

CHAPTER II

LITERATURE REVIEW

This chapter contains the definition of the terms and synthesis the previous literature which related to Artificial Intelligence, Chatbots Based on AI, Motivation, Perceptions and Previous Studies.

A. Definition of AI

Artificial Intelligence (AI) is a computer science that focuses on the ability of machines to imitate human behavioral intelligence on the ability of machines to mimic their users, namely humans. AI allows users or humans to process data using the shortest time possible and with accurate answers provided by the system in a simple but efficient and reliable way to be used in a matter or activity. In a relevant and simple way according to (Kerr, 2017) explains the definition of AI when explained in a system or program that is increasingly developing and advancing in its use activities.

The use of Artificial Intelligence chatbots, for example google, chatgpt, deepl, grammarly, etc, in its application in the world of education is a thing or one of the characteristics of the Industrial Revolution 4.0 era, which is characterized by the existence of the Industrial Revolution 4.0. Revolution 4.0 which is characterized by automation and widespread data exchange this occurs when people search, quote, analyze data / information, access cloud services via the internet. While Society 5.0. Described where society is human-centered where this progress measures all problems to be explained briefly and precisely in social developments that combine two things humans with technology into one thing this integrates cyberspace and

physical space which integrates cyberspace and physical space. (Fahimirad & Kotamjani, 2018) Stated that Innovative or increasingly developing and updated educational technology has revolutionized teaching and learning methods, one of which is the use of technology.

Advantages of Artificial Intelligence or AI :

- a) Has a permanent or unchanging nature. Intelligence in technology is always undergoing changes and in terms of this change occurs due to human forgetfulness. Meanwhile, Artificial intelligence cannot change as long as the system or program does not change it.
- b) Easy to duplicate widely and spread. Providing information on a person from various heads will certainly have a difficult process to access and human expertise will not be duplicated completely. Meanwhile, the knowledge that resides in the system can never be forgotten or lost in the memory of the technology itself.
- c) The price is affordable, AI systems are very easy to reach for use for all people, for example we need information or data from an area, we don't need time to go to that area.
- d) Fixed, artificial intelligence is a part of computer technology that is always consistent while natural intelligence is not. technology that is always consistent and unchanging while natural intelligence is always changing.
- e) Documentable. Results can be documented concisely, quickly, and accurately.
- f) Faster, the search for solutions in artificial intelligence will be faster because the system will trace the faster because the system will search for the same or

similar problems in the database while the natural intelligence similar to the database while natural intelligence searches will take a relatively long time.

g) Better, the solution produced by artificial intelligence will be very good.

B. Definition of Chatbots

Chatbots or Bots are known as a service program that helps its users to know many problems and answers. Chatbots are a programming system that has or stores access to several data, which if given input will provide answers directly to the user. Chatbot can answer a question by reading directly the text typed by the user through the keyboard (Adriyani, 2004). Britz defines chatbots as a digital conversation medium that answers messages between two users. Chatbots are seen as promising as a medium that is engaged in many fields, especially the same is true in their usefulness in the field of education.

This chatbot program has a goal to support human work in the future, this is as a provider of organized information precisely and quickly for students in undergoing or doing all tasks related to education. Chatbots as human virtual assistants provide a positive response and show active interaction between humans and machines. This makes chatbots an efficient learning resource for students wherever students are.

A chatbot is an artificial intelligence-based computer program that is a communication tool in the form of text or voice with various customized languages. Chatbot is a technology used by companies to meet needs related to consumers or users directly (Bouhia et al., 2022). Here are some of the benefits of chatbots:

1. Provide services quickly: Chatbots are very reliable 24 hours non-stop with very fast service in answering user needs (Bouhia et al., 2022).
2. Can answer problems that users ask: Chatbots are computer programs that are created to be able to have conversations directly with their users via text or messages on the mobile phones of technology users (Suyanto, Machine Learning Basic, and Advanced Levels, 2014). Chatbots work optimally and quickly in answering every question from users using express messages and so much data from various sources as material or information for users.
3. Can provide information from far to near Chatbots as a medium for providing fast and precise responses from various directions near or far (Okonkwo & Ade-Ibijola, 2020; Smutny & Schreiberova, 2020). Chatbots are increasingly used as an effort to improve student interaction with learning through interactive instant learning media, almost all students in higher education have smartphones, and this makes them students often use internet applications. A chatbot system can be used as a mobile web application for learning media. Chatbots can directly be a medium for students to find information sources question and answer exercises (Sinha et al.2020), evaluation criteria according to (Benotti et al., 2017; Durall & Kapros, 2020), as tasks and relevance facilitate a job from various tan areas.
4. Provides unlimited service time: Several studies have been conducted that Chatbot technology largely has an important role in the provision of educational services, including Chatbots used to answer student questions (Clarizia et al., 2018). Chatbots as providers have no time or place usage limits, except without

an internet signal. This application can work anywhere with stable internet activity.

5. Cheap application usage: Chatbots are currently closely related to other messaging applications such as WhatsApp, Line, Telegram, or Slack so can be accessed easily and privately by users according to (Almalki & Azeez, 2020). From here we know that this chatbot application is free of charge for its use, so it is cheap and efficient, with the help of the internet network which is currently available almost wherever the user is. In its intelligence it helps process human language, chatbots developed through a program called Natural Language Program (NLP). An enabling program helps recognize and learn human interactions easily (Guzman & Lewis, 2019).

Indicators of the use of chatbots in English language learning :

- a) Chatbots as a medium that is easy to access in use.
- b) Student response to the use of chatbots in the learning process.
- c) Students' academic progress in using chatbots.
- d) Student motivation in learning English when used.

C. Definition of Motivation

According to (Leybourne, 2007) the PMBOK (Project Management Body of Knowledge) definition, motivation is a way of achieving a higher level of improvement and overcoming obstacles that affect a problem." This is interpreted differently by some psychologists regarding the definition of motivation itself, as follows (Hamid Tohidi, 2004). (Hanisch & Wald, 2011) states motivation itself comes from the Latin word "Movere" which means movement when translated into

English. Motivation is a condition in which a person makes a movement, or a transfer of enthusiasm for doing something well, and fosters a sense of self to become a developed person or self-action that has a good impact on a job or problem.

Based on (Siagian, 2008) defines motivation as a driving force that provides a pull or encouragement for someone to take responsibility for completing something they started, whether the event has not yet been completed until the end of a responsibility, it could be said to be a spirit that comes to provide strong encouragement. According to (Alizadeh, 2016) motivation researchers conclude that motivation is the power that arises within the impact of an event, which makes people inspired or excited in a particular job. If an event occurs that makes us feel different and has more passion or strength, this leads us to enter into the motivation. In conclusion, motivation is something that makes the movements in our lives become directed and arranged for more organized goals.

Through several theoretical studies from the past, teachers should understand various conflicts today according to (Kusumawati, 2014). Unfortunately, student motivation is very low, especially in learning English their level of self-confidence is low. This is very necessary for teachers to help their students learn English more easily, by knowing several things that increase student motivation. (Alizadeh, 2016) States If students' learning motivation is lost then whatever form of learning is applied will not be effective without knowing students' learning interests. To understand the implications of Artificial Intelligence (AI) on student motivation in English language learning, it is very important to study

the theoretical underpinnings of motivation and the role technology, particularly Artificial Intelligence (AI), can play in shaping this construct (Kim, Cha, & Kim, 2019). Motivation, in the context or field of education is often categorized into two different types, namely intrinsic and extrinsic motivation.

Intrinsic motivation refers to the internal desire or effort that exists to engage in an activity for its inherent satisfaction, whereas extrinsic motivation comes from external rewards or incentives. Deci and Ryan's Self-Determination Theory (SDT) argues for a comprehensive understanding of motivation itself (Liu, Hou, Tu, Wang, & Hwang, 2021). SDT states that humans have innate psychological needs for autonomy, competence, and relatedness. When these needs are met, individuals are more likely to be intrinsically motivated, leading to higher engagement and persistence in learning activities which leads to higher engagement and perseverance in learning activities. Artificial Intelligence (AI) in this case has a role as a technology that affects human motivation intrinsically and in the process of developing it requires a relevant activity where AI acts as an intrinsic element for its users, namely students, especially in the learning process.

The motivation that we know is divided into 2, namely intrinsic and extrinsic motivation, and the following explanation:

1. Intrinsic Motivation

(Santrock, 2004) Defines this motivation comes from the internal drive of individuals who want to act to do something or solve a problem with help or encouragement from themselves. For example, someone wants to learn English because they feel happy when they can speak English. and chatting with strangers.

There are 2 motivational categories of internal elements, they can be divided into two types of motivation, namely:

a) Integrative Motivation

Integrative motivation is a condition when students want to learn a target language so that they can better understand and get to know people who speak that language, especially foreign languages such as English (Rehman, et al., 2014).

b) Instrumental Motivation

This motivation is like inviting students to enter and join the culture and communication habits of the language being studied, of the second language group, and engage in social exchange within that group (Alizadeh, 2016).

2. Extrinsic Motivation

Extrinsic motivation is motivation that comes from the influence of some kind of external incentive, which is different from the desire to learn for its own sake or interest in the task. In addition, (Harmer, 2007) states that extrinsic motivation is the result of several external factors, for example, the need to pass an exam, the hope of financial reward, or the possibility of future travel.

Apart from that, this type of motivation arises from outside and has an influence on a person such as providing incentives, social pressure, and punishment. According to (Gage and Berliner, 2007), this type of motivation comes from teachers, parents, and the environment.

D. Definition of Perceptions

According to (Muslimah, 2018), Perception is a stimulus given to oneself to interpret something based on the desire to express a thought based on an opinion or the desire to give input to an event that someone has experienced. A motor retrieval process that produces meaning is also called perception. Meanwhile (Budiman & Apriani, 2019) provide a statement that the term perception is taken through the process of a person's activity in giving impressions, assessments, opinions, feelings, and interpretations. Something based on what is obtained from a particular source. (Hamachek, 1995) states that perception is about how an individual experiences stimulation by sensory receptors from the world around them. People's perceptions are influenced by how they view the world around them.

According to (ifta, call, and Guidelines: 2019) the types of perception In identifying a perception that students have, there are two types of perception, namely like:

- A. Positive perception is a valuable gift or self-ability that prepares oneself to be confident and have good thoughts about something or have the strength to understand the world, survive a crisis, and focus on things outside oneself. This is a good relationship in interacting with society or other people.
- B. Negative perception is a person's desire to focus on their desires, trying to gain and prove their self-worth. This attitude is the same as being selfish, this will hurt the social process of understanding life.

E. Previous Study

The research currently being carried out is a development of previous research which found the results of chatbot research on student learning patterns and motivation. According to (Ali et al., 2023) this study discusses how the impact of Chatbots in the process of learning English. Using a quantitative design teachers and students were used as a source of research data using nonprobability sampling techniques, answering an online questionnaire. From this some new things were found that chatbots are able to increase the ability of students when the learning process takes place. Instead of focusing on the negative impact of chatbots we need to focus on how chatbots positively influence the learning process in this case, a continuous research process is needed to find out other impacts of using chatbots.

The second research from, (Mageira et al. 2022) That the process of creating chatbots only requires some programming that communicates between users. These chatbots do not need to be super, smart, or sophisticated, but they could successfully serve educational purposes while empowering students. In general, when there is a conversation between chatbots and users, it is desirable that there is a fast and adequate question and answer communication between the two, this is what will make students interested in communicating to help their learning process in English subjects.

The third research (Dwi Zella Permata Yusda, 2019), in this research, the researcher wants to know how students' motivation is in the process of learning English in a junior high school, the researcher onegin examines how students'

motivation is when learning English, regarding students' interests and opinions in learning when using digital media or technology, the results of this research show that students are at a medium level regarding their interest and motivation in learning English.

From previous research, the use of chatbots is strongly assumed to help the learning process. Research on the relationship between motivation to learn English in previous studies did not connect with the use of chatbots as a learning medium. So the novelty in this study is to find out how students' perceptions and reasons when using chatbots in motivating them to learn English. In finding the impact of chatbots, researchers used quantitative descriptive methods and surveys conducted on students and the results of high scores obtained through student activeness towards the use of chatbots in helping to increase interest and motivation to learn English with chatbots as a medium.