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The Influence of Technology Literacy and the Use of Artificial Intelligence (AI) By Hasanuddin University Students on the Change of Habits in Completing Academic Tasks

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Abstract

With the rapid advancement of technology and the integration of artificial intelligence in various aspects of life, students' approach to academic tasks is evolving. This study aims to analyze the effect of using AI on changes in habits in completing academic assignments. The type of research used is descriptive quantitative with multiple Linear Regression method. In this study, the sample was drawn with cluster random sampling of 400 people who had used AI which was divided into 16 faculties at Hasanuddin University. The data collection method in this study uses a questionnaire distributed online via kuesio.id which contains statements, interviews and documentation by searching the internet. In testing data analysis techniques, namely validity and reliability tests calculated using the SPSS (Statistical Product and Service Solutions) program with Cronbach Alpha (a) above 0.60, so the overall statement is declared reliable. The results of this study indicate that the literacy level of Hasanuddin University students is categorized as good with a respondent achievement rate (TCR) of 78.3% and the use of AI that is often used from the 15 applications listed by researchers, namely ChatGPT by 26.7%, Perplexity 12.7%, and Grammarly 12.6%. The results of data analysis show that there is a positive correlation between technological literacy and the ability to use AI with changes in habits in completing academic tasks. Students who have high literacy and are skilled in utilizing AI tend to be more efficient and effective in completing their tasks.

Keywords: *Technology Adaptation, AI Integration In Learning, Academic Habits, Technology Literacy.*

INTRODUCTION

Artificial Intelligence (AI) has become one of the revolutionary technologies that are changing various aspects of human life. In recent decades, rapid advances in AI technology have affected many sectors, including higher education. Students as part of the digital generation have extensive access to this technology, which has the potential to increase effectiveness and efficiency in the completion of their academic tasks. However, a deep understanding of AI literacy and its application in an academic context is key to optimally utilizing this technology. According to (Brown & Czerniewicz, 2010), digital transformation has provided limited access to information and knowledge through the internet. Recent studies show that students spend significant time browsing the internet for information related to their studies, with a preference for online sources that are quick, easy to access and relevant.

Technological literacy, which includes the ability to access, evaluate, use and participate in information effectively using digital technology, is a very important skill for students in this digital era. (Perdew, 2017). In an academic context, technological literacy includes the use of social media and digital applications to find learning resources, complete assignments and communicate. The use of *Artificial Intelligence* includes the utilization of technologies that rely on artificial intelligence to support various aspects of life, including in the context of education. With the help of AI, such as learning support systems, students can be more efficient in completing tasks, such as writing essays, composing presentations and solving problems. However, the world of Indonesian education in the past decade has been stunned by the emergence of several survey results that show the low literacy skills of Indonesian children. The results of the PISA (*Program for Student Assessment)* test in 2022, Indonesia was ranked 68 out of 81 results did not show a *steep learning loss* due to the COVID-19 pandemic. (Alam, 2023)). Meanwhile, a survey conducted by Central Connecticut State University (CCSU) in

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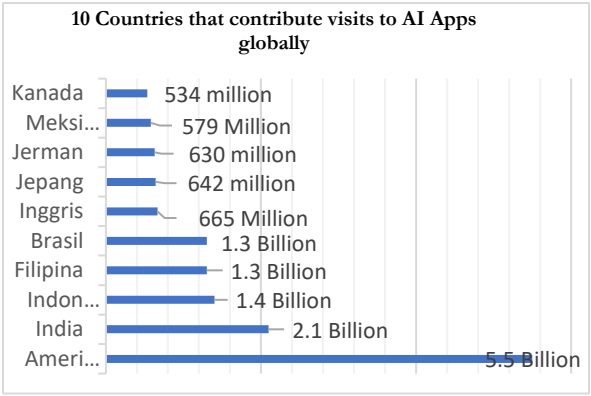
2016 on literate behavior, showed that Indonesia was still in 60th place out of 61 countries that participated in this literacy behavior survey. Hasanuddin University, as one of the leading institutes of higher education and ranked first in Eastern Indonesia is certainly not immune to this change. Hasanuddin University students are increasingly involved in the use of digital technology and AI in various aspects of their academic life in completing tasks as an influence of literacy and the use of *Artificial intelligence (AI)*.

Hasanuddin University (UNHAS), located at Jl. Perintis Kemerdekaan Km. 10 Tamalanrea, Makassar, South Sulawesi, became the site of this research. The campus has been accredited as Excellent with the Rector Prof. Dr. Ir. Jamaluddin Jompa, M.Sc. Initially, Hasanuddin University was established in Baraya (Barayya Campus) before being moved to Tamalanrea due to frequent flooding during the rainy season. Hasanuddin University was originally an expansion of the Faculty of Economics of the University of Indonesia (UI) based on the decree of the Governor of the Dutch East Indies in 1947. However, due to instability in Makassar, the faculty was closed and reopened on October 7, 1953 under the leadership of Prof. Drs. G.M. Riekekr. After several phases of development, Hasanuddin University was officially established as a university on September 10, 1956 (Hasanuddin, 2024). At the end of 1950, there was stagnation in the Faculty of Economics. Nuruddin Sahadat, Prof. Drs. G.J. Wolhoff, and several others prepared for the establishment of a private Faculty of Law, which later formed the Sawerigading College Hall. The Faculty of Law and Public Knowledge was established on 3 March 1952 as a branch of the UI Faculty of Law with the first dean Prof. Mr. Djokosoetono. The faculty separated from UI through Government Regulation No. 23 of 1956 and became part of Unhas. The efforts of the Sawerigading College Hall Foundation also resulted in the Faculty of Medicine. An agreement between the foundation and the Ministry of PP and K at the Council of Ministers meeting on October 22, 1953 established the Preparatory Committee for the Faculty of Medicine in Makassar. The faculty was inaugurated by the Minister of PP and K Prof. Mr. R. Soewandi on January 28, 1956 and became part of Unhas when the university was inaugurated on September 10, 1956.

According to Dr. Alem Febri Sonni, who is a Lecturer in Communication Sciences at Hasanuddin University, the literacy seminar raised the topic of digital skills with a focus on the use of *Artificial Intelligence (AI)*. Considering responsibility and ethics in using AI as the key to avoiding risks that may arise, such as algorithm errors, privacy issues and undesirable social impacts. This emphasizes the importance of a deep understanding of *AI* and a critical evaluation of its use to minimize risks and optimize benefits. (Communication, 2024). However, there are still many students who have not fully utilized AI technology in their academic activities. This is due to several factors including lack of awareness about the benefits of AI, lack of training or education about AI, and fear or distrust of new technologies. In *WritterbBuddy's* 2023 report, Indonesia is one of the countries that accounts for many visits to AI Apps and is ranked third in the world. (Sarkar, 2023).

Internet usage in Indonesia generated 1.4 billion visits to AI Apps, accounting for 5.60% of total *traffic*, with the United States (US) ranking first and India second. In addition, India is also known as one of the countries with the largest export of information technology (IT) services, making their interest in *AI technology* higher



other countries. (Muhammad, 2024).

Figure 1. Global AI visits by country (2023)

Based on data from WitterBuddy, an AI content platform, has released a list of the world's most popular AI apps for 2023. The data was collected between September 2022 and August 2023 using SEMrush. Among the

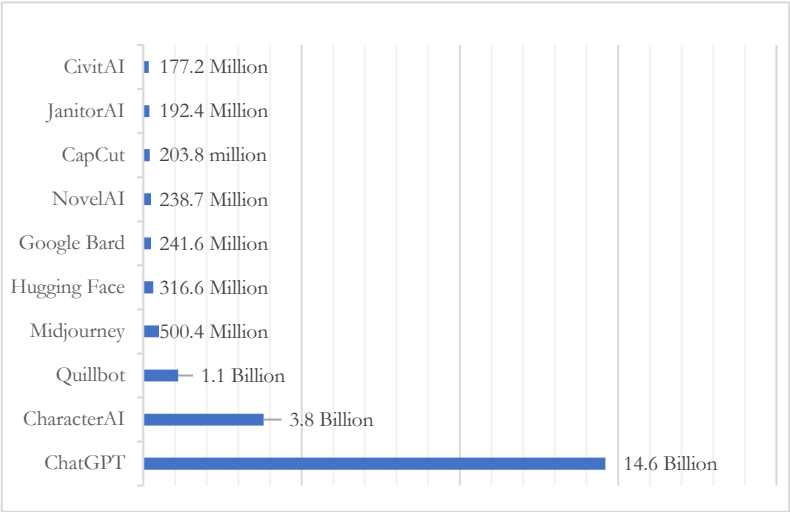


Figure 2. 10 Most Used AI Applications Globally (September 2022-August 2023

3,000 AI apps analyzed, the 50 apps with the highest access frequency were selected, which accounted for about 80% of the AI industry *traffic* in the same period. ChatGPT ranked first among the most used AI apps in the world, totaling 14.6 billion visits in 2023. It is developed by OpenAI and has a market share of 60.2%, far exceeding its peers. WriterBuddy's report also shows that Indonesia ranks fourth in the world in terms of ChatGPT visits, with 707 million visits in that period. In second place was Character AI with 3.8 billion visits, a chatbot that allows human-like interactions. Users can choose bot characters from famous personalities to characters in games. Quillbot ranks third with a total of 1.1 billion visits throughout the year, used to paraphrase sentences and avoid plagiarism. (Muhammad, 2024).

As of January 2023, (Study.com, 2023) conducted a survey on the use of ChatGPT with 100 teachers and 1000 students aged 18 and above. This survey showed the difference in views between professors and students regarding the use of ChatGPT. About 72% of college professors were worried that their students would cheat with ChatGPT, while only 58% of school teachers had the same concern. A total of 34% of faculty want to ban ChatGPT in educational settings, although 66% support access to it. On the other hand, while 72% of students supported banning ChatGPT access on campus networks, 89% admitted to using ChatGPT for assignments. This survey shows a mismatch between views and practices of ChatGPT use, indicating the need for clearer dialog and policies regarding this technology in education.

Glints and Monk's Hill Ventures (MHV) conducted a survey to evaluate jobs that could potentially be replaced by Artificial Intelligence (AI) in the future. The survey covered around 10,000 startup workers, 183 startup leaders and founders, and qualitative interviews with representatives of 73 startups in Indonesia, Singapore, Vietnam, and Taiwan (Muhammad, 2024). Based on the survey, the majority of respondents think AI has the potential to replace workers in content production at 31%, as well as in various other fields. In addition, the report discusses hiring, salary, and equity trends in the startup world, with a focus on the impact of AI and how it relates to startup business development. Hiring trends show the types of skills that are increasingly sought after as AI technologies evolve. Salary and equity structures in startups are also analyzed, providing insights into how these companies offer compensation to their employees. The impact of AI on startup businesses is identified as having a significant influence in improving efficiency, but also poses challenges such as the need for new skills and the possibility of reducing the workforce in certain areas. In conclusion, this report provides a comprehensive overview of how AI is affecting the world of work in startups, highlights the areas most vulnerable to automation, and provides insights into changes in hiring trends, salaries, and equity. The findings point to the need to be better prepared for the changes brought about by AI, both for workers and for startup companies.

The benefit of the digital era for students is the ease of accessing the latest information on education through various digital media such as laptops or smartphones connected to the internet. However, the lack of understanding of literacy among students is a major obstacle in utilizing this. One step that can be taken is to provide knowledge about *Artificial Intelligence (AI)* literacy to students so that they can use digital information wisely. (Zulfikhar et al., 2024). The use of *Artificial Intelligence (AI)* in the context of education promises increased accessibility of information, personalization of learning and more natural interactions between students and technology, but there is not enough in-depth understanding of how *AI* literacy and use affect the process of academic task completion by students. In the ever-evolving digital age, AI literacy is no longer an option, but a necessity. By improving AI literacy among students, we can ensure that they are not just passive users of technology, but also future innovators and leaders who are able to harness the full potential of AI for the common good.

RELATED WORKS

This section is divided into several parts, which explain some of the areas related to the research concept of artificial intelligence litration in education thoroughly discussed in the first subsection, while the use of artificial intelligence in completing academic tasks and the last part, the impact of using AI on changing academic habits.

Technology Literacy and AI in Education

Literacy is generally defined as the ability to read and write, as in the *Oxford* dictionary "*Literacy is the ability to read and write"* (Septiyantono, 2014). Etymologically, the term literacy comes from the Latin "literatus" which means a person who learns. According to Elizabeth Sulzby 1986 in (Mashuri et al., 2022) literacy is the language ability possessed by a person in communicating "reading, speaking, listening and writing" in different ways according to their purpose. Literacy in the 21st century is actually not just "literacy" but more than that. Alvin Toffler, in 1970, had predicted that "illiteracy" or "illiteracy" no longer meant not being able to read and write, but not learning or reluctant to learn. Therefore, it is natural that in some cases, it is found that many teachers, students, students and even lecturers have not been able to understand what they are reading, writing or researching. Literacy is now better understood as the ability to understand and communicate. (Mashuri et al., 2022). According to (Maryland State Board of Education, 2016)(Maryland State Board of Education, 2016), technological literacy is the ability to use, understand, organize, and value innovations that involve processes and knowledge to solve problems and expand one's capabilities. *AI literacy,* as a subset of technological literacy, is more specific to the ability to use, understand and utilize AI, including an understanding of how AI works, its practical applications, and its ethical implications. (Long & Magerko, 2020). AI literacy is important to ensure that students not only use these technologies effectively but also critique and optimize their use in academic contexts. Previous research has analyzed AI literacy in increasing students' learning motivation (Zulfikhar et al., 2024) almost all students use AI and are committed to increasing learning motivation as well as lecturers in utilizing AI technology in the current era of disruption. (Munandar et al., 2023).

Use of Artificial Intelligence in Academic Task Completion

The term *artificial intelligence* (AI*)* was first used in 1956 by Jon McCharty *of* the *Masschusetts Intitute of Technology.)* (Krisnadi & Mahfud, 2020)In the *Dratmouth brainstorming* conference*, it* was stated that AI is a process of modeling the way humans think and designing it into a machine so that it can behave like humans in various aspects. (Sutojo, T; Mulyanto, Edi; Suhartono, 2011).. *Artificial Intelligence* has been *explored* since the 1940s and 1950s by computer capability scientists to provide solutions to their work. The development of *Artificial Intelligence* exploration activities can also be seen based on the writings of Alang Turing, namely a) starting from introducing the term *Computer Intelligence* in 1947, b) *Intelligent Machinery in* 1948, c) then *Computing Machinery and Intelligence* in 1950 which introduced the Turing test to measure machine intelligence and genetic algorithms, d) as well as his last breakthrough in 1953 by introducing *Computer Chess. In* addition to Alan Turring's writings, in 1950, a Marvin Minsky developed neural networks. In 1955, Artur Samuel developed a learning examination program.(Sandra et al., 2023)

The use of AI in education has increased dramatically in the last decade providing many benefits to students. In the research (Arly et al., 2023)(Arly et al., 2023), students adapt to accelerating social and technological changes by providing digital tools that adapt learning content and methods, for example in the field of biological sciences AI can be used to analyze genetic data or disease patterns more efficiently than conventional methods. Research (Zhang & Aslan, 2021)AI can assist in the writing process by providing suggestions, checking grammar and even generating content and is used to search relevant scientific literature, identify research trends. AI applications can provide step-by-step solutions to math and science problems, helping students understand more complex concepts. (Holstein et al., 2019) and AI can effectively customize learning materials according to students' individual needs and abilities (Chen et al., 2020; Chen et al., 2020). (Chen et al., 2020; Fitriani, 2023).. AI is also used to create virtual tutors with NLP that can provide guidance to students by answering their questions. In addition, adaptive learning systems with AI can customize course materials based on each student's ability and learning speed. (Chaudhry & Kazim, 2022).. The use of AI in completing academic tasks can help students improve the quality of their work, as well as personalize the learning experience according to individual needs. However, it is important that students continue to develop their critical and analytical skills, and understand the ethical use of AI technology.

Types of Artiticial Intelligence (AI)

Based on capability, which is how the system learns and how far the system can apply its knowledge, AI consists of 3 types or 3 levels namely Artificial Narrow Intelligence, Artificial General Intelligence, and Artificial Super Intelligence;

Artificial Norow Intelligence (ANI)

A type of AI designed to perform specific tasks or intelligence commands. The algorithms used to perform specific tasks in these systems also utilize machine learning and neural networks. ANI systems are built to serve and be reliable in one cognitive ability, but are unable to learn skills beyond their design independently and do not have any thinking ability. It simply performs a set of predefined functions. Hence, ANI is also known as weak AI or limited AI Almost all AI-based systems built to date fall under the category of weak AI (Kumar et al., 2022). Some are *Siri, Alexa, Self-driving cars, Alpha-Go, Sophia the humanoid.* Some examples of services or applications that use ANI systems include *Chatbots* (such as Artificial Intelligence and Notion AI), *Image Recognition* (such as screen locks on cell phones), *Spam filters* on emails, *Voice Assistants* (such as Siri and Alexa), *Recommendation Systems* (such as in the *marketplace*).

Artificial General Intelligence (AGI)

AGI systems are designed to be able to perform various tasks or intelligence commands efficiently. The concept of this system is to create a device that has the capability to think and act intelligently like a human (Kumar et al., 2022). Until now, the AGI system is still in the research stage and there are no devices or applications based on the AGI system. The process to fully realize this system still requires a lot of research and time. In addition, several debates related to the existence of AI with the AGI system are also a consideration in the development process. (Sandra et al., 2023). Some devices that are claimed to lead to AGI systems are *Alpha-Go, Sophia the humanoid, IBM Watson, and Neuralink.*

Artificial Super Intelligence (ASI)

ASI systems are designed to be able to perform intelligence tasks or commands more reliably and process larger data than AGI systems, and have human-like decision-making capabilities. Therefore, ASI systems require much more powerful computer resources to run. (Mehdi, 2023). Currently, ASI is still a hypothesis depicted in science fiction movies and books. There are basically no devices or applications that can be used as examples or that have the potential to lead to capabilities based on ASI systems (Kumar et al., 2022).

Some Artificial Intelligence (Ai) Web Applications

Application of Ai in Child Education

The application of AI in children's education can provide significant benefits in improving the quality of learning and child development. There are several examples of Android apps implementing AI-based learning. AI-based adaptive learning platforms can be used to provide personalized learning experiences tailored to each child. It uses AI technology to monitor children's learning progress, identify areas that need more attention, and curate relevant learning content. With these platforms in place, children can learn at their own pace, while still being challenged according to their abilities. such as, **Doulinggo, Photomath, Elsa Speak, Socratic, Kahoot**

Application of AI in Healthcare

The use of AI in healthcare can provide significant benefits, such as reduced costs, increased efficiency, improved accuracy in diagnosis, and a deeper understanding of complex health data. In addition, AI can also help accelerate drug discovery and development, and improve patient care with a more personalized and evidence-based approach. With the development of technology and the increasing availability of medical data, AI can process big data quickly and efficiently to generate new insights and aid better decision-making in medical practice. AI algorithms and models, such as Convolutional Neural Networks (CNNs), can be used to recognize complex patterns in medical data, including medical images such as radiology, microscopic images, and MRI images. Artificial intelligence (AI) applications have been widely applied in various fields, including in healthcare. Research conducted using artificial intelligence applications for healthcare aims to utilize AI technology to improve the diagnosis, treatment, and management of diseases, as well as improve the overall quality of healthcare.

Application of Artificial Intelligence (AI) to Technology

Artificial Intelligence can include the development and application of technology that allows machines to mimic human abilities and behavior (Fitri Andri Astuti, 2021). The basic concept of Artificial Intelligence involves computational modeling of human cognitive abilities, such as natural material processing, facial recognition, logical reasoning and decision making. The main purpose of the creation and development of artificial intelligence is to create systems that have the ability to carry out tasks that are generally carried out by humans. The main objectives of artificial intelligence are (Semmler & Rose, 2017; Sherbet et al., 2018); 1) Improving Performance and Efficiency, 2) Decision-making Optimization, 3) Automation of Routine Tasks, 4) Improvement of Human and Machine Interaction, 5) Understanding and Simulation of Human Intelligence. With the development of artificial intelligence technology, application developers continue to innovate in the development of artificial intelligence. The following are artificial intelligence applications in technology, as follows; **Copy.ai, Lalala.ai, Artificial Intelligence, Dall-E 2, Luminar AI, Oracle AI, Outmach, Connectes Papers, Google Bard (Gemini.AI) and many more.**

Application of Artificial Intelligence (AI) to Sales and Marketing

Artificial Intelligence is a tool used for marketers in order to reduce and eliminate errors made by humans. The use of AI centers on a trusting relationship between marketers and consumers. With the rise of AI technology, companies can help consumers to feel more comfortable in making purchases. Artificial intelligence such as AI provides great benefits to marketers, consumers and society because it helps marketers predict what customers want. Artificial Intelligence can be used in the marketing world in terms of collecting, analyzing data to get consumer desires, storing consumer data, and improving services. The development and utilization of e-commerce, blogs, websites, social media using Artificial Intelligence is to analyze online activities and product recommendations so as to increase the visit time of consumers. With AI, marketers do not need to wait a long time to make decisions but can use real-time analysis to determine the right strategy quickly.

Impact of AI Use on Changes in Academic Habits

In the book "*The Power of Habit: Why We Do What We Do in Life and Business"* by Charles Duhigg discusses the science of habits and how they affect our lives, both personally and in the business world. There are three main parts (Duhigg, 2012)First, *The Habits of Individuals,* which is how individual habits are formed and how we can change these habits. Duhigg explains the concept of *"The Habit Loop"* which consists of *cue*, *routine,* and *reward,* which is the basis of every habit. Second, *The Habits of Successful Organizations*: This section explores how habits affect organizations and businesses.Third, *The Habits of Societies*: The last section deals with habits on a larger scale, such as those of society and culture. Duhigg discusses how collective habits affect social dynamics and how small changes in societal habits can have a big impact. The impact of digital literacy on how students complete academic tasks is significant (Wang et al., 2023). High digital literacy gives students greater access to information, enhances their ability to evaluate the veracity and relevance of that information, and stimulates creativity and innovation in the presentation of assignments. Collaboration between students is also increasingly facilitated through good digital literacy, enabling effective exchange of ideas and joint project development. In this context, the use of AI offers great potential in changing students' habits in completing assignments. AI can speed up the process of finding relevant information, provide more targeted feedback, and even assist in the organization of assignments more efficiently. In addition, AI can also identify individual student learning patterns, enabling more effective and adaptive personalization of learning according to each student's needs and learning style. Thus, the integration of technological literacy, the use of AI, and changing habits in completing academic tasks form a strong foundation in facing the challenges and opportunities in the digital education era.

The use of AI has changed the way students learn and complete tasks. According to research (Luckin et al., 2016) students who use AI tend to be more independent in learning, as they can access resources and help at any time. Over-reliance on technology also has an impact, Previous research (Selwyn, 2019; Zahara et al., 2023) some students rely on AI for certain tasks, reducing their opportunity to develop analytical and critical skills. This dependency also makes students lazy to read books or have in-person discussions. Security risks are also not spared in terms of data breaches and easily hackable security of users' personal data. The use of AI also raises ethical and moral questions, especially related to automated decision-making and its influence on educational values. (Rochim, 2024). The use of AI in learning has great potential to assist in the digitization of education and improve learning efficiency. However, it is important to consider risks such as adaptation and collaboration, over-reliance, data security as well as ethics.

Materials And Methods

This research uses a descriptive quantitative approach in research presents a perspective in which human behavior and social phenomena are considered to be explained, predicted and measured using scientific methods that are objective. Therefore, the use of quantitative research with valid and reliable instruments and appropriate and appropriate statistical analysis causes the research results obtained not to deviate from the actual conditions.... (Yusuf, 2014). This type of research uses the *Cross-Sectional survey* method*,* according to Sugiyono, research conducted on objects within a certain period of time / not continuous over a long period of time. (Sugiyono, 2013).

Data Collection

The sampling technique using the *cluster random sampling* method*,* this technique is used if it has limitations due to the absence of a sample frame (list of names of all members of the population), but has complete data about the group and uses the *Slovin* formula in its determination. 400 students actively use AI in completing academic assignments divided into 16 faculties at Hasanuddin University with a questionnaire or questionnaire distributed using *kuesio.id* accessed via the link (kuesio.id/50e16a9f89dd48dc0eb0) which was collected for 1 month from April 24 to May 23, 2024 using a Likert scale for measuring statements with answer choices, namely Strongly Agree (SS), Agree (S), Neutral (N), Disagree (TS) and Strongly disagree (STS) as well as documentation by

reviewing the documentation (archives) provided by the institution / institution into *kuesio.id* certain fields as a report. (Darwin, et al., 2021).

Table 1. Distribution of Research Samples2

FACULTY	POPULATION UNITS	SAMPLE
VOCATION	3.868	33
ECONOMICS AND BUSINESS	3.825	33
LEGAL	5.237	45
MEDICINE	7.906	67
ENGINEERING	3.768	32
SOCIAL SCIENCE AND POLITICAL SCIENCE	3.064	26
CULTURAL SCIENCE	3.668	31
AGRICULTURE	3.190	27
MATH AND SCIENCE	1.506	13
FARMING	1.412	12
DENTAL EDUCATION	2.396	20
PUBLIC HEALTH	2.413	21
MARINE AND FISHERIES SCIENCE	1.609	14
FORESTRY	1.103	9
PHARMACY	1.322	11
NURSING	652	6
Total	**46.939**	**400**

Data Analysis

Data analysis technique is an analysis activity in a study that is carried out by examining all data from research instruments, such as questionnaires that have been distributed, documents, notes and others that will make it easier for researchers to understand so that a conclusion is obtained. Statistical data analysis is generally used in quantitative research. The quantitative analysis model carried out must be relevant to; the type of data to be analyzed, the research objectives, the hypothesis to be tested, and the research design. Meanwhile, non-statistical analysis is generally used in qualitative research which is usually carried out in empirical studies that study a problem that wants to be researched fundamentally and in depth thoroughly. (Sinambela, 2014) by going through Instrument Test, Classical Assumption Test and Research Hypothesis Test. We took 15 applications that were being widely used among students in the pre-survey of this research. After the data is collected, statistical testing is carried out using SPSS *version* 26. The following are the indicators in this study and also the statements distributed in kuesio.id;

Table 2: Research indicators

No.	Variables	Indicator	Statement Item
1	**AI Literacy**	Use of Technology	Searching for and understanding information online and ease of accessing information
2			Technologically proficient and understand the applications of the technology used
3			Utilizing the internet and keeping up with technology
4		Search for and interpret information	Evaluate the credibility and reliability of information sources
5			Analyzing information and technology effectiveness
6		Critical skills in using information	Able to think critically when dealing with information
7			Distinguishing what you want to know
8		Security	Ensure safety while exploring, creating and collaborating
9	**Use of AI**	Perception Understanding	Understanding and Familiarity with AI concepts
10			Read and access about AI and academic support
11		Use of AI	Frequent use of AI and easy access
12			AI applications improve task quality and overreliance
13		AI Effectiveness and Quality	Improve understanding of learning
14			AI Helps effectively, Increase Productivity, efficiency and faster
15			Reliability and accuracy of results
16	**Change in habits in completing academic assignments (Y)**	Change of habit	The use of AI changes the way tasks are completed

No.	Variables	Indicator	Statement Item
17			Change in use of AI from conventional
18		Habits	Often postpone completing tasks, find new effective ways
19			Organized, Completes tasks on time and productively
20		Satisfaction with results	Satisfied with the results
21			Evaluate the truth obtained
22			Feeling difficulty in completing tasks

Source: research indicators by several related studies, 2024

RESULTS AND DISCUSSION

In this section the researcher will explain the descriptive data obtained from respondents. Descriptive research data is presented so that it can be seen the profile of the research data and the relationship that exists between the variables used in the study.

Respondent Demographics

Table 3 Demographic information

Gender	Frequency	Percentage (%)
Male	144	36%
Female	256	64%
Total	400	100
Age	**Frequency**	**Percentage (%)**
18 years old	54	13,5%
19 years old	109	27,3%
20 years	115	28,7%
21 years old	59	14,8%
22 years old	63	15,8%
Total	400	100%
Faculty	**Frequency**	**Percentage (%)**
Economics and Business	33	8,3%
Law	33	8,3%
Medicine	45	11,3%
Engineering	67	16,8%
Social and Political Sciences	31	8%
Cultural Sciences	26	6,5%
Agriculture	31	7,8%
FMIPA	26	6,8%
Livestock	13	3,3%
Dentistry	12	3%
Public Health	20	5%
Marine and Fisheries Science	20	5,3%
Forestry	14	3,5%
Pharmacy	9	2,3%
Nursing	11	2,8%
Vocational	6	1,5%
Total	400	100

Source: obtained from primary data (2024)

Based on table 3, the demographics reflect the diversity in gender, age and faculty of the respondents which provides a comprehensive perspective on Ai literacy and usage across different faculty subject areas. This demographic data helps in understanding the different needs and experiences of the respondents related to the implementation of AI in academic tasks, it can be seen that the dominant female as many as 256 respondents or 64% and males as many as 144 respondents or 36%. large aged 20 years, namely 115 respondents or 28.7%, as many as 109 respondents aged 29 years or 27.3% of the total 400 respondents.

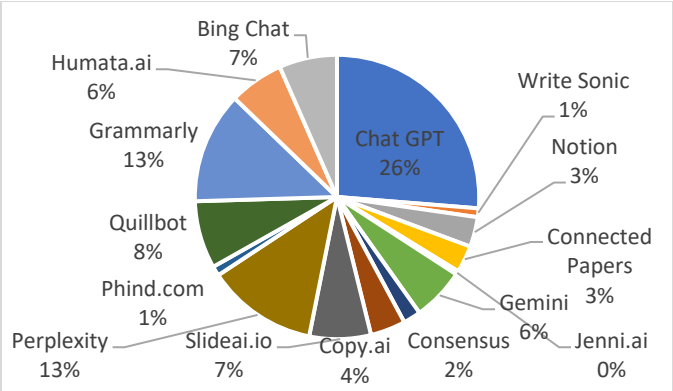


Figure 3. AIs most frequently used by students

While the use of AI among Unhas students 3 applications or platforms out of 15 are *ChatGPT* at 26.3%, *Grammarly* at 12.7% this application helps in checking and correcting grammatical, spelling and syntax errors in text. Grammarly is very useful for students who want to ensure the quality of their writing, especially in an academic context. and *Perplexity* at 12.6 with the purpose of using AI in completing assignments most often being paper writing at 27.8%. By choosing "time efficient" and "ease of use" as the reasons.

This study found that the level of technological literacy among Hasanuddin University students is quite high or good with a percentage of 78.3%. students who have good technology are certainly more adaptable to the use of AI applications in completing academic assignments.

Reliability Test

Data reliability shows the extent to which a measurement can produce stable results when re-measured on the same subject. The reliability test uses the *Alpha* formula and is assisted by SPSS version 26 *for windows.* (Rukajat, 2018). *The* basis for making decisions in the reliability test is;

If the *Cronbach'a alpha* value <0.6, it is declared less reliable

If the *Cronbach'a alpha* value <0.6, it is declared reliable

Table 4. Reliability Test

Variables	Cronbach's Alpha	N of items
X1	0,859	15
X2	0,855	14
Y	0,672	11

The resulting *Cronbach'a alpha* value in the Literacy Variable (X1) is 0.859, the use of AI (X2) is 0.855 and the change in habits (Y) is 0.672 which indicates **Reliable.**

Multiple Linear Regression Analysis Test

Multiple regression as the effect between more than two variables, consisting of two or more independent variables and one dependent variable and is also used to build equations and use these equations to make estimates (Ahmaddien & Syarkani, 2019). Multiple linear regression analysis as follows;

Table 4.5 Multiple Linear Regression Test Results

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

1	(Constant)	15.590	1.573		9.910	.000
	X1_LITERATION	.225	.028	.333	7.927	.000
	X2_USAGE_AI	.281	.027	.436	10.376	.000
a. Dependent Variable: Y CHANGE						

Based on table 4.16, the results of the multiple linear regression equation are as follows: Y = a + b1X1 + b2X2 = 15,590 + 0.255 (literacy X1) + 0.281 (use of AI (X2). The equation can be interpreted as follows;

The constant value is 15,590, meaning that if literacy (X1) and the use of AI (X2) are constant (fixed) on the variable change in habits in completing tasks (Y).

The X1 regression coefficient is 0.255 and positive, this shows that literacy (X1) has a unidirectional relationship with changes in habits in completing tasks (Y). this means that every addition of one unit of literacy (X1), it will increase changes in habits in completing tasks (Y) by 25.5% and vice versa if every decrease of one unit of literacy is also predicted to decrease by 25.5%.

The X2 regression coefficient is 0.281 and has a positive sign which indicates that the use of AI (X2) has a unidirectional relationship with changes in habits in completing tasks (Y). means that every addition of one unit of change in habits in completing tasks (Y), it will increase changes in habits in completing tasks by 28.1% and vice versa if every decrease of one unit of the use of AI (X2), the purchase decision is also predicted to increase by 28.1%.

Hypothesis Test (t test, F test and coefficient of determination)

Partial test or t test is a test of the regression coefficient partially, this test is carried out to determine the significant role partially between the independent variables on the dependent variable by assuming that other *independent* variables are considered constant. (Ahmaddien & Syarkani, 2019). The basis for the hypothesis decision in this test is as follows;

H0: tcount < t_{tabel} then there is no influence between the *dependent* variable and the *independent* variable.

H1: tcount> t_{tabel} then there is an influence between the *dependent* variable and the *independent* variable.

Table 6: Results of the t-test

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.590	1.573		9.910	.000
	X1_LITERATION	.225	.028	.333	7.927	.000
	X2_USAGE_AI	.281	.027	.436	10.376	.000

Based on the results of the regression analysis, it is shown that $_{the}$ t value is 7.926 and t_{tabel} with a sig of 5%, df = n-k-1 or df 398, it can be seen that t_{tabel} is 1.96. $_{thitung}$ (X1) 7.926> t_{tabel} 1.96, so it has a positive effect on changes in habits in completing assignments. The sig value of literacy is 0.00 <0.05, so H0 is rejected and H1 is accepted. So the conclusion is that there is a significant positive effect between the influence of literacy (X1) on changes in habits in completing assignments (Y).

Based on the results of regression analysis, it is shown that the tcount value is 10.376 and t_{tabel} with a sig of 5%, df = n-k-1 or df 398, it can be seen that t_{tabel} is 1.96. $_{tcount}$ (X2) 10.376> t_{tabel} 1.96, so it has a positive effect on changes in habits in completing tasks. The sig value of using AI is 0.000 <0.05, so H0 is rejected and H1 is accepted. So it can be concluded that there is a significant positive effect between the use of AI (X2) on changes in habits in completing tasks (Y).

This F test is used to determine whether there is a joint influence (simultaneously) of the independent variable on the dependent variable. (Ahmaddien & Syarkani, 2019). The basis for taking the test is as follows;

H0: accepted H1 rejected if $_{Fcount}$ < F_{tabel} with 5% significant level

H1 is rejected H1 is accepted if Fcount> F_{tabel} with a significant level of 5%

Table 7 F Test Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3016.682	2	1508.341	145.738	.000[b]
	Residuals	4108.828	397	10.350		
	Total	7125.510	399			
a. Dependent Variable: Y CHANGE						
b. Predictors: (Constant), X2_USAGE_AI, X1_LITERATION						

Based on the simultaneous test results, the F_{count} value of 145.738 is greater than F_{tabel} of 3.022 or a significant F of 0.000 is smaller than the *sig* value of 0.05. So that H0 is rejected and H1 is accepted. The percentage contribution of variabek X_1 and X_2 to Y is 14.5% The conclusion is that there is a significant simultaneous influence between literacy (X1).

According to Purwanto and Sulistyastuti in (Ahmaddien & Syarkani, 2019)According to Purwanto and Sulistyastuti in (Ahmaddien & Syarkani, 2019), the coefficient of determination which is often symbolized by measuring how much the model's ability to explain variations in the dependent variable. so the coefficient of determination actually measures the percentage of the influence of all independent variables in the regression model on the dependent variable. used in this study.

Table 4.8 Test results for the coefficient of determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.651[a]	.423	.420	3.217

Based on table 4.8, the *Adjusted R Square* number or the coefficient of determination is 0.420. Furthermore, when looking at the correlation (r) obtained of 0.651, it is located between 0.060 - 0.799, which means it is classified as **strong.** So 42% has a strong influence on literacy and the use of AI on changes in habits in completing tasks. The remaining 58% is explained by other variables outside those used in this study.

Descriptive Analysis of Indicator Variables

Measuring **AI literacy** in this study is based on respondents to 15 statements with a distribution divided into 3 categories, namely, low values obtained 15-35, medium 36-55 and high 56-75. Measuring the **use of AI** in this study based on respondents to 14 statements with a distribution divided into 3 categories, namely, low values obtained 14-32, medium 33-51 and high 52-70 and Measuring **changes in habits in completing academic tasks** in this study based on respondents to 11 statements with a distribution divided into 3 categories, namely, low values obtained 11-25, medium 26-40 and high 41-55.

Variables	**Indicator**	**Score**	**Category**	**F**	**Percentage (%)**
	Use of Technology	15-35	Low	1	0,3%
		36-55	Medium	220	55,3%
		56-75	High	179	44,8%
AI Literacy	Searching for and Interpreting information		Low	1	0,3%
			Medium	232	58%
			High	167	41,8%
	Critical skills in using information		Low	0	0%
			Medium	104	74%
			High	296	26%
	Security		Low	0	
			Medium	67	26%
			High	333	83,3%
Use of Artificial Intelligence	Perception Understanding	14-32	Low	11	2,8%
		33-51	Medium	251	62,7%
		52-70	High	138	34,5%

	Use of AI		Low	3	0,3%
			Medium	201	50,2%
			High	196	49%
	AI Effectiveness and Quality		Low	3	0,8%
			Medium	198	49,5%
			High	199	49.8%
Changes in habits in completing academic tasks	Change of habit	11-25	Low	6	1,5%
		26-40	Medium	228	57%
		41-55	High	166	41,5%
	Habits		Low	0	0%
			Medium	199	49,8%
			High	201	50,2%
	Satisfaction with results		Low	70	17,5%
			Medium	321	80,3%
			High	9	2,3%

Source: obtained from primary data (2024)

The results showed that the majority of respondents were in the medium (55.3%) and high (44.8%) categories in the use of technology for academic tasks, indicating that technology has been well integrated in academic activities at Hasanuddin University. In terms of AI literacy, most respondents had good skills in finding and interpreting information, with 58% in the moderate category and 41.8% in the high category. Critical skills in using information were also adequate, with 74% of respondents in the medium category and 26% in the high category. Awareness of the safety aspects of using AI is very high, with 83.3% of respondents in the high category. Respondents showed a good understanding of the use of AI, with 62.7% in the medium category and 34.5% in the high category. The use of AI in academic tasks is significant, with 50.2% of respondents in the medium category and 49% in the high category. Trust in the effectiveness and quality of AI is high, with 49.5% of respondents in the medium category and 49.8% in the high category. The use of AI has also affected habits in completing academic tasks, with the majority of respondents showing positive adaptation. A total of 57% of respondents were in the moderate category and 41.5% in the high category in terms of habit change. The new habits adopted with the help of AI are well accepted, with 49.8% of respondents in the medium category and 50.2% in the high category. However, satisfaction with the results obtained showed that the majority of respondents were in the moderate category (80.3%), with a small proportion in the low (17.5%) and high (2.3%) categories.Overall, this study shows that the use of AI in academic task completion at Hasanuddin University provides various benefits, including increased research efficiency, more personalized learning, fairer assessment, and development of better learning materials. However, challenges such as satisfaction with the results obtained still need to be addressed to ensure that AI can have an optimal impact in the teaching and learning process.

DISCUSSION

The results of this study highlighted the significant impact of literacy level on the effective use of AI tools by students at Hasanuddin University Makassar. Students with higher literacy levels were found to be more proficient in using AI tools which impacted their academic habits. This finding is consistent with previous research that suggests digital literacy is an important determinant of students' ability to effectively engage and benefit from technological advances in education. (Mokhtari, 2023). One of the most notable changes observed was increased efficiency in completing academic tasks. Students reported that AI tools, such as automated research assistants and grammar checkers, enabled them to complete tasks faster and with higher quality. This efficiency can be attributed to AI's ability to handle repetitive and time-consuming tasks, thus allowing students to focus on the more complex and creative aspects of their work.

The Effect of Literacy on Changing Habits in Completing Tasks

Based on the results of research conducted by distributing questionnaires to 400 student respondents who used *Artificial Intelligence* (AI) in completing academic assignments, the table results are 0.000 or less than 0.05. With a t table value of 1.96 and a known t value of 7.927, where t count> t table, so H0 is rejected and H1 is accepted. This means that there is a positive and significant influence between AI literacy variables on changes in habits in completing academic assignments for Unhas Makassar students. According to Thompson in (Castrawijaya, 2023), simply literacy can be understood as reading skills or individual skills in producing meaning from words.

Simply put according to the *Organization for Education Country Development* (OECD), literacy as a skill to understand and function of printed information in good daily activities. The results of this study show that literacy plays an important role in changing students' habits in completing academic tasks. better in completing academic tasks, such as being more planned, thorough, and creative. This is because literacy enables students to understand task instructions well, search for relevant information, and express their ideas clearly and structurally.

Students who have high literacy can increase their efficiency, creativity, collaboration and engagement in completing academic tasks. Similarly, research by (Ramadhani Kurniawan & Afi Parnawi, 2023) with the title "The benefits of literacy to improve the quality of education". the result is that someone who has mastery of literacy is strongly influenced by education by easily understanding and applying literacy in everyday life compared to people who have less education. the same is the case with (Musalina et al., 2019) Digital literacy affects changes in the habits of students in class X in completing assignments. There are also findings from (Elpira, 2018)the effect of implementing digital literacy on improving student learning. The result is that digital literacy can help students in completing tasks by utilizing digital media such as computers, the internet and cellphones.

The Effect of Using AI on Changing Habits in Completing Academic Tasks

Based on the results of research conducted by distributing questionnaires to 400 student respondents who used *Artificial Intelligence* (AI) in completing academic assignments, the table results are 0.000 or less than 0.05. With a t table value of 1.96 and a known t value of 10.276, where t count> t table, so H0 is rejected and H1 is accepted. This means that there is a positive and significant influence between the variable use of AI (X2) on changes in habits in completing academic assignments (Y) on Unhas Makassar students. According to (Thomas, 2018) AI is generally a cognitive technology using abilities that were previously only owned by humans, such as knowledge, insight and perception to solve narrowly defined tasks (with current technological conditions). for example a study by (Wang et al., 2023), examined the impact of AI on the interaction between students and lecturers in *online* learning. The result was that while AI increased efficiency, some students felt that interaction with lecturers was reduced. Students consider that emotional support and direct guidance from lecturers are still very important and needed.

AI can change the way students think by helping them find root solutions to their difficulties when facing school or college assignments. However, despite its convenience, AI can also have negative effects, such as discouraging students from studying hard and developing critical thinking skills. The use of AI can also improve efficiency in completing academic tasks, but it can also change the quality of students' work. AI can help complete most tasks, which can suppress opportunities for students to develop independent learning skills. (Choitunnisa et al., 2024).. The results of this study are in accordance with the results of research conducted by (Wang et al., 2023) with the aim of exploring how AI can help international students in higher education by offering personalized learning, testing, adaptive and predictive analytics. AI was shown to enhance students' learning experience by providing support tailored to individual needs, although there are also challenges that need to be overcome such as privacy concerns and cultural differences. Findings of (Putri & Andjani, 2023)

CONCLUSIONS

Based on the results of research on the influence of literacy and the use of AI (Artificial Intelligence) on changes in the habits of Hasanuddin University students in completing academic assignments, it can be concluded that most students have a good basic knowledge of technology, but understanding of AI is still limited. The use of AI in the learning process is still at an early stage, with some students starting to utilize virtual assistants, data analysis software, and adaptive learning platforms. Students using AI report increased efficiency, independence in learning, and better time management. However, there are major barriers such as unequal access to technology, lack of formal training, and limited computing resources.

To improve technological literacy and the use of AI among Hasanuddin University students, and to maximize its benefits in the academic process, some suggestions that can be considered include: conduct regular training

and workshops on technological literacy and AI usage, with materials covering the basics of AI and practical applications in academic contexts; ensure that all students have adequate access to technological tools and AI services, such as the provision of computer devices in the library or laboratories equipped with AI software; integrate technological literacy and AI into the curriculum in various study programs to help students understand the importance of these technologies and how to use them effectively in their fields of study; providing adequate technology facilities and support, including computer laboratories with AI software and technical support; building partnerships with technology industries and AI companies to provide resources, training, and internship opportunities for students; and encouraging research and development in AI among lecturers and students to improve their knowledge and skills, and produce new innovations that benefit the university and society at large. With these measures, Hasanuddin University can improve the technological literacy and use of AI among its students, thereby supporting them in achieving academic success and preparing them to face the challenges of the future working world.

REFERENCES

Alam, S. (2023). PISA Results 2022, Reflection of National Education Quality 2023. Media Indonessia. https://mediaindonesia.com/opini/638003/hasil-pisa-2022-refleksi-mutu-pendidikan-nasional-2023

Arly, A., Dwi, N., & Andini, R. (2023). Implementation of the Use of Artificial Intelligence in the Learning Process of Communication Science Students in Class A. Proceedings of the National Seminar, 362-374.

Brown, C., & Czerniewicz, L. (2010). Debunking the "digital native": Beyond digital apartheid, towards digital democracy. Journal of Computer Assisted Learning, 26(5), 357-369. https://doi.org/10.1111/j.1365-2729.2010.00369.x

Castrawijaya, C. (2023). Dai Technology Literacy. In A. Safei (Ed.), Repository.Uinjkt.Ac.Id. Publica Indonesia Utama.

Chaudhry, M. A., & Kazim, E. (2022). Artificial Intelligence in Education (AIEd): a high-level academic and industry note 2021. AI and Ethics, 2(1), 157-165. https://doi.org/10.1007/s43681-021-00074-z

Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. IEEE Access, 8, 75264-75278. https://doi.org/10.1109/ACCESS.2020.2988510

Choitunnisa, A., Puspa Kinasih, A., Maudy Angely S, C., & Nurina Hanum, S. (2024). Analysis of the Effect of Artificial Intelligence (AI) on the Quality, Efficiency, and Understanding of Task Completion by Students. Muhammadiyah University of Surabaya.

Duhigg, C. (2012). The Power of Habit. In A. Loukhnoverts (Ed.), Journal of College Orientation, Transition, and Retention (Vol. 20, Issue 3). Random House, New York. https://doi.org/10.24926/jcotr.v20i3.2852

Elpira, B. (2018). THE EFFECT OF THE APPLICATION OF DIGITAL LITERACY ON THE IMPROVEMENT OF STUDENT LEARNING AT SMP NEGERI 6 BANDA ACEH. Aceh State Islamic University.

Fitriani, R. (2023). Application of Artificial Intelligence (Ai) Technology to Support Port Operations. Marine Science and Technology Research, 6(2), 164-169. https://doi.org/10.62012/sensistek.v6i2.31712

Holstein, K., McLaren, B. M., & Aleven, V. (2019). Co-designing a real-time classroom orchestration tool to support teacher-ai complementarity. Journal of Learning Analytics, 6(2), 27-52. https://doi.org/10.18608/jla.2019.62.3

Communication, I. (2024). Strengthening Student Digital Competence, Ilkom Unhas Collaborates with Kominfo Digital Literacy Team. News Department of Communication Science. https://komunikasi.unhas.ac.id/perkuat-kompetensi-digital-mahasiswa-ilkom-unhas-gandeng-tim-literasi-digital-kominfo/

Krisnadi, I., & Mahfud. (2020). The Role of Artificial Intelligence in Education during the Covid19 Pandemic. Journal of Education and Science.

Long, D., & Magerko, B. (2020). What is AI Literacy? Competencies and Design Considerations Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems. Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems, 1-16. https://sci-hub.se/https://doi.org/10.1145/3313831.3376727%0Ahttps://dl.acm.org/doi/fullHtml/10.1145/3313831.3376727

Luckin, R., Holmes, W., Griffits, M., & B. Forcier, L. (2016). Intelligence Unleashed: An argument for AI in Education. In Pearson Educación (Issue October).

Maryland State Board of Education. (2016). Maryland Technology Education Standards MARYLAND STATE BOARD OF EDUCATION. 1-24. www.MarylandPublicSchools.org

Mashuri, C., Permadi, G. S., Vitadiar, T. Z., Mujianto, A. H., Cakra, R., Faizah, A., & Kistofer, T. (2022). Digital Literacy Textbook (1st ed.). Perkumpulan Rumah Cemerlang Indonesia.

Mehdi, Y. (2023). Furthering our AI ambitions - Announcing Bing Chat Enterprise and Microsoft 365 Copilot pricing. Official Microsoft. https://blogs.microsoft.com/blog/2023/07/18/furthering-our-ai-ambitions-announcing-bing-chat-enterprise-and-microsoft-365-copilot-pricing/

Mokhtari, F. (2023). Fostering Digital Literacy in Higher Education: Benefits, Challenges and Implications. International Journal of Linguistics, Literature and Translation (IJLLT), 3(11), 160-167. https://doi.org/10.32996/ijllt

Muhammad, N. (2024a). World's Most Popular AI Apps 2023, Chat GPT is the Champion. Databoks. https://databoks.katadata.co.id/datapublish/2024/01/30/deretan-aplikasi-ai-terpopuler-dunia-2023-chat-gpt-juaranya

Muhammad, N. (2024b, January 31). Indonesia, the 3rd Most AI App Visits in the World. Databoks.

Munandar, H., Ade Kurnia Harahap, M., Haryanto, H., & Lisma Lestari, V. (2023). Utilization of Artificial Intelligences (AI) Technology for Lecturers in Facing the Challenges of Higher Education in the Era of Disruption. INNOVATIVE: Journal Of Social Science Research, 3, 10566-10576. https://j-innovative.org/index.php/Innovative/article/view/6138/4310

Musalina, M., Tahang, L., & Erniwati, E. (2019). Technology Literacy Skills of Grade X Students in the Multimedia Expertise Program: Analysis & Description. Journal of Physics Education Research, 4(1), 1. https://doi.org/10.36709/jipfi.v4i1.14137

Perdew, L. (2017). Information Literacy in the Digital age. Abdo Publishing.

Ramadhani Kurniawan, & Afi Parnawi. (2023). Benefits of Literacy to Improve Education Quality. Journal of Education, Language and Culture, 2(1), 184-195. https://doi.org/10.55606/jpbb.v2i1.1148

Rochim, A. A. (2024). Artificial Intelligence: Risks, Challenges and Wise Use in Education. Anthropocene: Journal of Social Studies and Humanities, 3(1), 13-25.

Sandra, R., Zebua, Y., Khairunnisa, M. P., Pd, S., Hartatik, M. C., Si, S., Pariyadi, M. S., Kom Dessy, M., Wahyuningtyas, P., Pd, M., Ahmad, M., & Thantawi, S. T. (2023). Artificial Intelligence (Ai) Phenomenon (Issue June). www.researchgate.net

Sarkar, S. (2023). AI Industry Analysis: 50 Most Visited AI Tools and Their 24B+ Traffic Behavior. Writterbuddy. https://writerbuddy.ai/blog/ai-industry-analysis

Selwyn, N. (2019). Should robots replace teachers? AI and the Future of Education. Polity Press.

Septiyantono, T. (2014). Information literacy subject matter.

Study.com. (2023). Productive Teaching Tool or Innovative Cheating? o Title. https://study.com/resources/perceptions-of-chatgpt-in-schools

Sutojo, T; Mulyanto, Edi; Suhartono, V. (2011). Artificial Intelligence. 211-235.

Thomas, H. D. (2018). The AI Advantage (How to Put the Artificial Intelligence revolution to Wotk). MIT Press.

Wang, T., Lund, B. D., Marengo, A., Pagano, A., Mannuru, N. R., Teel, Z. A., & Pange, J. (2023). Exploring the Potential Impact of Artificial Intelligence (AI) on International Students in Higher Education: Generative AI, Chatbots, Analytics, and International Student Success. Applied Sciences (Switzerland), 13(11). https://doi.org/10.3390/app13116716

Zahara, S. L., Azkia, Z. U., & Chusni, M. M. (2023). Implementation of Artificial Intelligence (AI) Technology in the Field of Education. Journal of Science and Education Research (JPSP), 3(1), 15-20. https://doi.org/10.23971/jpsp.v3i1.4022

Zhang, K., & Aslan, A. B. (2021). AI technologies for education: Recent research & future directions. Computers and Education: Artificial Intelligence, 2, 100025. https://doi.org/10.1016/j.caeai.2021.100025

Zulfikhar, R., Nuffaiz, Y., & Majid, A. (2024). Analysis of AI Literacy to Improve Student Motivation and Learning Outcomes in Makassar City Universities. 1(1), 14-19.