

# Some Aspects of VR and AR for Arabic Teaching Purpose

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**Abstract:** Virtual Reality (VR) and Augmented Reality (AR) technology is a technology that was born from the development of this era, this technology is a technology that displays an artificial image, either in the form of 2 Dimensions (2D) or 3 Dimensions (3D) either indoors or outdoors. outdoors with the help of tools in the form of hardware and software that has been provided by this technology. This will be explained in more detail later in the discussion. Arabic learning is now starting to transform in the era of technological and information advancement, this can be seen by the Arabic language learning which is starting to use technology a lot as a medium in existing learning, this is the right step and is a development made in the field of education. VR and AR technology is a technology that was born in the era of the industrial revolution 4.0 as evidence of technological sophistication in this era, where this technology can create objects/images in a space from this technology or combine the real world and the virtual world (digital). This study conclude that when Arabic learning is learning that requires 4 special skills to master it, and VR and AR technology is one of the suitable technologies to be used in learning Arabic.

**Keywords:** Arabic learning, augmented reality, learning design, virtual reality.

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## Introduction

Education and learning is one of the most important needs in human life, this is needed in order to prepare the next generations, without education and teaching carried out in the community, there will be destruction in a society, this is as follows which was said by Rasullulah (peace be upon him) in his hadith which reads "to seek knowledge is an obligation for every Muslim" (HR. Ibn Majah) besides that the importance of education is also proven by the Indonesian education legislation. In Article 1 paragraph 1, Law No. 20 of 2003 concerning the National Education System, it is explained that "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by himself, society, nation and state (RI, 2003)

In order to create good education and teaching, competent teachers are needed and effective and

efficient teaching strategies, but from the data found there are still many teachers who have not been able to do this, this is influenced by internal and external elements of the teacher (Saat et al., 2014). Over time and developments that occur in various lines of society, technological developments have entered many aspects of people's lives. One of them is the existence of educational technology, this is motivated by an event that we know as the "Educational Revolution" in this case, 4 stages of development in education are explained, namely (1) revolution I, parents hand over their children's education to other people who work as a teacher, (2) revolution II, used written language as the main means of education, (3) revolution III, the availability of print media as a result of the invention of printing machines and techniques and (4) revolution IV, took place with the widespread use of electronic communication media (Ariani, 2017).

The impact of this development provides a transformation that demands a concept that applies

technology in education. Educational Technology is one of the scientific disciplines that originally developed in America, one of the causes of the existence of technology that enters education is the cause of the industrial revolution, and also the beginning of educational technology can be said to have existed since the beginning of civilization in the field of education or known as the educational revolution (Ariani, 2017).

In addition, as explained by AECT that educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using and managing rapid technological processes. From this statement it becomes clear that the existence of educational technology will always be related to the technology used in education or there are other aspects so that education becomes easier to understand for students and teachers to make teaching easier, and one aspect that is managed is learning media. which is to assist teachers in teaching, and among these media (technology) are Virtual Reality (VR) and Augmented Reality (AR) technology.

Virtual Reality (VR) and Augmented Reality (AR) technology is a technology that was born from the development of this era, this technology is a technology that displays an artificial image, either in the form of 2 Dimensions (2D) or 3 Dimensions (3D) either indoors or outdoors. outdoors with the help of tools in the form of hardware and software that has been provided by this technology. This will be explained in more detail later in the discussion.

The field of education today is heavily influenced by various existing factors, one of the factors that influence it is the participation of technology that is included in today's education. In various parts of the world, we can find countries that we have heard a lot about, using technology as a tool, media, and substitute for existing lessons. With technology, learning becomes easier, both as a teacher who explains learning material, and students immediately understand the material conveyed by the teacher.

Learning Arabic is part of the worship of Allah. In addition to being a basic need for humans, language is also a medium for communicating, conveying ideas, ideas, and human thoughts that

are expressed in the form of speech or writing with the intention of being understood by others. Arabic is also the language chosen and recognized by the United Nations (UN) from 6 important languages in the world, among the recognized languages are English, French, Spanish, Russian, Mandarin, and Arabic. In addition, Arabic is the oldest and longest spoken language in the world. Since the Al-Qur'an was revealed and the religion of Islam is growing, the use of Arabic has increased until now and is used officially by both Arab countries in particular, or non-Arab countries in general, more than 25 Middle Eastern countries have made Arabic the official language of the country, Besides being the language of the holy book Al-Qur'an and Hadith, Arabic is the language of Muslims (Furoidah 2020), in the Qur'an it is explained "Indeed we have made the Qur'an in Arabic, so that you can understand it" (Surah Az-Zukhruf: 3).

Arabic learning is now starting to transform in the era of technological and information advancement, this can be seen by the Arabic language learning which is starting to use technology a lot as a medium in existing learning, this is the right step and is a development made in the field of education.

## Results and Discussion

### Education technology

#### 1. Technology History

It has been proven about the importance of technology in the survival of this life since time immemorial. The role of technology has a very important influence in the formation of the mind and the progress of human civilization, among the evidence of this is, a painting and sculpture carved around the pyramid building that existed in the ancient Egyptian civilization. Seen around the graves or monuments of the kings, illustrates the existence of an extraordinary technology at that time from this it is concluded that technology has been born since time immemorial, and continues to develop, according to its era

#### 2. Technological development

The industrial revolution that occurred in Europe was the beginning of the development of modern

technology, in the view of Listhari Baenanda. The era of the industrial revolution is divided into four phases, of which the first phase or the industrial revolution 1.0 was launched in 1784 in England, which in this phase is proven with the invention of the steam engine by James Watt in 1776 and the mechanization that replaced human work.

After the passage of several years ago, at the end of the 19th century it entered the second phase or the 2.0 industrial revolution starting in 1870 until 1914, in which production machines had been replaced with electric power that functioned to produce things on a mass basis, in this phase This is also evidenced by findings, including: electricity, production lines, means of transportation, telephone, telegraph system, rail network, sewage system.

Furthermore, humans entered the third phase or the 3.0 industrial revolution that occurred in 1970, in which this phase was completely replaced by human power with a digital system, this is evidenced by the invention of computers and robots.

Then enter the fourth phase or industrial revolution 4.0 which was first introduced in Germany in 2011 at the Hannover Trade Fair and in 2015, Angela Merkel also introduced this era at the World Economic Forum, in which Germany invested € 200 million to support the government, academics or business people to conduct research related to the era of the industrial revolution 4.0. This era is evidenced by the existence of the Internet of Things (IoT) which is able to connect and facilitate the communication process between machines, devices, sensors and humans themselves through the internet network (Baenanda, 2019).

### 3. Education technology

Before entering the 60s AD, there was a large-scale understanding of educators in the educational aspect. They assume that the aspect of learning technology is only limited in terms of learning media, including audio and visual media used in classroom learning, but in some cases there is a similarity of words for the mention of these teaching aids, the term is usually called teaching aids. Teaching Aids).

Over time, and the development of the era, finally understanding of educational technology is

increasingly widespread and diverse, not only limited to what has been described above, but has begun to develop in terms of updating the level of students, updating learning objectives, analyzing learning content, updating teaching strategies, and the academic calendar method.

## Learning Media

### 1. Definition of media

Before we know what media is, it helps us to know in advance what are the definitions/understandings of media from the experts, as follows:

The word media comes from the Latin *medius* which literally means 'middle, intermediary or introduction. In Arabic the media is an intermediary of the sender's message to the recipient of the message (Arsyad, 2016) AECT (Association of Education and Communication Technology, 1977) provides limitations on media as all forms and channels used to convey messages or information (Sanjaya, 2012) According to Fleming, it is the cause or tool that intervenes in the parties and reconciles them. With the term mediation media shows its function or role, namely regulating effective relationships between the two main parties in the learning process - students and lesson content (Arsyad, 2016). Robert Hanick, et al (1986) defines the media is an intermediary from the source (source) and recipient (receiver) of information (Sanjaya, 2012). From some of the definitions of media above, it can be concluded that media is a tool in the form of hardware (hardware) or software (software) that carries information, messages, so that the message conveyed is well received by the recipient of the message.

### 2. Learning Media

After we know what the definition of media is, it will be easy for us to know what learning media is, according to Sanaky (Dewi, 2018), the keywords of learning media include: the presence of introductory tools or instruments, the existence of activities to distribute information or learning materials, the involvement of physical instruments in distributing learning materials, the existence of learning resources from which learning materials are obtained and the linkages between learners, teachers, material, with learning objectives.

Learning media is an inseparable part of learning activities in schools. Utilization of learning media is also a creative and systematic effort to create experiences that can help students' learning processes. So, in general it can be interpreted that learning media is a tool for the teaching and learning process, namely everything that can be used to stimulate the thoughts, feelings, attention and abilities or skills of students so that it can encourage the learning process in students.

### Arabic Learning

Some definitions of learning from experts, including:

1. Muhibbin Syah said that learning is a process activity and is a very fundamental element in the implementation of every type and level of education (Muhibbin, 2010).
2. BF Skinner in Muhibbin Syah, learning is a process of adaptation or adjustment of behavior that takes place progressively.
3. Hintzman in Muhibbin Syah, learning is a change that occurs in an organism (human or animal) caused by experience that can affect the behavior of the organism.
4. Hamzah B. Uno said that learning is a conscious thing that is done by individuals to meet their needs, every learning activity carried out by students will produce changes in themselves (Uno, 2021).
5. Shaykh Mustafa Al-Ghulayainiy, said the definition of Arabic is a sentence revealed by Allah to express their intentions (Al-Ghulayainiy, 1989).
6. Ismail HS Idris, Arabic is the Arabic language chosen by Allah to communicate to His servants who have revealed as a cover of His Shari'a to the noble messenger, the Prophet Muhammad sallallahu 'alayhi wa sallam, namely the Qur'an and the Hadith of the Prophet (Idris, 1955).

Based on the above understanding, what is meant by learning Arabic is a process of change in each individual in the field of Arabic, in which the process allows individuals to master the language that was revealed and enshrined by Allah in His very noble Shari'a, namely Arabic.

### Branch of Arabic Language Sciences

Arabic is not only one discipline, but Arabic has several branches of knowledge in which we study it, including:

- a. According to Al-Ghulayainiy in Latifah Salim, the branches of Arabic knowledge include: sharaf, nahwu, balaghah and al-rasm. While balaghah itself includes: ma'aniy, bayan, and badi', arud, qawafi (rhyme), qurdi sya'ir, insya', khitdbah, adab date, matan al-lughah.
- b. Meanwhile, according to 'Abd al-Aziz 'Abd al-Majid in Latifah Salim said the branches of Arabic language, such as: mutala'ah, insya' syafawiy, tahririy, qashahiy, mahfuzhat, imla', qawaid, adab and balaghah. Based on the division of the branches above, we conclude that the branch of Arabic language science consists of:
  - 1) The science of Qawaid lughoh, includes the knowledge of nahwu, sharaf, khat, insya', lughoh science, and istisqaq.
  - 2) Mantiq science, includes: language anthropology, inscipisi and dictionary science.
  - 3) Balaghah knowledge, including: knowledge of bayan, badi' and ma'ani
  - 4) Knowledge of Adab, including: science of 'arud, qard, qawafi, syi'ir & natsr, fiqh al-lughoh, adab al-lughah date, naqd al-adab.

### Arabic Learning Orientation

Of the various disciplines of Arabic language above, Arabic has its learning objectives, as explained by Ikhwan nur rois & Cahya edi setyawan, (Rois and Setyawan 2019) The purpose of learning Arabic is because Arabic is the language of Islam, Arabic as a unifying tool, Arabic as a tool for the development of Indonesian, Arabic as a tool for the use of science & technology. From the explanation of the above objectives, we conclude that learning Arabic is very noble as well as its goals, as for the objectives of learning Arabic in order to understand world sciences or religious sciences.

As for orientation according to the Kamus Besar Bahasa Indonesia (KBBI), orientation is the view that underlies the mind. Therefore, we argue that what is meant by orientation is a foundation or

rationale in the process of achieving goals. Edwin Locke and Latham in Woolfolk state that orientation is a result or achievement that a person strives for fulfillment. Goals are specific targets or goals to be achieved by someone (Locke and Schattke, 2019). Therefore, learning Arabic has a different orientation for each individual learner, with an orientation, Arabic learners can determine where they will explore and focus on various Arabic language sciences as mentioned above, as for Among the orientations of learning Arabic are:

1. *Religious Orientation*. This orientation has become the main principle in Indonesia, where every Arabic learner mentions that in order to understand the sources of Islamic law perfectly, among these religious orientations are:
  - a. Can understand perfectly the source of Islamic teachings. This orientation is called a religious orientation, it is in line with what was explained by Lilik Rachmat in the National Seminar on Arabic at the University of Al-Qur'an Science. As stated in the Word in Surah Yusuf verse 2, which means: "Indeed, We have sent it down as an Arabic Qur'an, so that you may understand it." From here, we can interpret that the main orientations and noble learn Arabic dalah to understand kaffah or perfect sources of Islamic teachings, this is because for so we better know and understand what is prescribed by the Messenger shallahu alaihi wasalam.
  - b. In order to become a da'i and an Arabic scholar. There are some students who have this orientation, because the learner understands a Word of Allah ta'ala in Surah Al-Mujadilah verse 11. Therefore, there are learners who are oriented to become da'i or scholars in the field of Arabic, this is because if they are proficient or expert in Arabic, then in preaching it will be easy to convey Arabic content to their congregation.
  - c. Academic Orientation. This orientation is known among students, where when an Arabic learner has an academic orientation, he will achieve his goals, including the following:
    - 1) Can become an Arabic practitioner. According to the Big Indonesian Dictionary, the word practitioner is an executor in the business field, so what is meant by the author is an orientation towards learning Arabic. publisher in the Arabian Peninsula.
    - 2) Can become an Arabic language academic. According to the Big Indonesian Dictionary (KBBI), the word academician is someone who has a high level of education. Some of the orientations of a person to become an Arabic language academic, such as: researchers, professors, lecturers or teachers in the field of Arabic, who can make books or conduct research related to Arabic, but someone can also become a practitioner and also an academic in the field of Arabic, which is all in line with Lilik Rachmat's opinion at the Arabic National Seminar (Adisianto et al., 2020).
2. *Communication Orientation*. In addition to religious orientation and academic orientation, there is another orientation in learning Arabic, namely communication orientation, where this orientation includes:
  - a. Good communicator. Learning Arabic has four skills, one of which is speaking skills or maharah kalam. Explained by Abd Wahab Rosyidi and Mamlu'atul Nikmah maharah kalam is speaking continuously without repeating the same vocabulary by using sound expressions (Rosyidi and Ni'mah, 2011) The general purpose of this maharah kalam is so that Arabic learners can communicate in Arabic properly and correctly. The orientation here is that by learning Arabic, we will be able to communicate well with direct speakers using Arabic. On the other hand, if we can communicate well, we can help or guide people who want to go to Arab countries.
  - b. Work or passion orientation. This orientation is well known to students of international relations, not only that, students of Arabic literature can also have the opportunity to become a diplomat. Mentioned by Aji Surya

in the General Stadium at Gajah Mada University (Adisianto et al., 2020) a diplomat must be able to perform protecting, negotiating, promoting, reporting and representing. Therefore, this orientation can also be achieved by Arabic language learners, especially in the field of Arabic literature. Furthermore, explained by Aji Surya, emphasized that preparations should be made before becoming a diplomat, among the preparations are: (1) mastering foreign languages very well, (2) reading a lot about Indonesia's position on various international issues, (3) increasing harmonious attitudes, (4) build self-confidence, (5) start a hobby that supports work, (6) get along with all walks of life.

- c. Can be political in the field of Arabic. Arabic can also make a person a political person in a democratic country, according to the Big Indonesian Dictionary (KBBI), the word politician comes from the word politics which has the meaning of knowledge related to state administration, policies, government systems, moving from this definition that someone who learns Arabic can to become a State politician, which is meant as he freely proposes or makes regulations in his country regarding the preservation of the Arabic language. This orientation is very forgotten by Arabic language learners when they become politicians, this is evidenced by the portion of hours learning Arabic is still considered less than other foreign languages, hopefully in the future for Arabic language learners in Indonesia if given the opportunity to become politicians in their country, they should pay attention to policies related to Arabic.

### **Implementation of AR and VR Technology as Media in Arabic Learning**

Education and learning in the industrial revolution 4.0 era has its own style compared to learning in previous eras, this is evidenced by the many uses of technology as a medium in the world of education and learning today. At a glance, the benefits of media as stated by Sudjana &

Rivaivv(Sudjana and Rivai, 1990; Azhar, 2011; Rahmawati et al., 2021) suggest the benefits of enjoyable learning media in the student learning process as follows:

1. Learning will attract more students' attention so that it can foster learning motivation.
2. Learning materials will have a clearer meaning so that they can be better understood by students and allow them to master and achieve learning objectives.
3. Teaching methods will be more varied, not merely verbal communication through the words of the teacher, so that students do not get bored and the teacher does not run out of energy, especially if the teacher teaches every lesson.
4. Students can do more learning activities because they not only listen to the teacher's description, but also other activities such as observing, doing, demonstrating playing, and others.

From the above statement that the media is one of the most needed needs in learning, as has been stated above, the media is a tool and a means of dealing with problems in learning. One of the lessons that have applied many of these technologies as a medium of learning is learning Arabic. In learning Arabic there are at least 4 abilities (4 maharoh) that must be mastered in Arabic language skills, these 4 abilities are: 1) Istimā (hearing/listening), 2) Qiro'ah (read/reading), 3) Kitabah (writing) and 4) Kalam (talk/speaking) of these four language faculties, if one can master these, one will become an expert in the language.

One form of technology that is very suitable, as the media used in Arabic is VR and AR technology, this as explained in the VR history chapter in it explains that "technology involves various senses in this case in the form of the senses of sight, hearing, smell, and touch. "This is in line with the 4 language abilities above and the taxonomy of cognitive, affective and psychomotor learning outcomes in Bloom's taxonomy classification (Mahmudi, 2020) in the world of Education. The implementation of the use of this technology has been studied, one of the studies that has succeeded in applying VR and AR technology in Arabic lessons is a research conducted by Ady Fauzan, a

Darussalam Gontor University student in 2020 with the title "Application of Augmented Reality Technology in Arabic Learning Media: Durus Al-Lughoh Volume 1" The results of this study are application testing using the Black Box method showing good results, then the results of the questionnaire to the lecturers with results of 4.70 (agree/ood), while from students with results of 4.37 (agree/good), while for the results of satisfaction from lecturers 94% of students 87% (Fauzan, 2020).

### Conclusions

After the author discussed "VR (Virtual Reality) and AR (Augmented Reality) Technology as Arabic Language Learning Media in the Era of the Industrial Revolution 4.0", however, there are several parts that the author has not written in several parts due to the limitations of the author in this discussion, the author conclude, as follows: 1) In the era of the industrial revolution, there were several vase changes starting from 1784 to 2011, which were marked with codes 1.0, 2.0, 3.0, 4.0 respectively. 2) In the era of the industrial revolution 4.0 as the most sophisticated era in terms of technology where all technology uses internet, computer and robotic networks.

VR and AR technology is a technology that was born in the era of the industrial revolution 4.0 as evidence of technological sophistication in this era, where this technology can create objects/images in a space from this technology or combine the real world and the virtual world (digital). Arabic learning is learning that requires 4 special skills to master it, and VR and AR technology is one of the suitable technologies to be used in learning Arabic.

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