educators because the goal of education is not only to shape understanding of knowledge but also skills and attitudes, with the latter two points being demonstrated by the personality or character of the students. And this burden is not only borne by educators of certain subjects such as Islamic Religious Education and Citizenship Education but becomes the burden and responsibility of educators of all subjects, including Arabic language subjects.

Therefore, Artificial Intelligence should be utilized as a tool to enhance students’ character in Arabic language learning, not just as a learning medium. This potential, considering the findings of previous studies that serve as data inventory in this research, is very feasible and can be implemented. The procedures and forms of utilization will be discussed further in the next point of discussion.

**Utilizing Artificial Intelligence (AI) to optimize the cultivation of character education in Arabic language learning to overcome cases of bullying among students.**

Massive bullying incidents currently occurring, as expressed in the introduction, have reached a critical condition. As educators, it is our duty to cultivate the noble character of the nation’s children and then to build the personalities of students towards a better direction. Because bullying actions arise not only from mere mischief or personality traits. There are factors influencing the emergence of bullying behavior, such as lack of parental attention, teachers’ lack of sensitivity in the development of students, social interactions, and the absence of triggers for students to have noble characters. One trigger can be formed from student learning habits such as learning content.

The utilization of Artificial Intelligence to optimize character education in Arabic language learning can be done in several forms, but in this study, the
researcher focuses on the use of AI to create learning content that accommodates character education values in Arabic language learning.

The intention is to use AI assistance to help create scripts or learning material manuscripts that contain the 6 character values. Such as using AI assistance to form listening material texts containing character values of global diversity, then through the text or listening material content, relevant evaluations are formed by considering listening skill assessment indicators but by providing instructions for implementing these character values in everyday life.

This is highly feasible, especially when considering Zuriyah's theory regarding the elements of students' characters, one of which can be shaped through habits that are consistently and gradually ingrained over days. (Zuriyah 2011). Moreover, reflecting on the theory of character cultivation by Ahmad Tanaka et al., it is emphasized that an individual's character is not inherited but built continuously day by day through thoughts and actions. (Dr. Ahmad Tanaka, S.Ag, S.Pd. et al. 2023).

In understanding the context of the above theory, the researcher suggests that building students' character is based on habits and routines. Therefore, besides teachers who interact with students every day, teaching materials, learning content, learning media, and learning materials play a crucial role in character building. In this modern era, the formation of learning components can be done by utilizing Artificial Intelligence. The use of AI will allow the system to select themes and learning content that are most current, relevant, and appropriate, and this process can be carried out quickly, relying on thousands of source entries, thus ensuring high accuracy in the output of the process.

In practice, the use of AI assistance to develop materials or content for the four language skills in Arabic language learning, namely listening, speaking, reading, and writing from a character education perspective, is not only feasible but highly achievable. This is supported by previous research indicating that AI's database, processing, and language analysis capabilities are already highly sophisticated. For instance, the well-known AI chatbot Chat-GPT, when instructed to generate reading material containing character values, will inevitably produce text accordingly, whether explicitly or implicitly.

However, the utilization of AI cannot be directly implemented without human intervention, particularly educators who intend to use AI. Educators, as users of AI, must understand the character values that need to be instilled, the problems students face regarding character or personality, and the linguistic aspects (Tundreng et al. 2023).

As in Slavin who criticized the quality of learning, among the 4 QOIT points presented by Slavin, AI has problems with Quality of Instruction and Appropriate Levels of Instruction. Where content created by AI in some conditions will not be able to provide clear explanations and instructions for learning, especially in the context of cultivating character education (Slavin 1995).

Thus, the limitations of using AI as an effort to instill character education must be well understood from various points of view. Leaving AI and maintaining traditional things will not have a positive impact in cultivating character education, especially in Arabic subjects, therefore, even though Artificial Intelligence (AI) is just a tool, humans as users play a central role in guiding its use, especially in the context of learning Arabic. The decision to integrate AI with the goal of character building and addressing bullying cases within the learning environment lies with educators.
They have the power to initiate truly innovative and more detailed approaches in utilizing AI, not only as a learning tool but also as a reinforcement tool for character education, particularly in Arabic language learning.

Educators can start new steps by ensuring that AI is used wisely to create learning experiences that focus more on the development of students’ character. For example, by programming AI to provide learning content that includes ethical values, such as respect, cooperation and fairness. Teachers can also utilize technology to identify and prevent bullying situations, as well as create a supportive and inclusive environment.

The important role of humans in guiding the use of AI is also related to ethical decisions in designing AI algorithms and applications. Teachers need to ensure that AI not only supports the development of Arabic language skills, but also makes a positive contribution to the formation of students’ character. They have a responsibility to ensure that the values of justice, equality and tolerance are reflected in the use of AI in Arabic language learning contexts.

Therefore, the choice to utilize AI in Arabic language learning as a strengthening tool for cultivating character education requires awareness and active involvement from teachers. Thus, the use of this technology can be an effective means of creating a learning environment that focuses on positive character development and supports students in understanding and appreciating moral values.

**CONCLUSION**

The current condition of the personality and character of the nation’s children is quite worrying, with detrimental actions such as bullying and acts of delinquency making them need to be given further attention and education and this burden is becoming a burden on educators, especially Arabic language educators, one of which is by utilizing of Artificial Intelligence. This utilization is by using AI as an assistance tool to shape or create Arabic language learning content with a character education perspective so that it is able to instill directly or indirectly these character values in students.

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