



Artificial Intelligence and Academic Ethics in The Era of Merdeka Belajar : How Are Students' Responses?

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Abstract: This study aims to analyze students' responses to using Artificial Intelligence (AI) and academic ethics in the era of independent learning. This research uses a qualitative approach with a case study method. Participants in this study were selected by purposive sampling, namely Postgraduate Students in Basic Education, Ganesha University of Education, Singaraja Campus. Data collection techniques using questionnaires and documentation. The data analysis technique was carried out descriptively by analyzing the average percentage of the questionnaire items. The results of this study showed that 56.67% of students said that AI was responsive, 89.44% of students said that AI was practical and efficient, 78.89% of students said it was interactive, 94.17% of students said it was useful in courses and design, and 94.67% said it was useful in individual learning processes. Academic ethics must also be continuously implemented when using AI in learning activities, making scientific writing assignments, making learning media with integrity, honesty, paraphrasing, and citing sources. To conclude, recommendations for higher education students should use this AI wisely.

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Introduction

A period of drastic transition where millions of jobs are being replaced by computerized devices, resulting in sharp disparities in income and the creation of knowledge gaps (Pabubung, 2021). Artificial intelligence dominates in problems that require high analytical skills with low levels of uncertainty and complexity. In contrast, humans dominate problems with higher uncertainty and complexity and relatively lower analytical skills (Fauzan, 2020). Artificial Intelligence (AI) technology can influence human decision-making in various fields, such as hiring employees or law enforcement. However, decisions made by AI technology are not always appropriate and can affect human well-being (Arora et al., 2021; Karyawan et al., 2022). The development of AI technology, which is improving, allows us to solve everyday problems more efficiently and practically (Fitriyani et al., 2021).

On the other hand, massive AI is used in developed countries. AI makes breakthroughs in humans' four intelligences (human intelligence): mechanical intelligence, analytical intelligence, intuitive intelligence, and empathic intelligence (Diyah et al., 2022). Several service industries that are massively implementing AI are the banking, health, e-commerce, tourism, and hospitality sectors (Gursoy et al., 2019; Sulistyowati et al., 2023) AI supports the creation of predictive services, which automatically adapt services to processes business. For example, technology automatically changes technician schedules with more optimal methods to provide services according to the needs and quick responses to emergencies (Limna, 2022) By incorporating AI into field service processes, organizations

can do more work with the same amount of resources, benefiting from more accurate resource planning and services that increase customer and employee satisfaction (Riedel et al., 2022). The rapid development of technology indirectly increases the risk of technology-based crime or cybercrime; it is necessary to have technological development innovations to anticipate these crimes (Hidayat, 2021). To provide direction on the development of AI and prevention of misuse of AI, the Indonesian government issued the Indonesian National Artificial Intelligence Strategy for 2020-2045 (BPPT, 2020)

In education, especially Higher Education, AI is still used to facilitate the learning process, speed up finding reading materials, and speed up assignments. However, with AI, academic violations will emerge. According to data presented by the studi.com institute in January 2023. In tertiary institutions, 72% of professors said that using ChatGPT OpenAI by students were worried about the emergence of a culture of cheating. Professors and teachers, 34% agree to ban the use of ChatGPT tools in education. However, there are also 66% of those who agree to the use of ChatGPT. Among students, 72% agree that there is a ban on the use of ChatGPT in higher education (StudyCom, 2023). Specifically, integrity (honesty) relates to potentially manipulative digital media, which is easy to use and provides enormous content that tempts its users to act dishonestly. Copyright infringement, plagiarism, and manipulation are examples of integrity issues. We can see ethical issues about how society uses AI in the context of plagiarism in creating works such as paintings, music, novels, journalism products, and even scientific works. Even for scientific work, some of the world's largest scientific journal publishers have banned or restricted their authors from using ChatGPT (Sample, 2023). This research is urgent because it can find out how deep the role of AI in this era of independent learning is in increasing student productivity when attending lectures and doing scientific assignments so that students can obtain information about academic ethics in using AI. This research aims to analyze responses from students on AI, describe academic ethics, and analyze the use of AI in facilitating the lecture process and the use of AI in the era of *merdeka belajar*.

Research Method

This research used a qualitative approach with a case study method. Participants for this study were selected by purposive sampling, namely Postgraduate Students in Basic Education, Ganesha University of Education, Singaraja Campus. Data collection techniques in the form of questionnaires to find out student responses, studying documents regarding academic ethics, and data on the use of AI in supporting the lecture process are obtained through article review. The data analysis technique was carried out descriptively by analyzing the average percentage of the questionnaire items. The indicators of the questionnaire items have been modified and consist of responsive, practical, and efficient interactive courses and design and individual learning processes (Supangat et al., 2021). The following is a questionnaire of student response indicator points to AI:

Table 1. Indicators of Student Response to AI

No	Indicator	Aspects
1	Responsive	<ul style="list-style-type: none">AI helps me get answers to what I ask more accurately.Conduct purchase and sale transactions
2	Practical and efficient	<ul style="list-style-type: none">Easy-to-use AIAI reduces the cost of creating tasksAI can be used anytime and anywhere
3	Interactive	<ul style="list-style-type: none">AI facilitates the speed of exchanging information between students

		<ul style="list-style-type: none"> AI facilitates access to communicate with lecturers AI supports learning (cooperative, project, problem based, and FGD)
4	Course and Design	<ul style="list-style-type: none"> AI makes it easy to organize lecture material The use of AI produces useful learning media
5	Individual Learning Process	<ul style="list-style-type: none"> AI supports student learning speed AI supports student learning flexibility AI supports opportunities to carry out learning evaluations and personal training AI provides convenience and fun in learning AI provides lots of references to lecture material

(Supangat et al., 2021)

Results and Discussion

AI can be a tool that helps students improve academic skills and achieve student academic goals (Jumadil et al., 2023). The following is the response of Basic Education students at the Ganesha University of Education, Singaraja Campus, to the existence of AI:

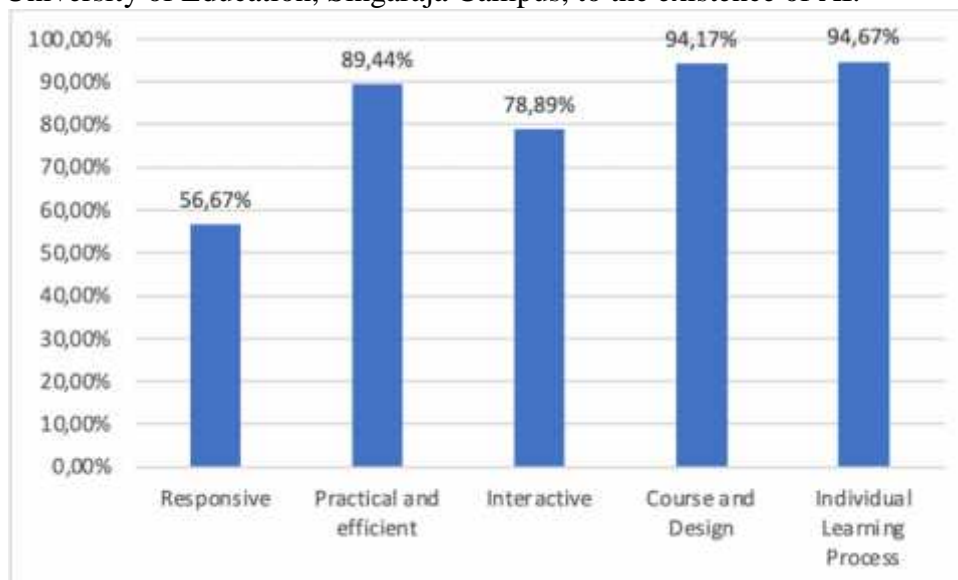


Figure 1. Pendas Students' Response toward AI

The results of the questionnaire survey regarding student responses to AI, 56.67% of students stated that AI was responsive, 89.44% of students stated that AI was practical and efficient, 78.89% of students stated that it was interactive, 94.17% of students stated that it was useful in courses and design, and 94.67% of students stated that it was useful in the learning process individual. 56.67% of students stated that AI was less responsive because not everything could be answered by AI; for example, in Mathematics courses, students could not find accurate answers to questions because the data stored in AI was incomplete. Practical and efficient AI indicators are supported by the advantages of AI, namely, knowledge lies in a computer system, and it can be opened anywhere and anytime; it is cheaper and more consistent, and the way of working is better and consistent (Sobron & Lubis, 2021). On interactive indicators, AI can be said to be interactive because the goal of AI is to create an interface that is more humane and easy to use, and interactive AI courses and designs are widely used (AI to create animations, graphic designs, find inspiration, and increase new opportunities in work design (Muhaemin, 2023). AI helps the individual learning process because AI supports flexibility in learning by being accessible anywhere and anytime.



Application of AI in the World of Higher Education

Here are some AIs that have come to help the world of higher education:

1) Virtual Mentors

Virtual reality is an advanced technology that aims to mimic the real world with a computer-generated environment that the five senses can experience. As virtual reality becomes more affordable and common, many schools worldwide include it in their lesson plans (Handayani et al., 2020). One example of implementing a virtual mentor is the Blackboard which is a tool that is widely used in universities in Europe and America. Professors widely use this Blackboard AI tool to publish notes, homework, quizzes, and tests that allow students to submit questions and assignments for the grading process. Lecturers widely use blackboards to publish notes, homework, quizzes, and tests, allowing students to ask questions and assignments. In addition, virtual reality (VR) benefits students: 1 This VR learning media can interpret material according to learning objectives. Assist students in understanding the material independently. Facilitate teachers in delivering material. Creating a copy of the physical world of learning becomes virtually tangible. Students can use this VR to determine the material they want to learn and develop. It can be used as a medium for independent learning. VR media is much fun. VR media must still eliminate teacher and student interactions (Zulfikasari & Adhi Windiyantono, 2021).

2) Voice Assistant

The voice assistant is also one of the most widely known AI technologies in various fields, including education. In everyday life, we commonly interact with one of the many existing Voice Assistants, such as Alexa from Amazon, Siri from Apple, Google's Assistant from Google, and many more (Hartono et al., 2020). Voice Assistant, which is now also growing rapidly. Google Voice Assistance is one of the AI-based digital assistance products chosen because it is readily available and popular in Indonesia. Communicating with the machine supports increasing students' self-confidence without feeling afraid or embarrassed because of mispronunciation. Therefore, it is very effective in helping students learn foreign languages, especially English. Voice Assistant is currently being developed for use in various technological devices. In the classroom, this feature speeds up searching for additional materials. The existence of a voice assistant also makes it possible to obtain transparent and accurate information (Hakim, 2022).

3) Smart Content

The high role of innovation in the digital content industry raises predictions that the industry will continue to grow sustainably in the Society 5.0 era when information or content is the basis for decision-making (Sugiono, 2020). Smart content is a platform attraction that invites online consumers to read, study, view, or experience the content offered (Moonti & Adam, 2022). Smart Content Learning is a content design model for determining the right type of content for each type of material chosen by students (Bariah et al., 2017). In the academic realm, Smart content provides a better picture of learning material. Smart content has an accurate overview of content flow, enabling educators to identify gaps to pinpoint areas where content is of interest. Smart content affects every activity in learning that benefits the entire academic implementation process (Herliani & Sitompu, 2022).

4) Automatic Assessment

Currently, AI is widely used for assessing and correcting automatic questions through online means. Through automatic online-based assessments, it is easier for lecturers to monitor student activities because lecturers are no longer preoccupied with the



administration of print-based assessments, and students can transparently obtain their grades. In elementary schools, research states that automatic online assessment makes it easier for teachers to monitor student learning outcomes scores because teachers are no longer busy with various administrative assessments printed (Kuncahyono et al., 2019). This form of digital assessment in the form of an online test can be developed through applications already available on the Internet and can be used free of charge. Such as by utilizing game-based online test applications such as Quizizz, Kahoot, and so on, using LMS such as Moodle, Edmodo, or Google Classroom, utilizing messaging applications such as WhatsApp, or utilizing video conferencing applications such as Zoom Cloud Meeting, Google Meet, and so on. The advantages of carrying out online assessments in general are their ability to increase students' motivation and confidence to take part in assessments and the speed of providing feedback and flexibility in their implementation (Ariana, 2021; Zamista, 2022).

5) Global Courses

This AI technology has been widely applied in various fields, including education. Online learning or online learning has a variety of media, one of which is an online course. Online courses are learning media that can be accessed through websites that require an internet connection (Carlos Sarwijang et al., 2022). Courses previously conducted face-to-face can be taken online, such as English language courses, digital marketing courses, digital editor applications to create learning media, and even statistical applications such as SPSS and AMOS. These courses can be conducted online with the help of Google Meet: the presentation menu allows lecturers to view and read student writing, directly correct student writing, and allow students to know firsthand what needs attention, which will improve the quality of their writing. The presentation menu in Google Meet can also be seen by all students and lecturers and read what is displayed while also providing excellent choral facilities, enabling every student attending Google Meet virtual classes to study simultaneously (Nappu et al., 2022). Even the lessons learned can be viewed again because digital technology currently can record videos using video recording applications.

6) Presentation Translator

Presentation Translator has usability specifications to explain or represent a text from a different language into the desired language. Users only need to listen to various kinds of speech texts, articles, or digital books without needing to read (Dewi, 2021). Furthermore, translation engines such as Google Translate, Microsoft Translator, iTranslate, and Bing Translate provide solutions to the problem of understanding language. Machine translators will provide the core meaning of a text. Presentation Translator's translation results behave more like a human translator than a bilingual dictionary. Presentation translator work steps make it very easy for users by activating the speakers. Then, it will change the sentence to your preferred language.

Moreover, the entire website can be translated into different languages. Just enter the website's full URL into the text field on the left side of its homepage. Then, after selecting the language detection, click translate. It can even translate its contents into Word documents, PDFs, and other formats (Alifa et al., 2023).

7) Speech Recognition

Speech recognition is a machine's ability to listen to spoken words and identify them—the ability to change the incoming voice on the computer into text form. Speech Recognition combines computer science and linguistics to identify spoken words and convert them into text. This allows computers to understand human language. Voice/speech recognition



has been widely used in various ways, namely to give voice commands to operating systems, automatic translators, and help systems for people with disabilities, enabling students to be more involved, interactive, efficient, and understand better. (Adnan et al., 2022; Aini et al., 2022; Putra et al., 2020)

8) Personalized Learning

Personalized Learning increases students' involvement in designing and developing the tasks they are working on. However, engagement is not measured by how students respond to the material, but involvement is seen by how relevant, interesting, and useful the material is for students. Personalized Learning means that each student's learning experience is tailored to their needs. Personalized e-learning uses machine learning to identify learning styles and student preferences based on certain learning theories. Machine learning is based on clustering analysis techniques and classifying algorithms such as fuzzy c-means, K-means, and genetic algorithms (Supangat et al., 2021)

Academic Ethics in the Era of "Merdeka Belajar"

The presence of AI technology is a breakthrough in the field of higher education to facilitate learning and foster independence (Supriadi et al., 2022). Some countries make laws on the use of AI; for example, the United States makes AI regulations as follows: 1) Transparency i.e. the algorithmic designer must explain the use of algorithmic decision-making; 2) Explaining which three components: (a) identifying algorithmic decisions, (b) canceling certain decisions, (c) functioning as a media determination; 3) Risk Assessment, is another critical component of any AI system consisting of automated decisions that involve high risk to humans; 4) Audit, to ascertain whether a company complies with its privacy policy program or not (Rahardja, 2022).

In higher education, students do not have to depend on the role of the lecturer, who is too dominant. However, lecturers can shift to a level that provides enlightenment regarding academic and non-academic and must provide the essence of teaching, namely moral education, which must be maintained. For example, the use of OpenAI ChatGPT must be accompanied by an understanding of the use of OpenAI ChatGPT wisely and not to violate academic ethics. Students should not be complacent with using OpenAI ChatGPT, which causes critical reasoning and student creativity to decrease due to dependence on the use of OpenAI ChatGPT (Maulana & Darmawan, 2023). With the massive disposition of using AI in making assignments, research, and scientific writing, the Government and Higher Education can play a role by setting limits and guidelines for use, as has been done by several countries and publishers of leading international scientific journals such as Elsevier and Cambridge University Press. For example, Putra Malaysia University guides the use of AI:

- 1) Students are given permission to use ChatGPT by providing discussion space related to predetermined academic rules.
- 2) Ensuring students understand lectures by providing assessments that assess the process of remembering things such as certain times, certain subjects or past events, as well as evaluating the references used.
- 3) Increase discussion activities and collaborative assignments. In this way students practice expressing their own thoughts. The results of the discussion are made in the form of a summary and students can provide comments after the discussion is over.
- 4) Increase student involvement in learning (experiential learning) and ask them to ask ChatGPT questions by including views or data from current conditions, personal experiences or certain geographic contexts.



- 5) For lecturers, ChatGPT can be utilized to produce unique case studies for individual students or groups of students based on their interests or level of proficiency.
- 6) Provide space for students in assessments, such as providing feedback on how they can improve themselves and asking them to provide a synthesis of knowledge from the ChatGPT responses they have produced (ITI, 2023).

The learning process in higher education is indeed difficult to separate from AI. This is where honesty, trustworthiness, and responsibility can be seen clearly. No less important, working with the help of technology usually contains an element of fun; it is hoped that the use of ChatGPT can provide a feeling of satisfaction when you can make a complete piece of writing as well as a sense of fun in the process of improving your writing skills (Setiawan & Luthfiyani, 2023). Therefore, by setting clear usage limits, the emergence of these technologies can coexist in the future and assist the academic community in solving various learning problems, scientific assignments, research, and doing scientific work.

Conclusion

The conclusions drawn from the findings of this study are student responses to AI, namely, 56.67% of students say that AI is responsive, 89.44% of students say that AI is practical and efficient, 78.89% of students say it is interactive, 94.17% of students say it is useful in courses and design, and 94.67% of students say useful in the individual learning process. Academic ethics must also continue to be implemented in using AI in learning activities, making scientific writing assignments, making learning media with integrity, honesty, paraphrasing, and citing sources. The implications for higher education students should use this AI wisely.

Recommendation

Higher education students should use AI wisely, and they are not dependent on and can practice communication, creativity, collaboration, and critical thinking skills without being constantly dependent on AI. Lecturers should be able to always remind students of academic ethics and use AI as well as possible in order to produce academics with dignity. Higher education leaders as policymakers should be able to create written regulations regarding sanctions against academics and especially students who commit actions that are not commendable, such as plagiarism, and be able to collaborate with teams of IT experts in each university to find out what percentage of the content of student assignments using AI assistance.

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