

Indonesian students' use of Chat Generative Pre-trained Transformer in essay writing practices

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ABSTRACT

The proliferation of the Chat Generative Pre-trained Transformer (ChatGPT) in the educational area has become a debatable topic. ChatGPT has proven to be appealing to students as a helpful resource in their learning journey, specifically in enhancing their proficiency in essay writing practices. Following this, the study endeavored to scrutinize the purpose and behavior of students employing ChatGPT for composing essays in the Indonesian language. Utilizing a quantitative methodology, the research centered on collecting and analyzing numerical data. The study employed a questionnaire as the research instrument, utilizing a 5-point Likert scale. The questionnaire was administered to 303 second-semester students enrolled in an essay writing course. The findings of the study revealed that the majority of students utilized ChatGPT to enhance their comprehension of essay writing concepts, bolster their confidence, and receive valuable feedback. The findings from the data analysis indicated that students perceived ChatGPT as a valuable resource for enhancing grammar and sentence structure, fostering creativity, and cultivating robust ideas and arguments.

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1. INTRODUCTION

Advances in current technology have led to the birth of artificial intelligence (AI) which affect learning practices. The term can be defined as a technology that can make computer systems, software, and robots work and think like humans [1]. Many AI-based systems are often used in education, such as virtual mentors, voice assistants, innovative content, smart classes, automated assessments, and personalized learning. This is because AI is a crucial part in the disruption era, so education needs to response it in making changes in its learning system to improve the competitiveness of graduates by enabling them to think more critically, creatively, and collaboratively [2]. Therefore, the expansion of AI in education does have the potential to overhaul traditional educational practices, promote personalized learning experiences, improve assessment evaluation procedures, and accelerate students' soft skills development [3].

One of the AI technologies that has attract the attention of students today is the Chat Generative Pre-trained Transformer (ChatGPT) developed by OpenAI, a non-profit research company that focuses on developing and directing AI. The technology even reached one million users in just five days [4]. With 175 billion parameters, ChatGPT is based on a natural language processing (NLP) model designed to enable computers to interact with human language [5]. Many people view ChatGPT as replacing Google because it can answer difficult questions by providing comprehensive answers. To use ChatGPT, users simply need to

access OpenAI's official website. After that, they have to select the 'Try ChatGPT' option and then log in to start asking questions. Thus, users do not need to download the app from Google Play or App Store.

According to Hamada *et al.* [6], ChatGPT has the ability to: i) communicate with others like humans; ii) engage in conversations; iii) provide answers to questions asked; and iv) perform tasks like humans. In fact, there are many users who feel amazed because the answers provided by ChatGPT have a good structure, the relationship between words or sentences is coherent and quite accurate, and is able to remember conversations that have been carried out before [7]. By using a good question or prompt technique, ChatGPT can produce an article or book in a very short time when compared to conventional methods [8]. The technology can respond to almost any sentence entered, but will not respond to questions that contain violence or are considered illegal [9].

Although the use of AI in educational activities is not a new phenomenon, the rapid proliferation of ChatGPT has become a trending topic in the first quarter of 2023 [4]. This technology has demonstrated significant potential to transform how students learn and interact with information. Moreover, the implementation of AI-based chatbots in higher education is seen as a potential solution to improve student engagement and learning outcomes. Research by Faiz and Kurniawaty [10] even suggests that ChatGPT has great power to advance students in new ways. However, it is important to underline that such technology should be used ethically and responsibly. In the context of essay writing, ChatGPT also has its own advantages. It is able to understand information more quickly and deeply, and then connect various data and information as evidence to reach a conclusion [11].

The benefits of ChatGPT in education have been reported in many studies, blogs, and social media. However, there are still few studies that discuss the perceptions of students and their goals in using ChatGPT, especially for Indonesian students. There is still a gap in previous studies because there is no research that discusses in detail the purpose of use and attitudes of Indonesian students towards ChatGPT. Therefore, this study seeks to explore the purpose and attitudes of first-year students in Indonesia towards using ChatGPT, especially in the context of learning essay writing practice. The topic is certainly important to research as it can provide important prospects for further exploration in the future. As such, this study poses the following two research questions: i) what is the purpose of students using ChatGPT in writing essay practices?; and ii) what are students' attitudes towards ChatGPT in producing Indonesian essay?

This research is then divided into five main sections. The first section is the background which explains the development of ChatGPT and its use in education. The second section then explains the method used in the research process, which is a quantitative method using a questionnaire as the main instrument. The third section then describes the results of the research, mainly in the form of data analysis results obtained from respondents' answers to statements in the questionnaire. In the fourth section, a discussion of the research results is presented by highlighting various other studies whose results are in accordance and not in accordance with this study. The last section then contains conclusion from the research results.

2. METHOD

2.1. Research approach and design

This research adopted quantitative approach emphasizing the objective measurement and analysis of statistical, mathematical, and numerical data obtained through polls, questionnaires, and surveys, or the manipulation of pre-existing statistical data using computational techniques [12]. However, this research focuses more on collecting and analyzing numerical data. The research design used was a cross-sectional survey, which is a research design that collects data from many different individuals at a single point in time. It targeted tertiary students at universities in East Java Province in Indonesia, particularly those who were at second semester taking Indonesian language course. There were 1,400 questioners sent to the same number of students at several universities via email. Only 534 students replied email, and 303 of them agreed to take part as participants. Some of the respondents were students of both researchers. The convenience sampling technique was employed due to the accessibility of the participants at the same time as the instructor and researcher [13]. In this context, researchers only observe variables without influencing them.

2.2. Participants

The participants selected in this study were second-semester students selected universities in Indonesia, especially students who took the Indonesian essay writing course. Overall, the number of participants selected was 303 students. The participants were selected using the convenience sampling method, which is a non-probability sampling method in which units are selected for inclusion in the sample because they are most accessible to the researcher. In other words, the researcher collected data from students who were available and willing to participate in the study.

2.3. Instrument

This research uses an instrument in the form of a questionnaire, which is a set of questions used to collect data from respondents related to the research topic. By designing a questionnaire, the researchers intend to create valid and reliable questions/statements related to the research objectives and arrange the questions/statements in the right order. In this study, the questionnaire used consisted of statements related to the use of ChatGPT in the Indonesian essay writing course. The questionnaire consisted of two parts, the first part which stated about the purpose of students using ChatGPT in writing essays in Indonesian, and the second part which stated about students' attitudes towards ChatGPT in writing essays. There were statements with five questions in each section.

Each statement is then measured using a Likert scale. This scale provides the possibility of five answers for each statement which allows respondents to indicate their level of agreement or level of positive-to-negative feelings towards the given statement. To achieve the validity and reliability of questions and its statements, those results have been compiled, then given to three experts to evaluate the validity of the contents and legibility of the items. The level of agreement in question consists of five scores, namely score 1 indicates strongly disagree (STS), score 2 indicates disagree (SS), score 3 indicates neutral (N), score 4 indicates agree (S), and score 5 indicates strongly agree (SS). This study resulted the participants rated all items in the range of 3 to 5, and the reliability (Cronbach's alpha) of each category was greater than .7 ($\alpha > .7$).

2.4. Data collection and analysis

Data was collected through distributing questionnaires to 303 second-semester students, specifically students who took the Indonesian essay writing course. The questionnaire was administered online via Google Form and social media communication [14]. Once distributed, students were asked to complete the questionnaire by providing their responses to the statements provided. In this context, students were asked to give a score of 1-5 expressing their level of agreement or disagreement.

A number of data that have been collected are then analyzed using the descriptive statistical method, which is a statistic used to analyze data by describing the data that has been collected. This method describes the data as it is without intending to make generalizations or conclusions that apply generally. This is because the descriptive statistical method aims to provide an overview of the variables used. The calculation of the mean (average) and standard deviation (SD) is then carried out for each statement contained in the questionnaire. Therefore, researchers can get an overview of the level of agreement and variability of student responses to the use of ChatGPT in the Indonesian essay writing course.

Furthermore, inferential analysis such as t-test or t-test can be done if there are additional variables to be studied. If descriptive statistical analysis is unable to draw conclusions that apply generally, then inferential analysis can draw conclusions from sample data that apply to the population, thus requiring more complicated and in-depth statistical formulas. This analysis model can be used if researchers want to test the comparison between the level of agreement between students from one to other universities on the use of ChatGPT. However, this research only focuses on descriptive statistical analysis.

3. RESULTS

The survey conducted for this study enlisted the participation of 303 individuals. The precise demographic distribution of the respondents, notably the gender composition, has been meticulously illustrated and further expounded upon in Figure 1. This graphical representation provides a comprehensive breakdown, allowing for a detailed examination of the gender percentages within the surveyed cohort. The inclusion of this detailed demographic data is crucial in facilitating a deeper understanding of the sample characteristics and aids in contextualizing the findings within the study's framework. Moreover, this demographic segmentation enables researchers to discern potential variations or patterns in responses based on gender, thereby contributing to a more nuanced analysis of the study's outcomes.

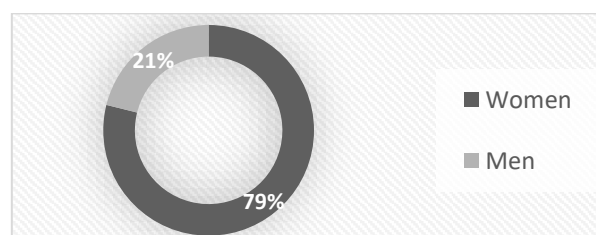


Figure 1. Women accounts for the majority of 'gender'

From the Figure 1, it can be seen that most of the students who are research respondents have female gender. However, since this research uses the convenience sampling method, this is not a problem. Furthermore, Table 1 then shows the results of the questionnaire analysis based on a 5-point Likert scale, with 1 being 'strongly disagree' and 5 being 'strongly agree'. The female voices predominantly shape the outcomes regarding the usage attitudes and objectives concerning this tool in essay writing tasks.

Table 1. Expression of students' perception toward the use of ChatGPT

No.	Statement	Mean score	Interpreted degree of agreement	Corresponding level of agreement
1.	The use of ChatGPT helps me understand the concept of Indonesian essay writing.	4.2	Agree	High level of agreement
2.	Using ChatGPT helped me improve my Indonesian essay writing skills.	3.8	Quite agree	Medium level of agreement
3.	I feel more confident in writing Indonesian essays after using ChatGPT.	4.5	Strongly agree	High level of agreement
4.	ChatGPT helped me overcome difficulties in developing Indonesian essay ideas.	3.6	Quite agree	Medium level of agreement
5.	I feel that ChatGPT provides useful feedback in Indonesian essay writing.	4.1	Agree	High level of agreement

Table 1 shows that students expressed the highest level of agreement in the statement that ChatGPT helped them to feel more confident in writing Indonesian essays ($M=4.5$). Students also had a high level of agreement that ChatGPT helped them to understand the concept of Indonesian essay writing ($M=4.2$) and they considered ChatGPT to have provided useful feedback to help them in writing the essay ($M=4.1$). Meanwhile, students had a moderate level of agreement that ChatGPT helped them to improve their Indonesian essay writing skills ($M=3.8$) and ChatGPT helped them to overcome difficulties in developing ideas in essay writing ($M=3.6$).

3.1. What is the purpose of students using ChatGPT in writing essays in Indonesian? (RQ1)

In Table 2, we can identify the various purposes of using ChatGPT by students in writing Indonesian essays. The mean or average value illustrates the level of agreement or agreement of respondents to the given statement. Meanwhile, the SD shows the extent to which respondents' responses vary from the mean. The lower the SD, the more consistent the respondents' responses to the statement. The results showed that students' highest level of agreement was on statements 3, 1, and 5 with a mean value greater than 4.0 on each statement. Students stated that their purpose of using ChatGPT was to increase confidence in writing Indonesian essays ($M=4.5$, $SD=0.4$), understand the concept of Indonesian essay writing ($M=4.2$, $SD=0.6$), and get useful feedback in writing Indonesian essays ($M=4.1$, $SD=0.5$).

Meanwhile, students showed a moderate level of agreement on statements 2 and 3 with a mean value of less than 4.0 on each statement. Moderate agreement was shown by students on statement 2 that using ChatGPT aims to improve their ability to write Indonesian essays ($M=3.8$, $SD=0.7$). The lowest score was on statement 4 that the use of ChatGPT aims to get useful feedback in writing Indonesian essays ($M=3.6$, $SD=0.8$). These insights provide a nuanced understanding of the students' perspectives on the specific objectives related to the tool's utilization in the essay writing tasks.

Table 2. Students' purpose in using ChatGPT for essay writing in Indonesian

No.	Statement	Mean score	SD	Destination
1.	The use of ChatGPT helps me understand the concept of Indonesian essay writing.	4.2	0.6	Understand the concept of Indonesian essay writing.
2.	Using ChatGPT helped me improve my Indonesian essay writing skills.	3.8	0.7	Improving Indonesian essay writing skills.
3.	I feel more confident in writing Indonesian essays after using ChatGPT.	4.5	0.4	Increase confidence in writing Indonesian essays.
4.	ChatGPT helped me overcome difficulties in developing Indonesian essay ideas.	3.6	0.8	Overcoming difficulties in developing Indonesian essay ideas.
5.	I feel that ChatGPT provides useful feedback in Indonesian essay writing	4.1	0.5	Get useful feedback on Indonesian essay writing.

3.2. What are students' attitudes towards ChatGPT in writing essays in Indonesian? (RQ2)

Table 3 shows that the level of student agreement is very high because each statement has a mean value of more than 4.0. The highest level of agreement is found in statement 3 that students consider ChatGPT as a useful tool to correct grammatical and sentence structure errors in Indonesian essays ($M=4.5$, $SD=0.4$). The second highest level of agreement was shown by statement 1 that students found ChatGPT helpful in enhancing their creativity during the Indonesian essay writing process ($M=4.3$, $SD=0.6$). The table unequivocally showcasing a consistent trend of substantial consensus, particularly regarding the utility of the tool in rectifying grammatical errors and enhancing creative prowess in the essay composition.

Table 3. Students' attitude towards ChatGPT for essay writing in Indonesian language

No.	Statement	Mean score	SD	Attitude
1	I found ChatGPT helpful in improving my creativity in writing Indonesian essays.	4.3	0.6	ChatGPT helps in improving creativity in writing Indonesian essays.
2	The use of ChatGPT makes me more efficient in completing Indonesian essay writing tasks.	4.1	0.7	The use of ChatGPT increases efficiency in completing Indonesian essay writing tasks.
3	I find ChatGPT a useful tool in improving grammar and sentence structure in Indonesian essays.	4.5	0.4	ChatGPT is a useful tool in improving grammar and sentence structure in Indonesian essays.
4	The use of ChatGPT helped me to develop strong ideas and arguments in my Indonesian essays.	4.2	0.5	The use of ChatGPT helps in developing strong ideas and arguments in Indonesian essays.
5	I feel that ChatGPT can increase the originality of my writing in writing Indonesian essays.	4.0	0.6	ChatGPT can increase the originality of writing in writing Indonesian essays.

Furthermore, the third highest level of agreement was found in statement 4 that students felt helped by ChatGPT in developing ideas and strong arguments in writing Indonesian essays ($M=4.2$, $SD=0.5$). The fourth highest level of agreement is found in statement 2 that through the use of ChatGPT, students become more efficient in completing Indonesian essay writing tasks ($M=4.1$, $SD=0.7$). The next highest level of agreement is then shown by statement 5 that students consider ChatGPT as a tool to increase the originality of their writing in writing Indonesian essays ($M=4.0$, $SD=0.6$). Thus, it can be said that most students have a positive attitude towards the role and use of ChatGPT in their essay writing.

4. DISCUSSION

Based on the presented research findings, it was revealed that the predominant use of ChatGPT among students primarily served to comprehend essay writing concepts, bolster confidence levels, and procure valuable feedback. Additionally, data analysis indicated students' recognition of ChatGPT as an instrumental tool in enhancing grammar, refining sentence structures, fostering creativity, and fostering robust ideation and argumentation skills. These findings substantiate a significant contribution regarding the objectives and attitudes of students towards this phenomenal tool in higher education. Given prior research focusing predominantly on the drawbacks of its usage [8], [15]–[18], disregarding its potential benefits for early-stage students, this study's outcomes assume critical relevance in the ChatGPT research landscape within the essay writing learning process. Elaborating in detail on this research's positioning amidst previous studies is articulated herein.

The results showed that more female students were interested in using ChatGPT than male students. This is because most of the respondents involved in this study were women. They voluntarily became respondents to fill out the questionnaires distributed. While male students tend to be 'ignorant' or lazy to fill out the questionnaire. Besides, compared to men, female students usually pay more attention to their academic problems. This can be seen from the number of female students who use ChatGPT in writing Indonesian essays. They strive to present the best essay writing, thus utilizing ChatGPT as a tool in finding ideas, forming arguments, and improving grammar and writing structure.

Many students are using ChatGPT to assist them in writing essays because the technology has a friendly user interface. The interface is a simple dialog, with a text input area for the user and a text output area from ChatGPT. This design ensures that the conversation is always initiated by the user and the direction of the conversation is also controlled by the user. Therefore, ChatGPT is a learning tool that puts students at the center. Students can take the lead role in planning, organizing, and personalizing their learning process. Based on the BestCollege survey, 61% of students believe that ChatGPT and other AI technologies could become the new norm in the long run [19]. In fact, Zhai [20] views ChatGPT as a 'game changer' as it has the potential to end a number of traditional assignments and assessments, such as essay writing.

Research conducted by Bonsu and Baffour-Koduah [5] shows similar results to this study that students consider ChatGPT to be helpful in their academic activities. Students also have perceptions and goals for using ChatGPT based on its convenience and usefulness. Many students argue that ChatGPT helps them to get more information as a reference source in their writing, making the writing process easier and faster [5]. The purpose of students using ChatGPT is the desire to utilize the features and benefits offered by the technology, such as convenience, accuracy, and idea generation for writing. Some students even compared Google with ChatGPT and stated that ChatGPT has a higher level of efficiency than Google. Furthermore, some students thought that ChatGPT should be adopted in the education system or college management system to guide students in obtaining more information.

This study also has similar results to research by Elkhodr *et al.* [21] who found that in general, students viewed ChatGPT as a useful and enjoyable learning tool. Most students even indicated their willingness to use ChatGPT in their future studies. However, when compared to graduate students, postgraduate students found ChatGPT to be a less engaging and enjoyable tool. This is because graduate students have a higher level of technical knowledge and expertise, so they are less dependent on AI technology assistance [21].

According to Fauzi *et al.* [22], students consider that ChatGPT plays an important role in improving their productivity because the technology has the ability to: i) provide useful resources and information for students to gain additional knowledge; ii) help students to improve their language skills because they can use ChatGPT as a tool to correct grammar, expand vocabulary, and improve essay writing style; and iii) facilitate collaboration between students because they can use ChatGPT to communicate with each other, share ideas and ideas, and provide feedback and support.

In the context of writing support and brainstorming, students often use ChatGPT because they want feedback to improve their writing skills, not just grammar checking. With ChatGPT, students can monitor the latest research trends and build initial ideas to be used in their essays based on these trends [23], [24]. This argument is similar to the research results of Chan and Hu [23] which showed that students can use ChatGPT as a support tool in essay writing because they sometimes find it difficult to generate ideas or find inspiration. Students also considered that ChatGPT could facilitate literature searches, summarize readings, and even form hypotheses based on data analysis.

The use of ChatGPT provides an opportunity to teach students to use AI technology ethically, effectively, and responsibly, and to teach them to utilize the technology in their writing. In a survey conducted by Jimenez [25], it was revealed that 22% of students use ChatGPT for weekly assignments. In fact, as many as 73% of teachers believe that ChatGPT has improved student performance. Not only that, a survey also revealed that around 89% of students claimed to have used ChatGPT to help them with assignments, and 48% of students used ChatGPT to take at-home exams or quizzes [21]. They have experienced a number of benefits provided by ChatGPT, such as saving time, increasing efficiency, and better organization of information [21].

Indeed, many students use ChatGPT in order to save time. This is because the answers or responses provided by the technology are to the point. Unlike search engines like Google that provide billions of answers, ChatGPT provides answers based on the word limit that has been set by the user. This kind of answer can certainly provide enough information to students without the need to filter a large amount of information and choose credible sources of information [26]. ChatGPT can also provide writing assistance to international students by enabling them to brainstorm writing ideas and get grammar-related feedback from the technology.

Research conducted by Shoufan [27] also showed the result that students considered ChatGPT as a useful and beneficial tool in learning activities. Very few students evaluated the weaknesses of ChatGPT. They did not consider the technology as a major threat to academic integrity or learning. This is because students do not consider ChatGPT as a golden source for gaining knowledge. Instead, they consider it as background knowledge that only acts as a support for essay writing, not a substitute. ChatGPT does not necessarily replace human intelligence and only plays a complementary role.

Therefore, many students have expressed a high level of interest, fascination and motivation towards ChatGPT. This kind of interest is highly relevant to learning because it can increase students' independence, collaboration, problem-solving, and joy of learning [27]. Similar results were shown by Muñoz *et al.* [3] who stated that students who utilized ChatGPT reported being more engaged in the learning process as many of them enjoyed interacting with the technology. By using ChatGPT to assist essay writing, students can improve their creative thinking process to create prompts appropriately.

Despite its many benefits, ChatGPT has a number of drawbacks, such as sometimes incorrect and irrelevant information, increased student dependency, and a negative impact on critical thinking and problem-solving skills. Thorp [28] emphasizes that ChatGPT may be fun, but it has serious consequences in the world of science and education. Although ChatGPT can write articles on a variety of topics, the writing is still not optimal. There are still concerns about the credibility, acceptability, and relevance of ChatGPT in

academia. These concerns relate to ChatGPT's capability to summarize and develop academic writing, including essays. It certainly affects the integrity of the essays developed by students due to the lack of logical reasoning in the creation of arguments [5].

In previous research, Supriyadi [9] tried to create an article using ChatGPT and then checked for plagiarism using Turnitin. Turnitin results show that there is a similarity rate of 67% with other documents. Therefore, the results of making essays through ChatGPT still have a high level of plagiarism, so students need to double-check that the essays they make have a low level of plagiarism. In addition, Setiawan and Luthfiyani [8] also revealed a glaring weakness of ChatGPT based on the results of experiments that have been carried out, namely that ChatGPT does not have the ability to display the requested references.

Kumar [15] then analyzed ChatGPT's responses to academic writing prompts. The analysis showed that the output texts, although mostly original and relevant to the topic, contained inappropriate references and lacked perspectives that AI technology is incapable of producing. For international students, the generation of appropriate prompts will also pose a challenge as it requires good linguistic skills [18]. Similar criticism was given by Dwivedi *et al.* [16] who stated that the writing produced by ChatGPT tends to be weak in terms of logic, inaccurate in terms of facts and truth, uncritical in terms of data elaboration, and unoriginal. When asked to provide sources and references to support the essay's argument, ChatGPT only displayed a list of five references with incorrect titles and not correctly attributed to the author, journal, or year of publication.

The development of ChatGPT does have the potential to support transformative change in the learning process. However, the integration of such technology in education also raises concerns regarding assessment and evaluation as traditional methods may become obsolete due to automated technology in answering student questions [4]. Over-reliance on ChatGPT will also reduce students' efforts to develop their writing competencies. This argument is supported by Alafnan *et al.* [26] who stated that from the perspective of students, ChatGPT is indeed seen as a support tool for completing assignments that are approaching deadlines. In the short term, students view ChatGPT as an opportunity to avoid penalties for late submission of assignments or zero marks. However, in the long and medium term, this practice presents its own challenges for student learning and development. Reliance on ChatGPT to complete assignments can lead to human unintelligence, unlearning, and deficiencies for students [29].

Students also feel that the use of ChatGPT has provided a number of risks that should not be underestimated, such as: i) interpretation errors because the results of ChatGPT writing are sometimes difficult to understand; ii) algorithm bias-if the data entered is not representative and contaminated by bias, then the output issued will be biased as well; and iii) data security risks because the use of ChatGPT provides an opening for cybercrime perpetrators to steal student personal data [17]. Thus, it is highly recommended for students to ensure that the system and training data entered in ChatGPT are protected by encryption and strict access settings, so as to prevent unauthorized access or search for personal data by irresponsible parties.

The negative impact provided by ChatGPT can lead to restrictions or bans on the use of this technology in higher education [30]. In this context, there are a number of universities in Indonesia that have imposed regulations on the use of ChatGPT, for example Padjajaran University (UNPAD). This university imposes sanctions on students who always rely on ChatGPT or copy and paste answers from ChatGPT. The rule is intended to avoid acts of plagiarism that violate morality and ethics in the academic world. If there are students who commit plagiarism by using ChatGPT, then they will get sanctions in the form of a reduction in grades [10]. In addition, a number of international universities, such as universities in New South Wales, Tasmania, and Queensland have blocked access to ChatGPT on the university's internet network. This blocking is intended to prevent students from taking shortcuts in writing exam essays [31].

Misnawati [17] then advised students that if they want to make optimal use of ChatGPT, they need to pay attention to three things, namely: i) choosing a model that suits the needs of the application because ChatGPT comes in various capacities and sizes; ii) inputting quality training data so that ChatGPT is able to produce outputs that are more accurate; and iii) optimizing the model performance by using a number of techniques, such as hyperparameter optimization, augmentation, and fine-tuning. Hyperparameter optimization is done by making appropriate settings regarding the parameters of the ChatGPT model, such as the dropout rate, number of neurons, and number of layers. This technique can help students to avoid underfitting or overfitting the model on the training data and improve the accuracy of the model used. Misnawati also emphasized that understanding the nuances of hyperparameter optimization could significantly enhance ChatGPT's efficiency and prevent common pitfalls like underfitting or overfitting, thereby elevating the accuracy and applicability of the model for students' specific needs.

5. CONCLUSION

The use of ChatGPT among students to aid academic essay writing emerges as a prevalent practice. The study highlights students' predominant adoption of the tool owing to its facilitation in comprehending Indonesian essay writing concepts, bolstering confidence levels, and providing constructive feedback. Notably, students perceive the tool as beneficial in refining grammar, fostering creativity, fortifying argumentative skills, enhancing task efficiency, and augmenting originality. However, persistent reliance on ChatGPT in the essay writing presents significant drawbacks. This dependency could potentially hinder critical and creative thinking processes, leading to weakly substantiated arguments devoid of proper references and elevated plagiarism concerns, undermining writing authenticity. Moreover, apprehensions regarding data security and privacy breaches have prompted universities to implement stringent regulations governing ChatGPT's ethical use.

Despite furnishing comprehensive insights into students' attitudes and goals concerning the tool in the essay writing, the study faces several limitations. Primarily, the analysis exclusively focused on second-semester students enrolled in the Indonesian essay writing course, thus limiting the broader understanding of student perspectives. Additionally, the closed-ended questionnaire constrained students to select from limited response options, solely portraying positive sentiments towards the tool and omitting their negative perceptions. Consequently, the researcher advocates for more intricate investigations into students' utilization of ChatGPT in essay composition, emphasizing the study's potential as a foundational stepping stone for future research endeavors in this field.




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