Islamic Perspectives on the Use of Artificial Intelligence Tools for Achieving Sustainability in Education

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Abstract

The uniqueness of the influence of artificial intelligence tools on teaching, learning and research in Nigerian system of education is unprecedented. Artificial intelligence tools had made the field of education productive, enjoyable and scientific. This study adopted historical, analytical and phenomenological approaches to do justice to the work. The historical method was used to discuss the historical development of artificial intelligence. The analytical method was applied to analyse the common artificial intelligence tools used for teaching, learning and research in Islamic Studies. While phenomenological approach was used to discuss the Islamic perspectives in the use of artificial intelligence tools for teaching and learning in Islamic Studies. The findings of the study showed that sustainability in education could be achieved with the aid of artificial intelligence tools. The study indicated that there some artificial intelligence tools that are commonly used among lecturers to facilitate teaching in Islamic Studies in Nigeria. It was concluded in the study that application of artificial intelligence tools for teaching, learning and research is permissible in Islam after fulfilling the fundamental conditions such as: limitedness of technical capabilities of AI tools, ethical consideration and protection of authenticity of sacred injunctions. It was therefore, suggested that Islamic guidelines in the use of artificial intelligence should be adequately followed while using artificial intelligence for teaching, learning and research for better sustainability of Islamic Studies Education in Nigeria.

Keywords Artificial Intelligence, Islamic Perspective, Sustainable Education, Achievement

Introduction

Education in Islam is the process of training the mind, brain and character of human beings in order to be able to recognize the Oneness and Existence of Allah the Supreme Being and appreciate His wonderful favours on His creatures through the knowledge of primary sources of education which are Quran and Hadith. According to Haneef (2018), education in Islam could be described as the process of training individual's sensibility and characters purposely to achieve the benefits of this world and the bliss of the Hereafter through application of Islamic codes of conduct enlisted in the Glorious Quran and Hadith of Prophet Muhammad (PBUH). It could be understood from this definition that Islamic education distinguishes itself from other forms of education by making

Glorious Quran and Hadith of Prophet Muhammad (PBUH) the sources of knowledge in order to cleanse the heart, brain and attitudes.

The Quran had many years ago proved the existence of innovation in knowledge that is the reason behind the word of Allah in many portions of the Quran that knowledge and wisdom will continue to be reviewed by Allah Himself. Therefore, knowledge and wisdom gain development generation after generation. Allah says:

"Read! And your Lord is the Most Generous.

He taught by the pen.

He taught man what he never knew" (96:3-5)

In another chapter, Quran says:

"And the horses, and the mules,

and the donkeys (are created) for you to ride,

and for luxury. And He creates what you do not know"(16:8)

The above Quranic injunctions are indicating that there are numerous things which are yet to be known and the knowledge about them will soon manifest through the work of man on the earth. There was nothing like computer before and computer came into existence and now the technology has moved forward to the era of artificial intelligence.

The use of artificial intelligence tools for teaching, learning and research had made a remarkable landscape in the field of education which immensely contributed to all aspects of teaching including Arabic and Islamic Studies. According to Mehmood et al. (2024), artificial intelligence tools have created profound opportunities to enhancing teaching and learning in all subjects especially Arabic and Islamic Studies. Al-Zahrani (2021) and Ghaly (2020) further explained that Arabic and Islamic Studies have currently gained tremendous artificial intelligence influences during the last decade to the level that many viable artificial intelligence tools have been incorporated into the teaching and

learning of Islamic Studies globally. Natural Language Processing (NLP) is a viable artificial intelligence tool that is very good in identifying and analyzing classical texts in Islamic literatures. This tool can help locate the Quranic verses and Hadith of Prophet Muhammad (PBUH) that are relevant to every Islamic law and its application (Karimullah, 2023). In addition, Solihu (2024) stated that Natural Language Processing (NLP) is artificial intelligence tool that can interpret Quranic verses and Hadith of Prophet Muhammad (PBUH) in a useful and understandable way that can lead to proper understanding of the text. Therefore, the significance of artificial intelligence tools in the understanding of Islamic sources of law could be seen in the beautiful performance of Natural Language Processing tool.

Historical Development of Artificial Intelligence

Historically, artificial intelligence is a special package developed to simplify the entire work of human beings be it administrative, economic, social, political and education among others (in 1955 by John McCarthy). Although initially Muslim scholars showed reluctance to the adoption of artificial intelligence, at last the tools were found useful. In order to add values to teaching, learning and research in Islamic Studies and to emphasise the dynamism and relevancy of Islamic teachings, it becomes pertinent to integrate Islamic Education and its teaching with new technological development. The application of Artificial intelligence tools in Islamic Studies education underwent series of stages such as: consideration, test running and adoption (Mehmood, et al., 2024). The first stage which is known as consideration stage is the period where the importance of AI integration into Islamic education was discussed and accepted after series of conferences and debates among Muslim scholars and it was between 2010 and 2015 (Mehmood, et al., 2024). According to Mohammed et al (2021); Mehmood, et al., (2024) this stage witnessed creation of digital repository and discovery of Islamic text search functionality.

Test running stage on the other hand, is the period that witnessed usefulness of artificial intelligence in the field of technology integration in Arabic and Islamic Studies. This period according to Mehmood, et al. (2024) enjoyed high percentage of patronage in the application of AI tools in Arabic and Islamic Education and it lasted for 5 years between 2015 and 2019. During this period AI tools gained tremendous advancement because its impact on administration, education and religion to mention a few was boomed globally. The last stage which started from 2020 till date is the adoption stage that witnesses

unprecedented advancement in the field of technology. Great achievements are recorded in Arabic and Islamic Studies education with the aid of artificial intelligence tools in this era. Mehmood, et al. (2024) noted that AI application such as: ChatGPT, Natural Language Processing, Bussu, Arabits and some others that can produce complex textual analysis, design pattern recognition and create adaptive learning were discovered useful for teaching, learning and research in Arabic and Islamic Studies.

From the fore going, it is understood that adoption and implementation of artificial intelligence tools in Arabic and Islamic Studies passed through three different stages and huge achievement was recorded in each stage let alone the present period when artificial intelligence tools had become unavoidable tools for achieving sustainability in all spheres of human endeavours including education. However, the perspectives of Islam in the adoption and implementation of artificial intelligence tools are expected to be considered.

Islamic Perspectives on the Use of Artificial Intelligence Tools

Islamic injunctions are universal, dynamic, relevant, valid and reliable. These attributes make the injunctions appropriate and acceptable at all time and place. Artificial intelligence tools have become easier search engines that can provide deep and efficient capabilities in providing comprehensive knowledge of the trends of Islam and its civilization, different current position of schools of thought on various aspects of lives and newly developed techniques in the application of reasoning (Karimullah, 2024). Artificial intelligence tools like Natural Language Processing (NLP), Arabic Text Processing (ATP), Adaptive Learning Algorism (ALA), Busuu and Arabits platforms are very useful in Arabic and Islamic Studies.

However, the position of Islam does not change regarding the integration and implementation of artificial intelligence tools in Islamic Studies. The conditions powering the use of AI tools in Islamic Studies after appreciating the benefits and challenges associated with AI by the scholars are to put forward special attention to technical capabilities of AI tools, ethical consideration in the use of AI tools and authenticity of religious sacred injunctions and scholarly traditions (Mehmood et al., 2024). In order to have complete and successful integration and implementation of artificial intelligence in Islam, Al-Zahrani (2020) opined that both traditional Islamic educational methodology and contemporary learning theories should be aligned with

Islamic Religious Principles. Similarly, Ghaly (2021) explained that the objectives of Sharia law (*Maqasid ul Shariah*) are the bedrocks on which extraction of laws are built in Islam. Therefore, guidelines regarding permissibility of AI were provided through Islamic Religious Principles. This implies that Islam is not against the use of AI tools in Islamic Studies but the above conditions need to be well fulfilled. It shows that technical capabilities of AI tools are limited compared to the power of Allah (The Originator, The Source and The Owner of everything) and it is clearly stated in the Glorious Quran where Allah says:

"O society of Jinn and humans! If you can pass through the bounds

of the heavens and the earth, go ahead and pass.

But you cannot pass except with authorization" (55:33)

The above verse according to Islamic scholars is pointing to limitedness of human knowledge, reasoning and science. It shows from the verse that artificial intelligence tools though work like human beings, behave as they behave and possess reasoning that is similar to human, nevertheless there must be an expectation of error no matter how small in AI tools' reactions. Because perfection belongs to Allah alone as it is evident in the Glorious Quran that:

"He who created seven heavens in layers.

You see no discrepancy (error, deficiency)

in the creation of Ar-Rahman

(The Compassionate).

Look again! Can you see any crack? (67:3)

The above verse testifies to the accuracy and perfection in the creation of Allah whereas AI tools are created by human beings therefore, there must be tendency of having error in

whatever AI tools give or produce. This is the first condition that all Muslims need to consider before using AI tools for teaching and learning Islamic Studies.

Secondly, ethical considerations need to be given priority while using AI tools for searching Islamic knowledge. This is because Islam is a religion that values morals and good norms. Therefore, AI tools that can promote what is illegal and discourage what is legal should not be regarded.

Lastly, authenticity of Sacred Book (Quran) and the Hadith of Prophet Muhammad (PBUH) should not be unscrupulously treated because they possess sacred qualities and regard. Thus, AI tools proposed to be applied or adopted need to treat them sacredly without contaminating the original text and meaning of any of them.

Artificial Intelligence Tools Suitable for Teaching Arabic and Islamic Studies

Arabic is the process of studying the language of Arab which is considered among the most widely spoken languages in the world and it is also the language of Quran and Islam. On the other hand, Islamic Studies is an academic discipline that deals with the logical and systematic studying of Islam, its beliefs, practices, history, culture and influence on the society (Andrabi, 2023). In order to make teaching, learning and research in Arabic and Islamic Studies relevant to the needs of the society, the use of artificial intelligence become imperative. Among the notable artificial intelligence tools used in Arabic and Islamic Studies are Natural Language Processing (NLP), Arabic Text Processing (ATP), Adaptive Learning Algorism (ALA), and Busuu and Arabits platforms to mention but few.

Natural Language Processing

Natural Language Processing is a powerful and widely used artificial intelligence branch that possesses ability to enabling computers comprehend, generate and manipulate human language. According to Anas et al. (2024), Natural Language Processing is a field of computer science and artificial intelligence that allows computers understand and communicate with human language. However, Natural Language Processing (NLP) is widely recognized in the field of Islamic Studies to create avenue for e-learning through the use of computerized toys to demonstrate different acts in Islam. Greek for Greeks (2024) further explained that NLP aims to adopt computational linguistics to study

language formation, communication and responses which normally allows machines to process texts and voices.

The benefits Natural Language Processing in the field of Islamic Studies are unlimited and among them are the following:

i. It can facilitate language translation from one language to another without distorting the meaning

ii. It can perform transliteration of text from one language to another accurately without mixing up

iii. It can identify patterns in language formation and trends of events or incidents

iv. It possesses ability to analyse the meaning of words or phrases

v. It can generate articles and reports

There are so many other benefits associated with the use of Natural Language Processing (NLP) in the field of Arabic and Islamic Studies education after considering Islamic ethics in the adoption and application of this tool.

Busuu and Arabits Applications

Busuu is an application designed to learn different languages including Arabic Language. According to Anas et al. (2024), Busuu is a language learning platform that utilizes interactive learning approach to introduce users to fluent communication and pronunciation of words in order to be able to detect unconscious flaws commonly used in the language and make proper correction. This platform affords the users opportunity to communicate fluently and discovers the errors in the use of the language. In the same vein, Arabits is an application where images and sounds are used in a unique manner to teach Arabic language (Sofa, 2022). This platform is very useful in teaching Arabic words pronunciation, Arabic texts and modern standard Arabic (Anas et al., 2024). However, the use of these two artificial intelligence tools will widen the scope of language learners because through the use of these tools they will be able to detect their strengths and weaknesses during learning process.

Learning language with the aid of Busuu application is very interesting because the application possesses the ability to provide students variety of topics, generate quiz to learn and as well provide exciting pictures, videos, studies material and assignments

(Samara, 2021). This is done to make learning language more exciting in the classrooms and less the teachers' work. Similarly, Arabits application is an application designed for learning only Arabic language. This application is set to provide the user correct patterns in the pronunciation of Arabic words and construction of Arabic sentences. Application like Al-Kitaab, Rosetta, Duolingo could be found under Arabits and they are very useful for Arabic language studying.

Adaptive Learning System

This is another aspect of artificial intelligence that is very essential in the field of education. Adaptive learning algorithm is a new development technique of learning where educational teaching experiences are tailored towards students' strengths, weaknesses and learning capabilities. According to Ristic et al. (2023) this package is a computer system and artificial intelligence tool that analyse data on students' performance and behaviours in order to provide effective feed backs at when due. Furthermore, Ristic et al.'s study (2023) explained that adaptive learning system is a very useful learning approach that allows students to enjoy higher level of support and guidance that normally lead to better outcomes at the end of instruction.

The contributions of adaptive learning algorithm in learning Islamic Studies are enormous because it possesses ability to address dynamic needs of individual student including learning styles. Above all the system, provide opportunity to every student to learn at his/her own pace without interruption. With this, each student will be able to fully engage and participate in learning based on his/her ability. Similarly, this system allows educators to be able to differentiate among gifted, fast and slow learners and to provide effective way outs if necessary. In the same vein, this package widens the objectives of education by allowing it to accommodate different learning abilities and preferences. However, adaptive learning algorithm is highly relevant in the field of Islamic Studies in the sense that students' learning problems are solved promptly.

Conclusion

It is understood from the discussion that Islam is a religion that accepts all forms of development as well as they do not contradict any fundamental rule in Islam. Application of artificial intelligence tools for making teaching and learning of Arabic and Islamic Studies easier is highly encouraged and supported in Islam. Therefore, using

Natural Language Processing, Busuu, Arabits, and Adaptive Learning Algorism in Arabic and Islamic Studies is concluded acceptable in Islam.

Suggestions

The following are the suggestions raised from the study:

i. Arabic and Islamic Studies teachers and students should develop a very strong interest in the use of artificial intelligence
ii. School management should make it compulsory requirement the knowledge of newly invented technology for Arabic and Islamic Studies teachers and students
iii. Government should sponsor series of trainings and workshops for Arabic and Islamic Studies teachers to update their knowledge about artificial intelligence

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