

Utilization of Artificial Intelligence to Support the Development of Teaching and Project Modules

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Article History:	Abstract: Artificial Intelligence (AI) is now commonly used		
Received: 10 June 2024	in many sectors, including education. Utilizing AI		
Revised: -	technology to support learning does not mean replacing the		
Accepted: 26 June 2024	role of educators. The critical role of educators is to teach,		
-	educate, and train students to build their skills, knowledge,		
	and morals, which are irreplaceable by AI. SMP Negeri		
Keywords: AI, Plagiarism,	174 Jakarta is a public junior high school in East Jakarta		
Project Modules, Teaching	and would like to receive guidance to upgrade teachers'		
Modules, Technical Guidance.	competencies in AI. The event lasted half a day and about		
	39 teachers participated in this agenda. The overall		
	community service activities began in early April 2024 and		
	ended on May 15, 2024, and all main activities were		
	completed 100%. The session was successfully delivered in		
	around two hours with days of preparations. Future		
	recommendation is to include similar topics related to		
	academic activities and technology.		

Introduction

AI now become commonly used in many sectors (Er et al., 2022; Lee, 2022; Zhang et al., 2021), including education (Chen et al., 2020; Luan et al., 2020). Utilizing AI technology to support learning does not mean replacing the role of educators. The critical role of educators is to teach, educate, and train students to build their skills, knowledge, and morals (Karyadi, 2023). AI technology allows educators to create a personalized learning process focusing on students' needs, interests, and learning styles. This can be especially beneficial for Pancasila education, which is often taught using traditional methods (Saputra et al., 2024).

SMP Negeri 174 Jakarta is a public junior high school located in East Jakarta, Indonesia. The school is seeking assistance to enhance the expertise of its teachers in the field of AI. It has previously engaged in community service activities (Prasetyo et al., 2023; Sulistyo et al., 2023) and signed a Memorandum of Understanding (MoU) with Sampoerna University.

Method

From the start of April 2024 to the middle of May of the same year, we engaged in various community service activities. These activities also included the creation of an article



for publication in a journal. Figure 1 displays the various activities carried out in this community service program.



Figure 1. Series of Community Service Activities

In April 2024, educators were reached out to using instant messaging, audio calls, and texts. The discussion was centered around the use of Artificial Intelligence for preventing plagiarism and enhancing teaching and project module development.

Internally, we discussed finding a suitable expert for this topic. We then checked their availability, discussed further, and gathered presentation material. These discussions took place both online and offline. We then sent formal correspondence to request formal invitations from the school for the resource person.

Activity preparations were more about coordinating the organizers and participants, requesting personal resumes to be read during the event, discussing the event rundown, arranging transportation, and coordinating with the school. The school enthusiastically welcomed the guest speakers on the event day, ensuring an efficient briefing and friendly introductions before the event commenced.

Result

The entire event agenda lasted half a day, and about 39 teachers participated in it. The master of ceremony opened the event, the school's representative gave a welcoming speech, and the technical guidance session began after the prayer. Following Figure 2 shows the event participants:



Figure 2. Event's Participants



Our resource person shared the definition of AI, its inception, and the individual who first proclaimed it. The resource person was presented with educational resources that could be augmented by AI to detect plagiarism. Numerous AI tools are available online; some can aid in instruction, while others must be monitored in case students utilize them. Figure 3 shows how the resource person shared the content for the technical guidance session about the AI:



Figure 3. Event Session

Discussions

Community service activities commenced in early April 2024 and ended on May 15, 2024, at SMP Negeri 174 Jakarta. The comprehensive breakdown of tasks and events carried out as part of the community service initiative is meticulously outlined in Table 1 provided in the following:

Tabel. 1 Descriptive Statistics		
#	Activity Descriptions	Status
1	Initial communications and discussions	Completed
2	Activity discussions	Completed
3	Formal correspondences	Completed
4	Community service preparations	Completed
5	D-day executions	Completed
6	Post-event activities	Completed

Table 1 illustrates that all primary tasks were successfully completed, achieving a 100% completion rate. The majority of the tasks were carried out online, with the final two (D-day executions and post-event activities) being conducted offline. It is unfortunate that no pre-event and post-event surveys were carried out to assess the impact of community service. This is a point to consider for future activities. Please refer to Figure 4 for a visual representation of the





event conclusion, which includes taking photos with all the participants:

Figure 4. Closing Event Documentations

Conclusions

This article describes community service initiatives in the SMP Negeri 174 Jakarta between April and May 2024. The session was successfully delivered in around two hours with days of preparations. Future recommendations are to include similar topics related to academic activities and technology, and conducting pre and post-event surveys.

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References

- Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. *IEEE* Access, 8, 75264–75278. https://doi.org/10.1109/ACCESS.2020.2988510
- Er, N., Cidal, G. M., Ünsal, S., & Çakır, M. A. (2022). Enabling Big Data Analytics and AI Solutions for Smart Warehouse. In C. Kahraman, S. Cebi, S. Cevik Onar, B. Oztaysi, A. C. Tolga, & I. U. Sari (Eds.), *Intelligent and Fuzzy Techniques for Emerging Conditions and Digital Transformation* (pp. 929–936). Springer International Publishing. https://doi.org/10.1007/978-3-030-85626-7_108



- Karyadi, B. (2023). Pemanfaatan Kecerdasan Buatan Dalam Mendukung Pembelajaran Mandiri. *Educate : Jurnal Teknologi Pendidikan*, 8(02), Article 02. https://doi.org/10.32832/educate.v8i02.14843
- Lee, H.-K. (2022). Rethinking creativity: Creative industries, AI and everyday creativity. *Media*, *Culture* & *Society*, 44(3), 601–612. https://doi.org/10.1177/01634437221077009
- Luan, H., Geczy, P., Lai, H., Gobert, J., Yang, S. J. H., Ogata, H., Baltes, J., Guerra, R., Li, P., & Tsai, C.-C. (2020). Challenges and Future Directions of Big Data and Artificial Intelligence in Education. *Frontiers in Psychology*, 11. https://doi.org/10.3389/fpsyg.2020.580820
- Prasetyo, I., Alfakihuddin, M. L. B., Lestari, T. E., Setiawan, I., Tridanisa, N. R., & Wandy, W. (2023). Workshop Learning Tools for STEAM Classes to Enhance Learning Process. *Journal of Community Services: Sustainability and Empowerment*, 3(01), Article 01. https://doi.org/10.35806/jcsse.v3i1.350
- Saputra, H. N., Rahmat, R., & Komalasari, K. (2024). Pemanfaatan Artificial Intelligence Pada Pelajaran Pendidikan Pancasila Berbasis Projek Di Smp Daarut Tauhiid Boarding School. Sanskara Pendidikan Dan Pengajaran, 2(02), Article 02. https://doi.org/10.58812/spp.v2i02.397
- Sulistyo, E., Bhakti, M. A. C., Nurprihatin, F., Liman, S. D., Lestari, T. E., Islam, S. S., Mileniawati, I. R., Djajasoepena, R., Ilham, O. S., Effendy, M. I., & Wandy, W. (2023). Junior Highschool Library Automation System Solution and Implementation. *Journal* of Community Services: Sustainability and Empowerment, 3(01), Article 01. https://doi.org/10.35806/jcsse.v3i1.346
- Zhang, D., Pee, L. G., & Cui, L. (2021). Artificial intelligence in E-commerce fulfillment: A case study of resource orchestration at Alibaba's Smart Warehouse. International Journal of Information Management, 57, 102304. https://doi.org/10.1016/j.ijinfomgt.2020.102304