

# Students' Perceptions of Using AI: Navigating Challenges and Maximizing Learning Opportunities in Educational Fields

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**Abstract:** Alteration in educational demands require innovation and creativity in the learning process especially in the university. Nowadays technology has a big advantage that is unavoidable in the passage of time. People's lifestyle has changed because of technology not only that but also changed how people work, learn, think, and interact. Numerous kinds of alterations come into view all the time which make our activities, thinking and work more practical and effective. The objective of this research explores Artificial Intelligence (AI) in education context, to understand students' perception of using AI and find deeply of the factor as well challenges of students' using AI for learning. This research uses a qualitative method with an interview design involving several students at a university in Surabaya. The consequence data analysis shows that AI has been widely used to various educational technology platforms by college students such as 1) Chat GPT 2) Humata 3) Perplexity 4) Quillbot. Artificial Intelligence (AI) is a technological process that makes it easier for students to carry out any action. AI as a tool or machine that can design something and can behave like a human. In the advancement of science and technology, some students say that AI has had two impacts that affect their lives, negative and positive impacts. Giving answers rationally is the main factor for students in using AI.

**Keywords:** Artificial Intelligence (AI); Students' Perceptions; Challenges; Education.

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## Introduction

Nowadays, technology is a medium that has a big advantage and unavoidable in the passage of time. Most of people lifestyle has changed because of technology, but not only that technology also changed how people work, learn, think, and interact. Innovations in machine learning in recent times have resulted in the development of advanced technology for generating digital content, such as generative artificial intelligence (AI) (Hu, 2022). Hence, numerous kinds of alterations come into view all the time which make our activities, thinking and work more practical and effective. Appearing the AI become activities for all people easily and effective to do. There is no difficult way to think, work, and learn something.

Artificial intelligence, frequently abbreviated as AI, represents a technology in which has the

capability to acquire knowledge and grasp logic in a manner like humans. This technological advancement is believed to have a large potential to streamline human existence, particularly in dealing with the intricate complexities of life (Fitria, 2021a). Numerous applications of artificial intelligence (AI) can be of great assistance to individuals, particularly university students. Therefore, artificial Intelligence (AI) technology's influence is becoming more prominent across a range of industries, particularly the education sector. Many students at the university level rely on AI to generate ideas and support various aspects of their academic pursuits. This enables software to autonomously acquire knowledge from data patterns or characteristics. Artificial Intelligence (AI) can be characterized as an extensive and diverse domain of research

encompassing a wide range of theories, methodologies, technologies, and subdisciplines.

Generating ideas through technology of AI could potentially hinder advancement of students' learning. Consequently, based on the statement of (Wang, Y.-Y. Wang, Y.-S., 2022) that mitigating perceived anxiety levels might encourage greater adoption of AI technology and positively influence users' (students) future perspectives. Artificial Intelligence (AI) is seen as a tool that can enhance students' learning and facilitate the achievement of educational objectives with greater efficiency. Thus, it is not surprising that numerous AI-driven advancements and innovations are currently being deployed and will continue to be utilized to enhance and optimize the learning process. The integration of AI into the education sector has prompted concerns among educators, presenting a challenge that must be addressed to ensure the continuity of the educational system.

Many higher education students now rely on AI to generate ideas, including concepts they may not have encountered before. When students utilize AI as a tool, they perceive both challenges and opportunities in the learning process. AI enables students to address and tackle the emerging challenges within society, technology, and the environment (Chai et al., 2021). Therefore, the use of AI presents a spectrum of advantages and disadvantages, and how students employ it depends on their specific requirements and the way it is applied to their education. This is supported by prior research that primarily discusses the utilization of AI and the difficulties associated with its implementation in an educational setting. Hence, the objective of this research investigate the students' perceptions at university of Surabaya in using AI for completing their assignment as well their challenges when use it.

(Yilmaz, 2023) this researcher conduct the observation is to examine how students perceive the utilization of ChatGPT in the domain of programming education and learning about programming by giving the students' project assignment for several weeks and the students search through ChatGPT to solve some questions. This research finding that incorporating generative

AI tools into programming courses would be beneficial, given the advantages they offer in the realm of programming education. It is similar of this coming up research was conducted based on previous research which focused on AI evaluation assessments such as ChatGPT, Preplexity, Humata, Quillbot etc. This study fill the gap that examines students' attitudes towards AI, and explores the challenges of using AI based on students' university perceptions. According to the research conducted by Luan et al. in 2020, it highlights the importance of students getting ready for the future of education, which is becoming more dependent on AI. The growing interest in big data and machine learning has accelerated the progress of AI in the education sector. This study's significant contribution lies in uncovering students' viewpoints regarding AI. The research aimed to address specific research questions in this regard.

1) How do students' perception the utilization of AI?

2) What the challenges do they encounter when employing AI?

What are the favourable and unfavourable consequences, as perceived by students, of using AI as a support tool in accomplishing their tasks

## Materials and Methods

This research uses a qualitative approach with a case study design. A qualitative approach is used to gain an in-depth understanding of the research subjects' perceptions and experiences related to the research topic. In this research, a qualitative approach was employed as the methodology to explore specific phenomena (Yıldırım & Şimşek, 2011). The study adopted a qualitative research method with a particular perspective, as outlined by Twining et al. (2017). This study, using qualitative method through structure interview design with the central focus of this study was on the phenomenon of "*Artificial Intelligence on students' perception.*"

The population of this study are students' at one of university in Surabaya. The study will conduct data analysis centered on students' perceptions, employing a methodology that involves examining

collected data against existing literature. This approach to gather the data, the researcher conducted interviews with five students at a university in Surabaya with different background experiences.

## Results and Discussion

### a) The Way Students Maximizing Learning Opportunities using AI

Based on the results of research through interview with several students at a Surabaya-based university. They said that many ways for students to maximize learning opportunities using AI. The study participants noted that technology, including AI, serves as a valuable educational tool. Artificial Intelligence (AI) offers diverse features that students can utilize as a source of reference when facing difficult questions. The two of four students explained how students use AI for learning.

#### The first students:

*"...AI as learning media that can engage me to use AI because it can help me think deeply about how I should start to do a task and I think AI is the easiest way when I do something. When I have an assignment to review journals through Humata.AI and have to read more than 5 journals and it definitely takes a lot of time. By using AI, I find it more helpful to immediately find the points and structure of each journal to review."*

*(A student, 20 years old, 5<sup>th</sup> semester students from one of university in Surabaya, personal communication, September 18<sup>th</sup> 2023)*

#### The second students:

*"...In my perspective, artificial intelligence represents a recent innovation that offers a wealth of capabilities. AI has the potential to significantly enhance the role of educators in the field of education, particularly by introducing interactive learning experiences. Based on my own experience as an tutor, I frequently turn to AI as a valuable resource for accessing a multitude of instructional materials such as*

*ChatGPT and Preplexity have played a vital role in aiding me in the development of course assignment proposals. These AI systems provide topic suggestions, sparking inspiration, and offering keyword-based guidance, enabling me to independently craft the content effectively."* (B student, 20 years old, 5<sup>th</sup> semester students from one of university in Surabaya, personal communication, September 19<sup>th</sup> 2023)

According to the provided statement, students perceive AI as a valuable aid in completing their assignments with assistance from their instructors. The statement emphasizes that AI is regarded as an effective tool for identifying crucial information, thereby motivating students to engage in more focused and intensive studying. It highlights the role of AI in facilitating information retrieval and enhancing students' dedication to their academic pursuits.

### b) The Students' Challenges of Using AI (Chat GPT, Humata, Perplexity, Quillbot)

Based on the results of interview section with the students from one of the university in Surabaya. They said that the important of a thoughtful implementation process and ethical deliberations when integrating AI into the university environment cannot be overstated. It is imperative for universities to tackle these issues proactively to guarantee that AI enriches the educational journey instead of impeding it. Four students from one major at one of university in Surabaya. The data obtained from September 18<sup>th</sup> and 19<sup>th</sup> 2023. Those students explain the navigating challenges of using AI for learning.

Informant  
Students B  
(20 years old, 5<sup>th</sup> Semester)

Observation Data Interview  
"*...While using AI makes me take things for granted more, so I feel dependent. The challenge is to restrain myself and try to think independently and not easily use AI as a learning medium"*

Students C  
(21 years old, 5<sup>th</sup> Semester)

*"...In my point of view using AI, I learn to compare information with accurate and appropriate sources. In using AI I came up with ideas that I had never thought of before. The main challenge that I feel is when using AI, namely that there is no clear source which makes me confused when presenting orally if there is no accurate reason and source."*

Students D  
(19 years old, 3<sup>rd</sup> Semester)

"...AI as my guide is like Chat GPT, Preplexity, Humata web which I often use when doing things. AI is a tool or a medium for us to improvise ourselves, but on the other hand, if the person uses it incorrectly, it will have a negative impact. There are many challenges when using AI, one of which is experiencing addiction and making my thinking not develop and being lazy to think about something. However, I overcome this by limiting the use of AI. If the task can be completed with my own thinking, I do so and vice versa."

Students E  
(19 years old, 3<sup>rd</sup> Semester)

"...in my opinion, AI is a way of cheating which makes us one step easier and more instantaneous in carrying out tasks. AI is a dangerous thing that can hinder our thinking in thinking critically. What I mean by AI is like GPT chat and perplexity which have a very big influence on all of our tasks, so with AI, the task can be completed quickly, but the challenge here is that we cannot fully master the material and the process. "With the existence of AI, my learning process has decreased even more because I have become dependent on it so doing the assignments is tight against the deadline."

Based on the statement provided by the students, it can be inferred that AI plays a significant role in the education context. Students rely on AI to complete assignments efficiently and accurately. Artificial intelligence, exemplified by tools like Chat GPT, Preplexity, Humata, and others, serves as a valuable resource in the educational domain. Nonetheless, the prolonged use of AI may lead to a sense of dependency. The challenge faced by the four students is how to transition away from this reliance on AI when it comes to assignments. It is imperative to adapt strategies that prevent AI from overshadowing critical thinking. Overreliance on AI could result in a loss of essential cognitive skills. Thus, striking a balance between utilizing AI as a helpful tool and fostering independent thinking remains a crucial objective in education. In summary, AI's role in education is pivotal, offering efficiency and precision. However, it is essential to manage the extent of dependence on AI to preserve critical thinking skills.

### c) The Impact of Using AI for Students Learning

Based on the interview, the students from one of university in Surabaya revealed that using AI for specific purpose in education context also have the favourable and unfavourable consequences, as perceived by students, of using AI as a support tool in accomplishing their tasks. The impact of using Artificial Intelligence (AI) in education is significant and multifaceted, encompassing both positive and negative aspects. Some students clarify the impact of using AI for learning.

"...Using artificial intelligence (AI) has both positive and negative consequences. The negative impact that I feel in using AI regularly to find the right answers to several questions will make us feel dependent. Such as using **ChatGPT, perplexity, Humata AI, Quillbot, and etc.** It actually gives us everything we want, but from the other side, we as humans are indirectly influenced by technological systems. Doing tasks through AI also hinders our thinking from developing and even with AI, sometimes there is no clear source. Apart from that, we can take advantage of the good side of AI, namely that it can organize our thoughts in a structured manner and make us have lots of ideas for doing something." (B student, 20 years old, 5<sup>th</sup> semester students from one of university in Surabaya, personal communication, September 19<sup>th</sup> 2023)

According to the provided statement, two significant impacts on students when using AI are evident. Students express concerns that AI can lead to dependency. AI tools like ChatGPT, Perplexity, Humata AI, and Quillbot may diminish critical thinking and intellectual capacity, they acknowledge that AI, particularly ChatGPT, can stimulate novel ideas. ChatGPT and Perplexity serve as platforms for in-depth exploration of answers. In contrast, Humata AI assists students in efficiently and accurately reviewing academic journals as well Quillbot is a valuable tool for paraphrasing sentences or words to prevent plagiarism. In summary, students recognize the potential drawbacks of AI reliance, including reduced critical thinking, less of creativity and innovation, and dependency of technology. However, they acknowledge AI's capacity to inspire creativity and its utility in various educational contexts.

### Discussion

The findings of this study highlight several students' perception of using AI for doing assignments in University. Artificial intelligence (AI) has the capability to aid students in producing content, encompassing tasks such as composing essays, crafting presentations, or addressing intricate challenges. This assistance can result in

time savings and an enhancement in the caliber of their output. This statement related to the (Fitria, 2021a) stated that artificial intelligence (AI) have a large potential to streamline human existence, particularly in dealing with the intricate complexities of life. Therefore, a majority of university students utilize AI to support them in completing their assignments because AI enables them to work more efficiently and effectively.

Students employ AI as a means of assistance for tasks like Chat GPT, Perplexity, and Humata, they also express concerns about the inclination to rely on AI for swift and accurate completion of assignments without critical thinking. The substantial challenge associated with AI usage arises when they endeavor to reduce their dependence on it, but they encounter difficulties in initiating tasks due to a perceived lack of insights or ideas. Additionally, another challenge in the educational domain pertains to the diminished engagement of teachers. Students are compelled to take on more independent learning and exploration to seek solutions, as articulated by (as per Chai et al., 2021) that AI empowers students to confront and deal with the evolving issues in society, technology, and the environment (as per Chai et al., 2021). Consequently, the utilization of AI offers a range of pros and cons, and the way in which students utilize it is contingent on their individual needs and circumstances.

On the other hand, AI tools like ChatGPT, Perplexity, Humata AI, and Quillbot have the potential to diminish critical thinking and intellectual capabilities, they also acknowledge that AI, particularly ChatGPT, can spark fresh ideas. ChatGPT and Perplexity function as platforms for thorough exploration of answers. Conversely, Humata AI aids students in efficiently and accurately reviewing academic journals, while Quillbot proves valuable in rephrasing sentences or words to prevent plagiarism. In summary, students are conscious of the possible downsides of relying on AI, which encompass decreased critical thinking, a deficit in creativity and innovation, and a heavy dependence on technology.

## Conclusions

Students consistently express the belief that they utilize artificial intelligence (AI) as an educational tool, which serves as a source of motivation for them to explore new horizons. Leveraging AI as a learning opportunity is deemed the most effective approach for students to realize their educational objectives. AI functions as a valuable tool for enhancing their academic assignments, often with the guidance of instructors. Technologies like GPT Chat, Perplexity, Humata, among others, are considered invaluable assets within the realm of education. Nevertheless, prolonged reliance on AI can foster a sense of dependency. The primary challenge faced by students when using AI is the risk of overreliance, potentially diminishing their critical thinking skills and hindering their ability to formulate independent thoughts.

Consequently, each student devises their unique strategy to address challenges while utilizing AI. In conclusion, the finding and discussion of this research indicates that it is essential to include a larger number of samples to obtain a more comprehensive and thorough set of research findings regarding the particular features of AI utilized in enhancing students' learning experiences, specifically aimed at improving their skills in the educational context.

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