



## Strengthening Education on the Importance of Ethical use of Chatgpt in the Compilation of Student Written Works at Sma Negeri 1 Kedungwuni, Pekalongan Regency

Muhammad Khumaedi <sup>1,\*</sup>, Aldias Bahatmaka <sup>2</sup>, Juwita Ria Rumondang <sup>3</sup>, Antama Bahatmaka <sup>4</sup>, Fiqri Fadillah Fahmi <sup>5</sup>, Tegar Oki Prasdika <sup>6</sup>, Aryo Laksono <sup>7</sup>, Muhammad Habibullah <sup>8</sup>, Choirul Anton Muclisin <sup>9</sup>

<sup>1,2,5,6,7,8,9</sup>Department of Mechanical Engineering, Faculty of Engineering, Universitas Negeri Semarang

<sup>3</sup>Department of Culinary, Faculty of Engineering, Universitas Negeri Semarang

<sup>4</sup>SMA Negeri 1 Kedungwuni, Pekalongan

 muhammad\_khumaedi@mail.unnes.ac.id

---

### ARTICLE INFO

---

#### Article history

Received : 11-12-2025

Revised : 27-1-2026

Accepted : 30-1-2026

#### Keywords

Learning; Digital Era;  
ChatGPT; Written Work;  
Students

---

### ABSTRACT

---

*Learning media in the computer and internet era can help teachers and students learn better. ChatGPT is an AI system that enables conversational interaction through text, can help students understand complex subject matter and improve their learning outcomes. Because the answers are This application is very popular with students because it is well-structured and can solve problems in a short time. However, AI technology, especially Generative Pre-trained Transformer (Chat GPT), has been very important for the advancement of education. In addition, it has an impact on student creativity, originality, and their learning process. This study collected data on student perceptions of the ethics of using ChatGPT. In addition, the written work created was evaluated for its quality. It is hoped that the results of this study will improve our understanding of the possibilities and difficulties of integrating ChatGPT in education. The results of the training on understanding the ethics of using ChatGPT in writing scientific papers for students of SMA Negeri 1 Kedungwuni, Pekalongan Regency, obtained several conclusions: The training was carried out smoothly to students covering the ethical material of using ChatGPT with the quality of creating appropriate prompts and an understanding that AI as a writing aid needs to evaluate the output AI provides. In addition, by holding training, students' abilities in utilizing GPT Chat as a tool in writing papers have increased.*



This is an open access article under the [CC-BY-SA](#) license.

---

## A. INTRODUCTION

The rapid development of the digital world has significantly changed students' learning needs and learning patterns, especially in higher education. Students today require learning environments that are flexible, accessible, and able to support independent and collaborative learning processes. Therefore, digital learning environments have become an essential part of education (Sadriani et al, 2023; Wardiana, W, 2002; Setiawan, D, 2018; Maharsi, S, 2000). One



of the learning needs that is strongly affected by this development is students' ability in scientific writing. Students are required to be able to search for references, organize ideas, and complete scientific papers efficiently. Digital technology helps students meet these needs by simplifying the process of finding title references, managing sources, and drawing conclusions in a shorter time. Thus, current digital technology plays an important role in supporting students' academic writing skills and learning effectiveness (Julita, J; Purnasari, PD, 2022). The hardware used in schools is not directly affected by this technological advancement, such as laptops that function as replacements for typewriters, printing equipment, easily accessible books, and even media used to create educational products. The development of software based on artificial intelligence, or AI, is one of the things that is currently receiving major attention due to its rapid development. AI has the ability to think like humans and can perform various analyses. Students will use this AI capability because they are difficult to perform long analysis (Wahyudi, T, 2023; Chen et al, 2020; Chen et al, 2022; Ouyang, F; Jiao, P, 2021; Holmes, W, 2020). This AI transformation helps students perform tasks that are often challenging for them, such as writing scientific papers. The expected writing is very draining because it requires finding interesting ideas that are relevant to each student's field of study. The presence of Chat GPT (Generative Pre-trained Transformer) AI helps assist and improve the quality of students' written work (Farwati et al, 2023; Huallpa, JJ, 2023; Yu, H, 2023; Purnama et al, 2023; Božić et al, 2023). The Chat GPT display can be seen in Figure 1.



**Figure 1.** User interface at ChatGPT web

The use of AI has significantly helped us complete our daily tasks. Searches for GPT Chat are very high in Indonesia compared to AI, according to Google Trends searches. This supports this opinion. One type of academic evaluation is student writing, which requires scientific communication skills and a deep understanding of the subject. Therefore, using GPT Chat as a tool to help compose student writing improves creativity, accuracy, and productivity. GPT Chat can be a better virtual partner for students to explore ideas, develop arguments, and structure paragraphs by generating text automatically and responsively (Setiawan, A; Luthfiyani, 2023; Rahman, MM; Watanobe, Y, 2023; Gill et al, 2024; Oranga, J, 2023; Lo, CK, 2023; Limna et al, 2023). Research on the use of GPT Chat in education has increased. This is due to the need for in-depth investigations into potential errors in its use and how to provide an accurate understanding of its use. Because direct use of GPT Chat without paraphrasing will result in a Turnitin score of 50% or above, the use of GPT Chat in creating articles on mathematics education still requires plagiarism studies (Supriyadi, E, 2022). Students have a positive impression of the ease of use. By using GPT Chat, you can increase your knowledge, be satisfied with the fast and accurate answers of GPT Chat, and spend time more actively. However, there are negative effects from using ChatGPT, such as decreased critical thinking skills Mairiska, T; Qodariah, N, 2023; Dwiyono et al, 2024;



Misnawati, M, 2023; Rahmiani et al, 2023). Although ChatGPT has interesting potential, its application in learning faces several problems, such as (1) There are concerns about the reliability and accuracy of ChatGPT data; (2) Security and privacy are very important because students can reveal personal or sensitive data when interacting with ChatGPT; (3) ChatGPT can be less effective in providing learning assistance due to limited understanding of context and lack of knowledge about specific domains (Dalalah, D; Dalalah, OM, 2023; Farrokhnia et al, 2024; Duong et al, 2024; Xu et al, 2023; Nailus et al, 2023).

Overall, the use of ChatGPT in learning offers promising opportunities to enhance interactions between students and technology, but also brings with it a number of issues that need to be addressed. By reviewing relevant research, we can understand the potential and limitations of ChatGPT as a way to leverage technology and assist students. A commonality that needs to be reviewed from this previous research is the use of chatGPT in students' perceptions, which can help them complete assignments. This is because this artificial intelligence has many benefits for students' lives beyond simply copying and pasting the results of chatGPT. Therefore, I conducted this community service for lecturers to learn more about the potential use of chatGPT by students of SMA Negeri 1 Kedungwuni, Pekalongan Regency, in writing a paper entitled "Strengthening Education on the Importance of Ethical Utilization of ChatGPT in Writing Student Papers at SMA Negeri 1 Kedungwuni, Pekalongan Regency."

## **PROBLEM**

Based on a WhatsApp discussion with a partner, a curriculum teacher from SMA Negeri 1 Kedungwuni, Pekalongan Regency, the community service team and partners identified several issues that underlie the socialization process:

1. Students' limited knowledge of the importance of fostering creativity and the proper use of technology.
2. Lack of understanding of the benefits of technology can help facilitate digital technology use.
3. The influence of social media has made students reluctant to think and write from their own perspectives.
4. SMA Negeri 1 Kedungwuni lacks guidance and direction in learning about the use of AI in the form of ChatGPT.

Therefore, an effort is needed to address these issues through socialization. By mutual agreement between the UNNES Lecturer Service Team and partners from SMA Negeri 1 Kedungwuni, Pekalongan Regency, the community service program will take the form of strengthening education on the importance of ethical use of ChatGPT in student writing at SMA Negeri 1 Kedungwuni, Pekalongan Regency.

## **PROBLEM SOLUTION**

Based on the problems faced by students at SMA Negeri 1 Kedungwuni, Pekalongan Regency, as mentioned in the previous section, this community service program will provide concrete solutions to address various issues arising from understanding the use of GPT Chat in everyday life. These solutions include:

1. Providing comprehensive knowledge, from the importance of technology to its benefits, and continuing to provide a solution to the lack of information/knowledge faced by



participants regarding the importance of 10 uses of GPT Chat in facilitating student activities or completing written assignments. It is hoped that all participants will understand the benefits of GPT Chat through this socialization.

2. Providing various examples of how GPT Chat can be used in activities, assignments, and writing student papers in various fields. This is a good solution for students to understand. It is hoped that all participants will be able to apply the importance of GPT Chat, achieving 85-90% of the solution. 3. The growth of creativity and awareness among students of SMA Negeri 1 Kedungwuni regarding the importance of utilizing AI in the form of GPT Chat.

UNNES's vision as a World-Class University and Pioneer of Educational Excellence through the Transformation of PTNBH and in enlightening the nation's life can be achieved.

## **B. METHODS**

In order to successfully and efficiently accomplish the intended output targets, this community service program is implemented using a variety of techniques. Lectures, demonstrations, practical experience, and mentoring are a few of the techniques employed.

The content and goals to be accomplished are taken into consideration while selecting a strategy. Lectures and socializing are used to provide theoretical or informative content. However, demonstrations, practical experience, and mentoring with partner from SMA Negeri 1 Kedungwuni is used to provide practical knowledge, such as how to operate machinery or promote things online.

### **1. Lectures**

Theoretical material can be delivered through lectures. Theoretical material includes the reasons for learning on how to use an internet tool as AI system for solving the student subject problem in the class.

### **2. Demonstration**

In this activity, the implementation team demonstrates how to use AI especially ChatGPT, to solve the complex subject.

### **3. Hands-On Practice**

In this activity, students practice directly by preparing tools and materials, opening the ChatGPT feature on the website and practical directly.

### **4. Mentoring**

The target is used as a subject or collaborator in the mentoring approach. There is no reliance on the implementation team because it serves as a mentor with the goal of being the main player. They are first given examples, told to practice, and then let go, but as they are still learning, they continue to need monitoring and direction. They can be liberated to become self-sufficient if they have developed enough abilities. Put another way, this is a bottom-up strategy to community empowerment. A WhatsApp group is used to offer mentorship. The purpose of this support is to help teachers who are having trouble using ChatGPT for their students' topic classes.

An assessment is carried out to ascertain the community service program's effectiveness. Three phases of the evaluation are carried out: prior to, during, and following the activity. As a comparison, the pre-activity assessment shows the activity partners' starting conditions, including their reactions, knowledge, and abilities. The purpose of the activity's



evaluation is to ascertain the target audience's level of motivation and engagement. The purpose of the evaluation at the conclusion of the activity is to ascertain the degree to which the predetermined activity objectives have been met. If at least 70% of the program's output targets pertaining to the partners are met, it is considered successful.

### C. RESULTS AND DISCUSSION

The community service activity conducted included training on understanding the ethics of using ChatGPT in writing scientific papers for students at SMA Negeri 1 Kedungwuni, Pekalongan Regency. This training aimed to improve students' skills in writing good prompts, resulting in desired outputs and enabling them to utilize AI technology responsibly, particularly in academic writing. Documentation of the activity can be seen in Figures 2 and 3.



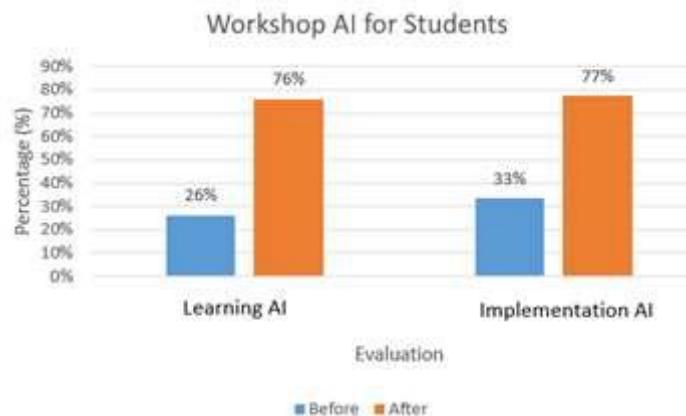
**Figure 2.** Presentation of Material on Strengthening the Ethics of Using ChatGPT in the Compilation of Written Works by Students of SMA Negeri 1 Kedungwuni



**Figure 3.** Documentation with students and teachers at SMA Negeri 1 Kedungwuni

At the end of the training, participants completed a post-test questionnaire with the same questions as the pre-test. Survey results indicated that through this training, students gained insight into the use of AI technology in scientific writing and school assignments.

The questionnaire results indicated an increase in participants' knowledge. Prior to the training, participants' average knowledge was 26% in understanding AI and 33% in implementing AI. This increased to an average of 76% in understanding AI and 77% in implementing AI in the classroom. The improvement in understanding of ship design and analysis can be seen in Figure 4.



**Figure 4.** Evaluation of Workshop for Students

Evaluation results showed that before the training, students tended to use ChatGPT instantly and without careful consideration. They generally simply copied the AI's output without realizing the potential for academic misconduct such as plagiarism or inaccurate presentation of information. However, after being provided with the material, there was a significant transformation in students' understanding. They not only mastered basic concepts such as transparency in AI use and maintaining originality, but also improved their skills in constructing correct prompts, enabling them to make more structured and specific requests. They also learned information verification techniques, including fact-checking AI output.

From the results of the training on understanding the ethics of using ChatGPT in writing scientific papers for students of SMA Negeri 1 Kedungwuni, Pekalongan Regency, several conclusions were obtained, namely: The training was delivered smoothly to students, covering the ethical material on using ChatGPT with the quality of creating appropriate prompts and understanding that AI as a writing aid needs to evaluate the output provided by AI. In addition, with the implementation of the training, students' abilities in using ChatGPT as a writing aid have improved, as evidenced in Figure 5 by the students being able to answer the questions that have been given. In addition, students also understand how to create more structured prompts as seen in Figure 6. In this case, high school students have been able to understand the material that has been given by creating structured prompts so that commands can produce appropriate output. However, further in-depth study is needed to hone skills in utilizing AI in several more complex case studies.



**Figure 5.** Quiz Winner Documentation  
Students' Understanding of the Material



**Figure 6.** Documentation of prompt creation results

We then submitted an IPR for this community service activity in the form of a video documentary of the community service activity. The application process has been completed and a Creation Registration Letter has been issued by the Minister of Law and Human Rights, Director General of Intellectual Property, Director of Copyright and Industrial Design with the registration number "EC002025146272". Evidence of the IPR output can be seen in Figure 8.



**Figure 7. IPR Output (Community Service Activity Documentary Video)**

Another output that has been achieved is documentation of the implementation of community service presented in video format. Evidence of the results of the video implementation can be seen in Figure 7.



**Figure 8.** Output Video in Youtube

Link: <https://youtu.be/CEoZgGEdYMI?si=Dkdk1xIV4PrXtzNm>

## D. CONCLUSION

A community service activity for lecturers was conducted in partnership with students from SMA Negeri 1 Kedungwuni, Pekalongan Regency. This activity involved strengthening education on the importance of ethical use of ChatGPT in student writing, accompanied by a competency test for the students.

Evaluation results showed that before the training, students tended to use ChatGPT instantly and without careful consideration. They generally simply copied the results provided by the AI, unaware of potential academic violations such as plagiarism or inaccurate presentation of information. However, after receiving the training, there was a significant transformation in students' understanding. They not only mastered basic concepts such as transparency in AI use and maintaining originality, but also improved their skills in constructing correct prompts, enabling them to make more structured and specific requests. They also learned information verification techniques, including fact-checking AI output.

In this case, the high school students were able to understand the material presented by creating structured prompts so that commands produced appropriate output. However, further in-depth study is needed to hone their skills in utilizing AI in several more complex case studies.

## E.ACKNOWLEDGEMENTS

We would like to express our gratitude to the Institute for Research and Community Service (LPPM) of Semarang State University (UNNES) for providing the opportunity and support that made this community service activity possible and run smoothly. We would also like to thank our partner, SMA Negeri 1 Kedungwuni, Pekaongan Regency, for their willingness to collaborate, and to all members of the UNNES community service team who provided support and cooperation, ensuring its smooth running.

## F.AUTHOR CONTRIBUTIONS

As described in this paper, all team members actively contributed to every stage of the Community Service Activity through training in SMA Negeri 1 Kedungwuni, Pekalongan Regency. As team leader, Muhammad Kumaedi coordinated with partners, planned activities, addressed science and technology needs, and conducted practical demonstrations. Aldias Bahatmaka, Juwita Ria Rumondang and Antama Bahatmaka conducted materials preparation for the training. Meanwhile, Fiqri Fadillah Fahmi, Tegar Oki Prasdika, and Aryo



Eko Laksono conducted training and consultation for the students. Muhammad Habibullah provided training on the use of tools to partners. And Choriul Anton Muclisin assisted Aldias Bahatmaka in compiling reports and writing journals. This collaborative effort ensured the program's success, from identifying needs to evaluating its impact, as detailed in this article.

## **G. REFERENCES**

Sadriani A, Ahmad MR, Arifin I. (2023). Peran guru dalam perkembangan teknologi pendidikan di era digital. In: *Seminar Nasional Dies Natalis 62*. Vol. 1; pp. 32-37.

Wardiana W. (2002). Perkembangan teknologi informasi di Indonesia.

Setiawan D. (2018). Dampak perkembangan teknologi informasi dan komunikasi terhadap budaya. *JURNAL SIMBOLIKA Research and Learning in Communication Study*. Apr 9;4(1):62-72.

Maharsi S. (2000). Pengaruh perkembangan teknologi informasi terhadap bidang akuntansi manajemen. *Jurnal Akuntansi dan keuangan*; 2(2):127-37.

Julita J, Purnasari PD. (2022). Pemanfaatan Teknologi sebagai Media Pembelajaran dalam Pendidikan Era Digital. *Journal of Educational Learning and Innovation (ELia)*. Sep 9;2(2):227-39.

Wahyudi T. (2023). Studi Kasus Pengembangan dan Penggunaan Artificial Intelligence (AI) Sebagai Penunjang Kegiatan Masyarakat Indonesia. *Indonesian Journal on Software Engineering (IJSE)*. Jun 30;9(1):28-32.

Chen L, Chen P, Lin Z. (2020). Artificial intelligence in education: A review. *Ieee Access*. Apr 17;8:75264-78.

Chen X, Zou D, Xie H, Cheng G, Liu C. (2022). Two decades of artificial intelligence in education. *Educational Technology & Society*. Jan 1;25(1):28-47.

Ouyang F, Jiao P. (2021). Artificial intelligence in education: The three paradigms. *Computers and Education: Artificial Intelligence*. Jan 1;2:100020.

Holmes W. (2020). Artificial intelligence in education. In *Encyclopedia of education and information technologies*. Jun 14 (pp. 88-103). Cham: Springer International Publishing.

Farwati M, Salsabila IT, Navira KR, Sutabri T. (2023). Analisa pengaruh teknologi artificial intelligence (AI) dalam kehidupan sehari-hari. *Jursima*. Jun 28;11(1):39-45.

Huallpa JJ. (2023). Exploring the ethical considerations of using Chat GPT in university education. *Periodicals of Engineering and Natural Sciences*. Aug 8;11(4):105-15.

Yu H. (2023). Reflection on whether Chat GPT should be banned by academia from the perspective of education and teaching. *Frontiers in Psychology*. Jun 1;14:1181712.

Purnama I, Edi F, Agustin R, Pranoto NW. (2023). GPT Chat Integration in Project Based Learning in Learning: a systematic literature review. *Jurnal Penelitian Pendidikan IPA*. Dec 25;9(SpecialIssue):150-8.

Božić V, Poola I. (2023). Chat GPT and education. *Preprint*;10.



Setiawan A, Luthfiyani UK. (2023). Penggunaan ChatGPT untuk pendidikan di era Education 4.0: Usulan inovasi meningkatkan keterampilan menulis. *JURNAL PETISI (Pendidikan Teknologi Informasi)*. Feb 3;4(1):49-58.

Rahman MM, Watanobe Y. (2023). ChatGPT for education and research: Opportunities, threats, and strategies. *Applied sciences*. May 8;13(9):5783.

Gill SS, Xu M, Patros P, Wu H, Kaur R, Kaur K, Fuller S, Singh M, Arora P, Parlikad AK, Stankovski V. (2024). Transformative effects of ChatGPT on modern education: Emerging Era of AI Chatbots. *Internet of Things and Cyber-Physical Systems*. Jan 1;4:19-23.

Oranga J. (2023). Benefits of artificial intelligence (ChatGPT) in education and learning: Is Chat GPT helpful. *International Review of Practical Innovation, Technology and Green Energy (IRPITAGE)*;3(3):46-50.

Lo CK. (2023). What is the impact of ChatGPT on education? A rapid review of the literature. *Education sciences*. Apr 18;13(4):410.

Limna P, Kraiwant T, Jangjarat K, Klayklung P, Chocksathaporn P. (2023). The use of ChatGPT in the digital era: Perspectives on chatbot implementation. *Journal of Applied Learning and Teaching*. May;6(1):64-74.

Supriyadi E. (2022). Eksplorasi penggunaan ChatGPT dalam penulisan artikel pendidikan matematika. *Papanda Journal of Mathematics and Science Research*. Mar;1(2):54-68.

Mairisiska T, Qadariah N. (2023). Persepsi mahasiswa ftik iain kerinci terhadap penggunaan chatgpt untuk mendukung pembelajaran di era digital. *Jurnal Teknologi Pembelajaran Indonesia*. Oct 8;13(2):107-24.

Dwiyono Y, Wahyudi N, Tannarong Y. (2024). Pemanfaatan Chat GPT, Canva, dan Media Pembelajaran Interaktif untuk Peningkatan Kompetensi Pendidik. *Communio: Jurnal Pengabdian Kepada Masyarakat*. Aug 13;2(1):14-8.

Misnawati M. (2023). ChatGPT: Keuntungan, risiko, dan penggunaan bijak dalam era kecerdasan buatan. In: *Prosiding Seminar Nasional Pendidikan, Bahasa, Sastra, Seni, Dan Budaya* Apr 21 (Vol. 2, No. 1, pp. 54-67).

Rahmaniar A, Syahirah AN, Tiara A, Abimayu A, Vanchudsi A, Prameswari AD, Safitri A, Ramadhea DM, Dewana DC, Haryani D, Putrigina D. (2023). Bunga Rampai Isu-Isu Komunikasi Kontemporer. *PT Rekacipta Proxy Media*; Feb 22.

Dalalah D, Dalalah OM. T. (2023). The false positives and false negatives of generative AI detection tools in education and academic research: The case of ChatGPT. *The International Journal of Management Education*. Jul 1;21(2):100822.

Farrokhnia M, Banihashem SK, Noroozi O, Wals A. (2024). A SWOT analysis of ChatGPT: Implications for educational practice and research. *Innovations in education and teaching international*. May 3;61(3):460-74.

Duong CD, Vu TN, Ngo TV, Do ND, Tran NM. (2024). Reduced student life satisfaction and academic performance: Unraveling the dark side of ChatGPT in the higher education



context. *International Journal of Human–Computer Interaction*. May 24:1-6.

Xu X, Wang X, Zhang Y, Zhang H, Wu Y. (2023). Applying ChatGPT to Tackle the Side Effects of Personal Learning Environments in Higher Education: A Teacher and Teaching Perspective. In: *Machine Learning and Artificial Intelligence* (pp. 73-88). IOS Press.

Nailus S, Hasanudin C. (2023). Implementasi ChatGPT sebagai Inovasi Media Pembelajaran Bahasa Indonesia di Era Society 5.0. In: *Seminar Nasional Daring Sinergi*. Nov 29 (Vol. 1, No. 1, pp. 593-604).