

Training and Mentoring on the Development of AI Based Teaching Materials for Social Studies Teachers in Ogan Ilir

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Abstract: The training and mentoring program on developing AI based teaching materials in Ogan Ilir aims to enhance the competencies of Social Studies (IPS) teachers in creating innovative and relevant learning resources aligned with current educational technology developments. This program consists of outreach activities, training sessions, and two days of intensive mentoring designed to help teachers utilize artificial intelligence (AI) in designing and producing engaging and interactive digital teaching materials. As an initial step, participants took a pretest to measure their baseline understanding of AI applications in teaching material development. During the training, participants received materials through interactive sessions, group discussions, and hands on practice using various AI tools to create learning content. At the end of the program, a posttest was conducted to evaluate participants' competency improvement, with the results showing a significant increase in their technopedagogical skills. The program continued with monitoring and evaluation activities to ensure the implementation of the training outcomes in each school. Overall, this activity strengthened the ability of Social Studies teachers to effectively integrate AI in developing teaching materials, thereby improving the quality of the learning process.

Keywords: Training, Mentoring, Development, AI, Teaching Material, Social Studies.

Introduction

The rapid advancement of technology over the past decade has brought significant changes to various aspects of life, including the field of education. One of the innovations that has recently attracted considerable attention is the use of Artificial Intelligence (AI) in the learning process. This technology not only assists in data processing but also supports teachers in creating more interactive and adaptive learning materials tailored to students' needs. Therefore, the ability of teachers to understand and utilize AI technology has become increasingly important to develop (Jayatri et al., 2025; Sari & Atmojo, 2021)

All teachers, especially those in the field of Social Studies, face the challenge of presenting learning materials that are both engaging and relevant to the developments of the modern era. Until now, many

teachers have continued to rely on conventional methods that tend to be static and are less capable of keeping up with the rapid dynamics of the digital world (Desy S et al., 2025; Saadah Nur S N et al., 2025). Through training and mentoring in the development of AI based teaching materials, teachers are expected to gain new knowledge and practical skills to create innovative, engaging, and learner centered educational media suited to the characteristics of today's students.

This training activity aims primarily to enhance teachers' digital competence, particularly in utilizing AI technology for developing teaching materials. Through continuous mentoring, teachers will not only gain an understanding of the fundamental concepts of AI but also be able to apply them directly in classroom learning processes (Kholifah et al., 2024; Muslimin et al., 2025). It is expected that teachers will become agents of change who can bridge the gap between traditional educational

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needs and the demands of the digital era (Wati S & Nurhasannah, 2024; Yasin et al., 2024).

Ogan Ilir Regency, as one of the regions continuously striving to improve the quality of education, has great potential to implement such programs. Many teachers in this area have shown enthusiasm for learning innovations; however, they still require guidance in effectively applying technology. Therefore, this training and mentoring program is expected to serve as a platform for teachers to collaborate, learn from one another, and develop teaching materials that are aligned with the local context modern technology (Yuriananta & Asteria, 2024).

In summary, the training and mentoring program on the development of AI based teaching materials for Social Studies teachers in Ogan Ilir is not merely a technical activity but a strategic initiative to strengthen teachers' capacities in the digital era (Murtini et al., 2025). Through this program, it is expected that a more creative, innovative, and future oriented learning ecosystem will emerge one in which teachers serve not only as educators but also as lifelong learners who continuously evolve alongside technological advancements.

Method

The model used for implementing the training and mentoring activities on creating AI based teaching materials is socialization, training, and mentoring. To ensure that these activities are carried out effectively, the program involves the Social Studies Teachers' Association in Ogan Ilir (MGMP IPS Ogan Ilir).

This activity is conducted using a lecture method in the form of presentations, training, and mentoring in creating AI based teaching materials. It begins with an introduction to AI, AI tools, and supporting platforms. To facilitate teachers in independently completing AI based teaching materials, monitoring will be conducted to oversee the progress of the developed materials.

The training and mentoring for creating AI based teaching materials will be conducted intensively over a period of two days. The goal is for teachers to be able to complete the program and provide constructive feedback and suggestions. To complement the series of activities, monitoring and evaluation (M&E) will be carried out.

The first M&E will focus on teachers' understanding of the material and identifying any challenges encountered, while the second M&E will assess the impact of the training on classroom learning. The methods used in this activity are:

1. Socialization of teaching materials in learning
2. Socialization of AI developments

3. Socialization of technological advancements in education
4. Socialization of AI based teaching materials
5. Introduction to AI for teaching material development
6. Training on creating AI based teaching materials
7. Preparation of follow up action plans

Result and Discussion

This community service activity was conducted over two days, on November 4-5, 2025. The event took place in the Meeting Room of SMPN 5 Payakabung, located in North Indaralaya, Ogan Ilir Regency. The activity was attended by Social Studies teachers from various educational units in the Ogan Ilir region, totaling 22 participants.

Before the activities on the first day, November 4, 2025, began, participants were first instructed to complete a Pretest consisting of 20 questions through a Google Form prepared by the committee. The pretest was conducted as an initial step to assess the participants' understanding.

The main purpose of this pretest was to determine the extent to which participants possess competence or understanding of AI based teaching materials. The results of the pretest served as the primary reference in determining the direction of the activities. Additionally, the pretest results were used as a comparison tool for evaluation or posttest to measure the success of the training and mentoring in creating AI based teaching materials.

The results of the pretest activities can be seen in the distribution shown in Figure 1.

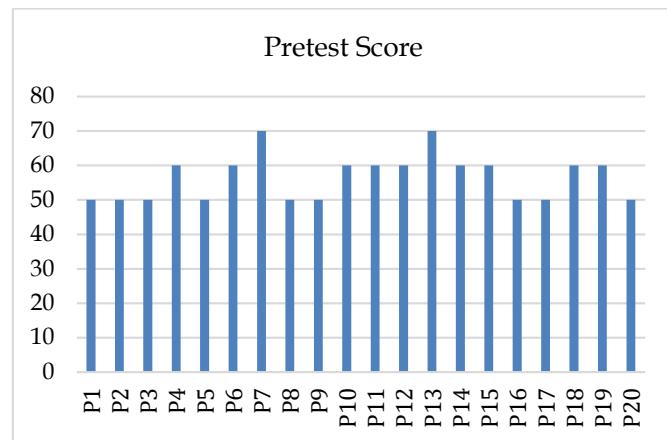


Figure 1. Distribution Graph of Participant Pretest Scores

Source: Processed from participant pretest score data

The graph represents the results of the participants' pretest scores. The data shows that none of the participants achieved a perfect score. This indicates that the participants' understanding of literacy and

numeracy within the context of learning recovery still needs to be improved.

After all participants had completed the pretest, the training and mentoring program on developing AI based teaching materials for Social Studies teachers continued with the presentation of the material. During the presentation, the community service team and the participants engaged in a two way discussion to strengthen their understanding of AI based teaching materials.



Figure 2. Material Delivery

The material presented to participants on the first day covered the concept of teaching materials in learning, the development of AI in the current era, technological advancements and their impact on education, as well as AI based teaching materials.

After the material was delivered on the first day, the activities continued on the second day. The second day was held on November 5, 2025, with the main focus on practicing how to create AI based teaching materials. During this practice session, participants received direct guidance from the team, who assisted them with any tasks they were still unable to perform independently. After the practice session, participants were given a posttest and Assignment group.

After the mentoring session on the second day, participants were given a group assignment to complete independently. For this assignment, participants were required to create AI based teaching materials. The teaching materials were expected to be developed using the platforms that had been introduced, such as Canva AI or Gamma AI. The results of the group work would then be submitted through Google Drive and WhatsApp.

Figure 3. Group assignments collected by participants via WhatsApp group

The next activity was for all participants to complete the posttest questions that had been prepared through Google Forms. By using the posttest, the community service team could measure the participants' competency achievement regarding AI based teaching materials. The posttest also provided valuable feedback to participants about the strengths and weaknesses of their understanding of AI based teaching materials. Through this posttest activity, the community service team could also evaluate the success of the program by comparing the results with the participants' pretest scores from the beginning of the activity.

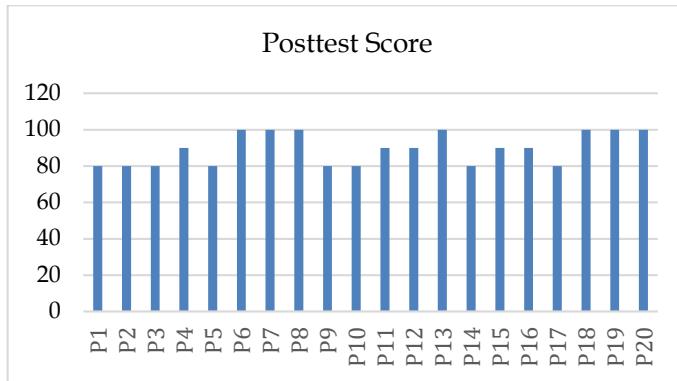


Figure 4. Distribution Graph of Participant Posttest Scores

Source: Processed from participant posttest score data

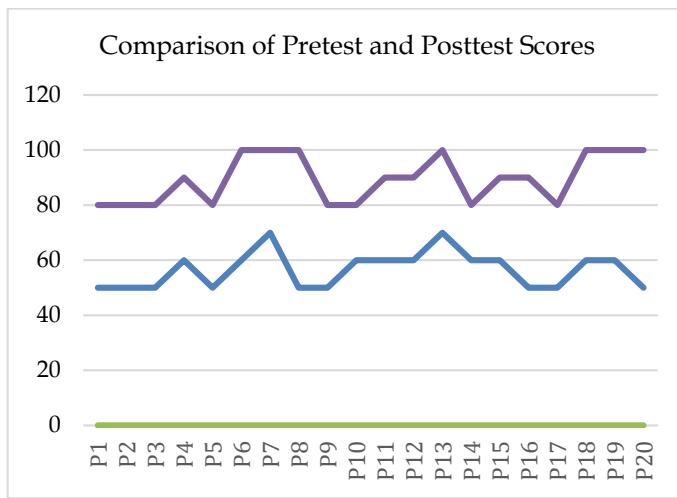


Figure 5. Comparison Graph of Pretest and posttest score

The graph above shows a comparison of the pretest and posttest scores obtained by the participants. The blue line represents the pretest results, while the purple line represents the posttest results. From the graph, the difference between the pretest and posttest results is clearly visible. The pretest was conducted before the participants received the socialization, whereas the posttest reflects their results after receiving the socialization and training. From this graph, it can be seen that the participants experienced a positive improvement.

After completing a series of activities pretest, delivery of materials, question, and answer sessions, assignments, and posttest monitoring and evaluation were carried out by visiting several sample schools and asking participants to report, through the WhatsApp group, various activities or efforts related to the use of AI based teaching materials in their schools. Based on the reports submitted and the direct visits, an overview of the implementation of AI based teaching materials was obtained.

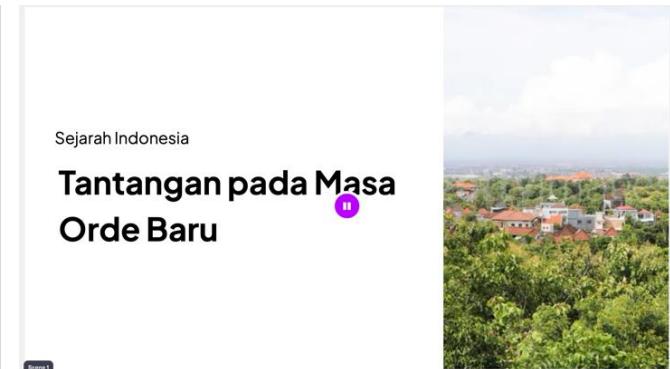


Figure 6. Participant Work Outcomes on AI Based Teaching Materials

Conclusion

The Training and Mentoring Program on Developing AI Based Teaching Materials for Social Studies Teachers in Ogan Ilir has proven effective in improving teachers' competence in implementing AI based teaching materials in learning. The pretest results administered before the training showed that participants' understanding and abilities in this area still needed strengthening. Through an approach involving counseling, training, interactive discussions, and practical exercises, participants were trained to develop AI based teaching materials. The posttest results indicated an increase in understanding and skills among most participants, demonstrating that the training successfully improved their readiness to utilize AI based teaching materials in schools.

In addition, through the monitoring and evaluation activities conducted after the training, it was observed that most participants had applied the training outcomes in their respective schools. This shows that the main objective of the program enhancing teacher professionalism to enable them to keep up with technological developments has been achieved. Overall, this program is expected to contribute to improving the quality of education in Ogan Ilir and serve as an inspiration for similar initiatives in other regions.

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