Learning Technology in the Perspective of the Qur’an and Hadits

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Abstract:
This study aims to build the concept of learning technology from the perspective of the Qur’an and Hadith. Learning technology has a role in teaching humans by developing and involving several learning resources, which include human resources, natural and environmental resources, opportunity resources, or opportunities to increase the effectiveness and efficiency of educational resources. This study uses a literature or library research method, namely research that prioritizes theoretical and philosophical data processing. This study’s data sources are the Qur’an, Hadith, books, journal articles, and other sources that support this research. The results of this study indicate that Islam through the Al-Qur’an and Hadith illustrates that learning to interpret something must involve a wide range of learning resources, such as one in the Al-Qur’an Surah Al-‘Alaq verse 1, namely the universe, environment, and science. Knowledge, human resources, and others. This interpretation is in line with the concept of learning technology that provides an effective and efficient role in the learning process by involving several learning resources, including human resources, natural resources, science, and the environment.

Keywords:
Learning Technology, Al-Qur’an, Hadits

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Abstrak:
Penelitian ini bertujuan untuk membangun konsep teknologi pembelajaran dari perspektif Al-Qur’an dan Hadist. Teknologi pembelajaran berperan dalam pendidikan dengan mengembangkan dan melibatkan beberapa sumber belajar, yang meliputi sumber daya manusia, sumber daya alam, dan lingkungan, sumber peluang, atau peluang untuk meningkatkan efektivitas dan efisiensi sumber daya pendidikan lain. Penelitian ini menggunakan metode penelitian kepustakaan atau library research, yaitu penelitian yang mengutamakan pengolahan data secara teoretis dan filosofis. Sumber data penelitian ini adalah Al-Qur’an, Hadits, buku, artikel jurnal, dan sumber lain yang mendukung penelitian ini. Hasil penelitian ini menunjukkan bahwa Islam melalui Al-Qur’an dan Hadits menggambarkan bahwa belajar memaknai sesuatu harus melibatkan berbagai sumber belajar, seperti salah satunya dalam Al-Qur’an Surah Al-‘Alaq ayat 1, yaitu alam semesta, lingkungan, dan ilmu pengetahuan. Pengetahuan, sumber daya manusia, dan lain-lain. Penafsiran ini sejalan dengan konsep teknologi pembelajaran yang memberikan peran efektif dan efisien dalam proses pembelajaran dengan melibatkan beberapa sumber belajar, antara lain sumber daya manusia, sumber daya alam, ilmu pengetahuan, dan lingkungan.
INTRODUCTION

The existence of technology is currently considered very important in human life as a support in carrying out various activities both in doing work and in terms of education. Educators can use technology as a learning media or mediator in conveying knowledge to students through several applications, such as zoom, google classroom, google Meetings, or via WhatsApp groups. Using the learning media above, educators can make attractive and not monotonous material explanations so that students are interested and remain enthusiastic in participating in these teaching and learning activities.

Learning technology is currently experiencing rapid development along with the development of existing technology. The development of learning technology contains four primary characteristics: applying a systems approach, using the broadest possible learning resources, aiming to improve the quality of human learning, and being oriented toward individual instructional activities. With this, learning technology increasingly refines and sharpens its ability to solve learning and learning problems. In addition, it stimulates and strengthens professional development in learning technology.

In line with the rapid development and progress of science and technology, the use of technology in learning will continue to develop and strengthen itself into a scientific discipline, study program, and profession that can play a role in solving learning problems. Nevertheless, it must be admitted that the development of the field and profession of learning technology in Indonesia so far has yet to be optimal in terms of design, development, utilization, management, and evaluation. We hope serious efforts are still needed from all parties related to learning technology, including academics, researchers, and practitioners.

Especially in the field of learning, many technological products are used to carry out learning activities. Global technological advances have influenced all aspects of life in economics, politics, art culture, and even in the growth and development of students. In this case, technology can change the way of educating students.

In the history of human civilization, there have been at least four significant revolutions in learning technology. The first revolution occurred when parents entrusted their children to a teacher to get an education. This period is the forerunner to the start of a profession called a teacher. At that time, the teacher was seen as having advantages, and children came to the teacher to learn.

The second revolution occurred when humans recognized writing. Writing as agreed symbols to
convey a message. Messages originally delivered orally since then began to be delivered in writing. At that time, people wrote using any medium, such as wood, bone, stone, and leaves, until Cai Lun from China found paper as a substitute for papyrus. Since then, writing culture has proliferated.

The development of written culture accelerated when it entered the third revolution, namely the invention of the printing press in the 15th century by Johannes Gutenberg. The printing press had an extensive impact on written communication; initially, books were written and copied by individuals, so after the invention of the printing press, writing could be published en masse. The printing press has given its color to modern human life.

At the end of the 20th century, we witnessed another fantastic revolution, namely the electronic revolution. The electronic revolution in the field of learning technology began with the discovery of moving images (motion pictures) in 1910, radio broadcasts (1930), educational television (1950), and computers and the internet (1980).3

The beginning of the 21st century is a continuation of the electronic revolution. At this time, various terms are known related to electronic learning or often called e-learning (electronic learning). The concept of e-learning itself includes comprehensive terminology, ranging from electronic plus learning to electronic-based learning.

THEORETICAL SUPPORT

According to the Greek "technologia," according to Webster's Dictionary, the word technology means systematic treatment or handling of something systematically. At the same time, techne is the basis for the word technology, which means art, ability, knowledge or expertise, and scientific skills. In another sense, it means art, crafts, or expertise. For the ancient Greeks, technology was recognized as a particular activity and as knowledge.4

According to Silber, learning technology is the development (research, design, production, evaluation, supply support, utilization) of learning system components (messages, people, materials, equipment, techniques, and backgrounds) and management of development efforts (organization and personnel) systematically, with aims to solve educational problems.5

According to the Commission on Instruction Technology (CIT), learning technology is defined as media that was born as a result of the communication revolution that can be used for learning purposes in


4Endang Switri, Teknologi dan Media Pendidikan Dalam Pembelajaran, (Pasuruan: Qira Media, 2019), h. 1-2

5Bambang Warsita, Perkembangan Definisi Dan Kawasan Teknologi Pembelajaran Serta Perannya Dalam Pemecahan Masalah Pembelajaran, Jurnal KWANGSAN Vol. 1 - Nomor 2, Desember 2013, h. 75.
addition to teachers, textbooks, and blackboards, the parts that make-up learning technology are television, films, OHP, computers, and other hardware and software parts.\(^6\)

Another definition of learning technology is theory and practice in the design, development, utilization, management, and evaluation of learning processes and resources.\(^7\)

According to the Association for Educational Communications Technology (AECT), learning technology is theory and practice in the design, development, utilization, management, and evaluation of processes and resources for learning.\(^8\)

The primary purpose of learning technology is to solve learning problems or facilitate learning activities. Learning technology as software (software technology) in the form of systematic ways of solving learning problems is increasingly sophisticated and has a vast place in the world of education.\(^9\)

Three basic principles can be used as a reference in the development and use of learning technology: (1) A system approach, a sequential and directed way of solving problems, meaning that seeing everything as a whole with all interrelated components attached; (2) Oriented to students (learner-centered), education, learning, and training efforts should focus their attention on students; (3) Utilizing learning resources to the maximum extent possible and as varied as possible (utilizing learning resources), students learn because they interact with various learning resources to the maximum and vary.\(^10\)

Forms of learning technology, namely: (1) Text (alpha-numeric characters shown in books, posters, blackboards, and computer screens); (2) Audio (including can be heard by someone such as voice, music, mechanical sound); (3) Visual (diagrams on posters, pictures on whiteboards, photographs, pictures in a book, cartoons); (4) Motion media (media showing motion, including video recordings and animations); (5) Three-dimensional manipulation (can be touched and handled by students); (6) Software.\(^11\)

In education, software such as SPSS applications, Corel draw, and many more provide students with...
opportunities to learn more essential things.\textsuperscript{12}

The role of technology in learning is to facilitate collaborative relationships and build meaning in contexts that are easier to understand. In detail, technology can be directed to: (1) Build collaborative communication networks between teachers, lecturers, students, and learning resources. Some online applications that can be used for telecommunications are Skype, Yahoo messenger, Facebook, Zoom, Google Meet, and other networks that are used; (2) Provide a variety of complex, realistic, and secure problem-solving environments. Technologies that can be used to provide a comfortable environment are hypermedia & software that can be used to create projects; (3) Actively build and shape meaning through the internet to search for the latest research, photos, and videos. These facilities can help students not only enjoy browsing but can learn and understand and know what they are learning.\textsuperscript{13}

Learning technology is needed to be able to reach students wherever they are. In addition, to serve the large number of those who have not had the opportunity to learn, meet the learning needs to be able to follow developments, and improve efficiency, and effectiveness in learning.

Conceptual learning technology can play a role in teaching humans by developing and or using various learning resources, which include human resources, natural and environmental resources, opportunities or opportunities, and by increasing the effectiveness and efficiency of educational resources.\textsuperscript{14}

The role of learning technology has several potentials to increase educational productivity. They are; accelerating the learning rate (rate of learning), helping teachers to use their time better, and reducing the teacher's burden in presenting information so that teachers can foster and develop students' enthusiasm for learning.\textsuperscript{15}

\section*{METHOD}

This study uses a literature or library research method, namely research that prioritizes theoretical and philosophical data processing. This study's data sources are the Qur'an, Hadith, books, journal articles, and other sources that support this research.


\textsuperscript{13}Muhammad Yaumi, Media dan Teknologi Pembelajaran (Jakarta: Prenamedia Group, 2018), h. 57.


\textsuperscript{15}Yusufhadi Miarso, Menyemai Benih Teknologi Pendidikan (Jakarta: Penerbit Prenada Media, 2004).
RESULT AND DISCUSSION

As the primary reference or basis for Islamic teachings, the Al-Quran contains various essential matters, including science and knowledge. This reference shows that Islam supports its people to develop a civilization and scientific knowledge.

According to Miarso, learning technology can conceptually play a role in teaching humans by developing and or using various learning resources, which include human resources, natural and environmental resources, opportunities or opportunities, and by increasing the effectiveness and efficiency of educational resources.

That means learning by utilizing all learning resources, such as human resources, natural resources, and the environment, to make it easier for students to understand learning material.

This clue is under the Word of Allah in surah Al-'Alaq: 1

"Read by (mentioning) the name of your Lord who created."

The word Iqra’, according to Quraish Shihab, is taken from the root word, which means to collect. From collecting, various meanings are born, such as conveying, studying, exploring, researching, knowing the characteristics of something, and reading, both written and not. Meanwhile, in terms of its object, the Iqra’ command includes everything that humans can reach.16

The first verse in the Quran commands Muslims to read (Iqra’). In-depth, the command to read carries a meaning so that Muslims continue to develop in various fields of science, be it religious science or worldly knowledge, including science and technology. This verse is in line with the hadith of the Prophet:

"Read by (mentioning) the name of your Lord who created."

From Ibn Abas, he said, "Rasulullah saw. Said, 'The initial creatures that Allah SWT created were pens and fish, (then He said to the pen, 'Write.') The pen said, 'What did I write?' Allah said, 'Everything that happened until the Day of Judgment' Then the Prophet read: Nun wal qalam. Nun is a fish, and al-Qalam is a pen."17

In the Al-Quran, hundreds of verses mention science and science, which is one of the main contents of the holy book of the Al-Qur’an. Even the word ‘ilm and its derivatives are mentioned 778 times. In addition, science is also one of the needs of the Islamic religion; this is evidenced by the fact that every time Muslims carry out worship, they need to determine the right time. For example, performing prayers, determining the beginning of the

16 M. Quraish Shihab, Wawasan Al-Qur’an (Bandung : Mizan, 1996), h. 433.
17 (H.R. H.r. At-Thabrani, al-Mu’jamul Kabir, XI: 433, hadis No. 12.227)
month of Ramadan, and performing Hajj all have a specific time. Determining the correct time requires astronomy which is included in science.

There are many verses in the Al-Quran that can be proven scientifically. Allah's sign regarding science and knowledge needs to be explored, and its existence sought.

There are so many verses in the Al-Quran that discuss science and knowledge. At least 800 verses in the Al-Quran discuss nature, knowledge, science, and scientific phenomena. This number is considered very large, especially compared to the fiqh verses, which only mention 160 verses.

Evidence that Islam is a religion that emphasizes knowledge development is found in hundreds of verses that talk about instructions for paying attention to how the natural world works. No less than 750 verses of the Qur'an illustrate that humans pay attention to their natural surroundings. In addition, usually, the verses that discuss it begin or end with insinuations such as; "Didn't you notice?", "Didn't you think?", "Didn't you hear?", "Didn't you see?". It often ends with sentences such as "As a sign for people who think", and "Not understood except by Ulul Albaab."

Several verses of the Al-Quran about science and scientific knowledge are as follows:

Surah Al-Anbiya: 30

The verse above explains that the heavens and the earth were once one and then separated. In the 20th century, there were several concepts of the creation of the earth put forward by astronomers, starting from speculative thoughts that developed the idea that the universe follows quantitative laws. Then came the theory of the big bang, after which came the theory of oscillations (expansion). Born as a result of differences of opinion between the static universe model and the big bang, the states that the universe expands, contracts, and then expands again. While in several surah, the Qur'an states:

Ar-Rahman: 19-20

“He released the two seas, meeting [side by side]; Between them is a barrier [so] neither of them transgresses.”

The two seas, referred to as unmixed, are located in the Strait of Gibraltar, the strait that separates the continents of Africa and Europe, precisely between Morocco and Spain. With technology, this phenomenon is found and explains the truth of the Qur'an verses that were conveyed thousands of years ago. Such seawater is an ocean with
unique features as characteristics of the water itself, which are not the same between seawater and one another. These characteristics include salinity (salt content), temperature, mass, and density.

Surah At-Tur: 6

وَٱلَّۡۡحۡرِ ٱلۡمَسۡجُورِ

“And [by] the sea filled [with fire]”

Along with the development of science and technology, there are various surprising discoveries related to natural phenomena, including the phenomenon of fire found on the seabed. A geologist from Russia, Anatol Sbagovich, and Yuri Bagdanov, a scientist from the US, discovered the phenomenon of fire on the seabed. They studied the Earth's crust and faults on the ocean floor off the coast of Miami. They then found molten lava flowing along with volcanic ash whose temperature reached 231 celsius.

Surah Al-Anbiya: 33

وَهُوَ ٱلَّذِي خَلَقَ ٱلَّذۡلِ وَٱلنذهَارَ وَٱلشذمۡسَ وَٱلۡقَمَرَۖ كُُ ٞ فِِ فَلَكٖ يَسۡبَحُونَ

“And it is He who created the night and the day and the sun and the moon; all [heavenly bodies] in an orbit are swimming.”

The verse above is one of the verses regarding astronomy about the solar system's orbit. Modern science and science reveal that the moon revolves around the earth in orbit or traversed orbit. The earth and other planets in the solar system have their orbits or orbits to surround the sun under the influence of gravity.

Surat Ar-Rahman: 33

﴿۱۰۷﴾

“O company of jinn and mankind, if you are able to pass beyond the regions of the heavens and the earth, then pass. You will not pass except by authority [from Allah].”

The verse above is a verse that motivates people to study and develop technology so they can explore outer space. With science, humans can know about heavenly bodies, humans can explore outer space, and humans are even able to penetrate barriers that have not been uncovered so far.

Surat Shad: 37

وَٱلشذَّةِنَّ ۡكُُذَ بَنذآءٖ وَغَوذاصٖ

“And [also] the devils [of jinn] - every builder and diver.”

The verse above explains that Allah gave Solomon the ability to subdue demons who are builders and dive experts who perform tasks according to Solomon's orders. If he orders them to build a building such as a palace assembly hall, fortifications, or buildings where Solomon's wealth is stored, and so on, they can complete the task in a short time. Moreover, it was a very extraordinary thing at the time.

Surat An-Naml: 44,

﴿۱۱۰﴾

“Before him he was given power to rule over such things as he pleased...”
“She was told, "Enter the palace." But when she saw it, she thought it was a body of water and uncovered her shins [to wade through]. He said, "Indeed, it is a palace [whose floor is] made smooth with glass." She said, "My Lord, indeed I have wronged myself, and I submit with Solomon to Allah, Lord of the worlds."

Surat Al-Fajr: 6-8,

"Have you not considered how your Lord dealt with 'Aad - [With] Iram - who had lofty pillars, The likes of whom had never been created in the land?"

This verse explains that people are known as strong nations and have tall, big, and mighty bodies. The proof of their might is that they were able to build a city called Iram with sturdy, tall, and magnificent buildings for that time. They also rule over the surrounding nations. The technology they had at that time was very advanced.

Surat Al-An'am: 125,

"So whoever Allah wants to guide - He expands his breast to [contain] Islam; and whoever He wants to misguide - He makes his breast tight and constricted as though he were climbing into the sky.

Thus does Allah place defilement upon those who do not believe.”

This verse explains that his chest is tight and narrow as if he were climbing the sky. We can feel this when we get on a plane and take off. The higher up, the tighter chest, and this place can be proven by technology.

Surat Al-Mulk: 3,

"[And] who created seven heavens in layers. You do not see in the creation of the Most Merciful any inconsistency. So return [your] vision [to the sky]; do you see any breaks?"

Allah explains that He is the One who created all the heavens in stages in the universe. Every natural object seems to be floating firmly in the middle of the universe, without any supporting pillars or ropes that bind it. Each sky occupies a designated space amid the universe, and each layer consists of countless planets. Each planet follows the path that has been determined for it. This creation can be seen in technology.

Surah Al-Jatsiyah: 13,

"And He has subjected to you whatever is in the heavens and whatever is on the earth - all from Him. Indeed in that are signs for a people who give thought.”
The verse above explains that the potential for technology development is the scientists who develop it, and it comes from what is on earth. All of this was created by Allah for humankind. This verse is confirmed by the Hadith:

قال رسول الله ص.م مَنْ أَحْيَا أَرْضًا مَيِِّتَةً فَهِيَ لَهُ (رواه الترميذى)

Tirmidhi narrated that the Messenger of Allah said: "Whoever resurrects a dead earth, it (the earth) belongs to him."

With the various arguments related to the technology above, humans can benefit as long as they are willing to use their minds and minds and follow the steps and procedures in accordance with the sunnatullah. For example, the blowing of a dry, flat leaf by the wind so that it soars high is due to the air currents around it. People who carry out observations and research to find answers to the question: "how did the leaves fly?", will undoubtedly come to the sunnatullah that causes the leaves to behave as seen in their observations. An object shaped like a leaf, which is long and curved downward at the edges and width, will interfere with the airflow because, in the curved part, the airflow is not as smooth as elsewhere. A result, the air pressure in the arch is higher than in the other parts, so the object is lifted. The person who made the observations and research discovered sunnatullah which in science is called aerodynamics. With complete knowledge of aerodynamics and specific material properties, humans can apply this knowledge to make airplanes that can travel at certain speeds.

The above propositions illustrate that in conducting an in-depth analysis to think and read (invite to see, pay attention, and observe events), something can be done using the approach of the universe, science, the events of a people, and the environment that it can easily understand it.

Muslim scientists have donated most of their lives to making observations and research on natural phenomena, and finally, they came to definite conclusions and found technology according to their time.

The above is in line with learning technology that builds learning by optimizing various learning resources, such as the universe, human resources, and the environment, so students can easily understand learning material.

CONCLUSION

One of the efforts to streamline and streamline the learning process is to use learning technology. Learning technology provides convenience for educators in implementing the learning process to achieve learning objectives. Learning technology can play a role in developing and using various learning resources, including human resources, natural and environmental resources, and opportunities. Through the Qur'an and Hadith, Islam teaches that learning to interpret something must also involve extensive learning resources, such as in the Qur'an Surah Al-‘Alaq verse 1, namely the
universe, the environment, science, humans, and natural resources.

ACKNOWLEDGMENT

This research contributes to the great idea that the Al-Qur’an and the Hadith explained a lot about the universe, environment, science, human, and natural resources, all of which can be used as a reference for educators in the implementation of learning technology so that students can easily understand learning material.

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