



Transforming AI-Based Lesson Planning: Teacher Mentoring on Using ChatGPT to Develop Lesson Plans

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Abstract : The advancement of Artificial Intelligence (AI) presents new opportunities to support the professional work of teachers, particularly in lesson planning. One such technology is ChatGPT, which can assist teachers in generating ideas, formulating learning objectives, designing learning activities, and developing assessment instruments. However, utilizing ChatGPT for lesson planning requires more than just a basic introduction to the technology; it necessitates guidance to ensure teachers can provide precise prompts, evaluate AI outputs, and tailor them to specific learning needs. This community service initiative aims to enhance teachers' skills in using ChatGPT to create Lesson Implementation Plans (RPP) effectively, critically, and contextually. The program was conducted through several stages: needs assessment, an introduction to ChatGPT, prompt engineering training, hands-on lesson plan development, mentoring, evaluation, and reflection. The results indicate that practice-based mentoring provided teachers with direct experience in integrating ChatGPT into the lesson planning process. Teachers were not only able to generate lesson plan drafts with AI assistance but also began to understand the importance of verifying, editing, and customizing ChatGPT's outputs. This initiative demonstrates that the use of AI in education is most effective when positioned as a tool to support teacher professionalism rather than as a substitute for the teacher's pedagogical role.

Keywords : ChatGPT; Artificial Intelligence; Teacher; Lesson Plan; Mentoring.

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INTRODUCTION

Digital transformation in education has altered various aspects of a teacher's work, including the lesson planning process. Lesson planning is a crucial component of professional competence, serving as the foundation for determining learning objectives, content, strategies, activities, media, and assessments (Zunaidi 2024). Effective planning ensures that the learning process is purposeful and aligned with students' characteristics (Megasari 2020). In practice, however, preparing instructional materials remains a task that demands significant time and attention from teachers. Teachers are required not only to master the subject matter but also to translate learning outcomes into integrated objectives, activities, methods, and assessments.

The advancement of Artificial Intelligence (AI) offers new opportunities to help teachers navigate these complexities. Generative AI tools like ChatGPT allow users to interact with systems using natural language to generate various forms of text based on specific instructions (Lailiyah 2021). In an educational context, this technology can assist with brainstorming, designing learning activities, formulating questions, creating assessments, and drafting initial instructional materials (Setiawati 2023). This technology paves the way for a shift from time-consuming administrative workflows to more efficient and interactive planning processes.

However, using ChatGPT to prepare instructional materials involves more than simply entering a command and copying the system's output. AI output relies heavily on the quality of instructions, the provided context, and the user's ability to evaluate the information. ChatGPT may generate information that does not align with specific learning needs, use overly generic phrasing, or produce plans that do not fully suit the students' characteristics (Salwa et al. 2023). Therefore, a teacher's ability to use AI must be coupled with digital literacy and pedagogical skills to ensure the technology truly adds value to the learning process.

This issue is particularly relevant when teachers are familiar with various AI applications but lack sufficient experience in applying them to pedagogical tasks (Sinta et al. 2024; Sukmana 2024). Some teachers may have used ChatGPT to gather information or generate simple text but have not yet mastered the art of crafting systematic prompts to create specific, tailored lesson plans (Ajepri 2022; Sadriani 2023; Rahayu et al. 2023). Furthermore, there is a need to understand the processes of verifying and editing AI-generated content to ensure that the resulting products possess not only a complete structure but also pedagogical relevance.

In light of this, this community service initiative was designed as a training and mentoring program focused on utilizing ChatGPT to develop lesson plans (cMaulidah et al. 2023; Mukarramah 2023). A mentoring approach was selected to ensure teachers gain not only conceptual knowledge about AI but also hands-on practical experience. Participants are guided through the process of identifying learning needs, crafting prompts, generating

lesson plan drafts, evaluating ChatGPT's output, making revisions, and producing instructional documents that are better suited to their classroom contexts.

This activity aims to enhance teachers' ability to use ChatGPT as a tool to support lesson plan development. Specifically, the initiative targets three outcomes: increasing teachers' understanding of AI application in lesson planning, improving their skills in crafting prompts to generate lesson drafts, and enhancing their ability to evaluate and refine the content produced by ChatGPT.

METHOD

The community service activity employs a "participatory training and mentoring" approach, combining content delivery, hands-on practice, discussion, and ongoing guidance. This approach was selected because the skills required to use ChatGPT cannot be adequately acquired through lectures alone; they demand direct experience in crafting instructions and evaluating AI-generated outputs.

The activity is structured into several stages.

1. Needs Assessment

The initial stage aims to assess the participants' baseline status, specifically regarding their experience with digital technology and ChatGPT, their understanding of lesson plan (RPP) development, and the challenges they face in instructional design. This assessment is conducted through preliminary discussions, observations, and diagnostic questions posed to the participants.

The findings from this assessment serve as the basis for determining the training content and its level of depth. Consequently, the activity is not designed as a general technology training course but is instead tailored to the teachers' concrete needs in developing instructional materials.

2. Introduction to ChatGPT in Lesson Planning

Participants are introduced to the fundamental concepts of generative AI and its potential applications in a teacher's work. The material focuses on ChatGPT's role as a "learning design assistant" rather than a replacement for the teacher.

This stage outlines various ways ChatGPT can be utilized, such as formulating learning objectives, brainstorming activity ideas, drafting questions, generating alternative teaching methods, and designing assessments.

3. Prompt Engineering Training

The subsequent stage forms the core of the activity. Participants are trained to craft prompts that incorporate specific elements: context, role, objective, student characteristics, subject matter, activities, and the desired output format.

Participants are not merely shown examples; they are required to develop their own prompts based on the specific subjects and topics they teach. This strategy

enables participants to grasp that the quality of ChatGPT's output is heavily dependent on the quality of the instructions provided.

4. Practical Lesson Plan Development

Participants then use ChatGPT to generate an initial draft of a lesson plan (RPP). This process is carried out step-by-step, covering everything from defining learning objectives, content, methods, and activity sequences to selecting media and designing assessments.

Each participant is guided to create a lesson plan based on a real-world teaching context. As a result, the final output is not generic but is instead customized to meet the specific needs of their respective classrooms. Stage 5. Mentoring and Revision

During the mentoring stage, the implementation team provides feedback on the lesson plans (RPP) created by the participants. Teachers are guided not to accept ChatGPT outputs directly but to follow a review-verify-revise process.

Teachers examine the suitability of the material, the precision of objectives, the relevance of activities, alignment with student characteristics, and the appropriateness of assessments. The results of this review are then used to refine the lesson plan design.

5. Evaluation

Evaluation is conducted to assess changes in the participants' understanding and skills. This can be done by comparing initial and final assessment results and evaluating the resulting lesson plans.

RESULT AND DISCUSSION

1. Preparation

The site survey is the initial stage of a series of community service activities aimed at observing and confirming the implementation location and target audience. Based on the results of the site survey and discussions with the madrasah principal, the training and workshop mentoring activities will be held in class VI (six). The easternmost class faces south.



Figure 1. Location Survey

During the preparation phase, coordination with MI Raudlatus Shibyan was conducted and a detailed plan of community service activities was developed. Initial meetings with teachers and the principal took place, resulting in an agreement on the training and workshop schedule. The materials and tools to be used, including access to the ChatGPT platform, were well-prepared, along with training modules and evaluation tools to measure the results of each training stage.

2. Training

The next stage is the implementation of training/workshops held at madrasahs. This training teaches teachers how to create effective lesson plans for use in teaching. The primary goal is to increase teachers' knowledge in using artificial intelligence (AI) and to help them improve their professional skills in creating engaging and varied teaching and learning processes (Sain et al. 2024). This aims to increase students' interest and enthusiasm in the learning process.

The workshop on creating a lesson plan can be held on Wednesday, May 12, 2024. The training will take place from 09:00-12:00, in class VI with the following procedures:

First, the workshop began with the delivery of the workshop objectives to teachers, which included an introduction to the basics and benefits of using artificial intelligence (AI) in creating lesson plans.

Second, the workshop material includes practical guidance in creating an effective lesson plan, starting from selecting a theme, needs, to the flow of giving commands to relevant chatgpt.

Next, the teacher is guided to copy or copy paste the command results into the document according to the rules and structure of the lesson plan.

Afterward, teachers were given time to practice creating lesson plans based on the material they had learned and the needs of the teaching and learning process. During the practical session, discussions and feedback were provided on the results to refine and improve their quality. The workshop concluded with a reflection session to evaluate the training and determine next steps for implementing the acquired skills in daily learning contexts. Thus, the Lesson Implementation Plan (RPP) workshop can provide significant benefits for teachers in both improving their technological skills and enhancing the effectiveness of the learning process.



Figure 2. ChatGPT Usage Training

The use of digital learning media has proven effective in reducing paper use (paperless) in educational settings. By leveraging artificial intelligence (AI), schools can reduce paper use for textbooks, modules, and other learning materials. Teachers can access learning materials electronically through devices such as laptops or computers, minimizing the need for paper printing (Munawwaroh & Baharun, 2022). Furthermore, the use of digital learning media also facilitates more efficient collaboration between students and teachers through online assignment submission, discussion forums, and the use of digital assessment tools.

Basic training on the use of technology in education and an introduction to ChatGPT were provided to all teachers at MI Raudlatus Shibyan. The interactive workshop provided teachers with a deeper understanding of effective lesson plan development. Evaluation results showed that 85% of training participants felt more confident in using technology and developing better lesson plans.



Figure 3. Student Character Development (Scouting)



Figure 4. Student Character Development (Quran Memorization)

In addition to implementing training on preparing lesson plans using ChatGPT, we also conduct character development for students aimed at developing individuals who are not only academically intelligent but also possess good morals and ethics. This is done through extracurricular activities such as scouting, Quran memorization, and so on. Character development for students through extracurricular activities such as scouting and Quran memorization at MI Raudlatus Shibyan is an effective approach to developing individuals with integrity, discipline, and religiousness (Hudri & Umam, 2022). Scouting develops social and leadership skills, while Quran memorization strengthens students' spiritual and moral aspects (Daulay 2024). The integration of these two activities provides a holistic approach to character development, which can bring long-term benefits to students in their future lives. It is recommended that this program be continuously developed and implemented to achieve optimal results in developing student character.

3. Dissemination of Results

Disseminating the results of the community service report is a crucial step in ensuring that the resulting innovations provide broad benefits, both at the institutional and community levels. The goal is to disseminate the knowledge and experience gained during the community service program, so that it can serve as a reference for other educational institutions seeking to implement best practices in digital transition and environmentally friendly efforts. This dissemination process involves various parties, from teaching staff and students to other stakeholders, who play a crucial role in supporting and implementing the resulting innovations.

The dissemination process utilizes various effective media and communication methods to reach a wider audience. These include seminars and workshops held in schools and online, publishing articles in educational journals, and disseminating information through social media and the school website. This ensures that the innovations achieved are widely known and understood and applicable in different contexts. Furthermore, community service reports are published to provide a clear and detailed overview of the steps taken and the results achieved during the program.

This community service program has been disseminated through various channels, including presentations at educational forums, publication of articles in educational journals, and reports to relevant parties. This dissemination aims to share the program's experiences and results with the broader educational community, thereby inspiring and providing a reference for other educational institutions.

Effective dissemination of results ensures that the program's success is widely recognized and provides broader benefits. Through publications and presentations, experiences and lessons learned from the program can be shared, encouraging the adoption of good practices elsewhere. Dissemination also serves as a form of

accountability to relevant parties for the use of resources in the community service program.

4. Evaluation and Follow-up

The evaluation phase demonstrated a significant improvement in the quality of the lesson plans developed by the teachers. The lesson plans produced after the training were more structured and included all essential learning components. Continuous monitoring through the ChatGPT platform enabled teachers to continuously receive feedback and improve their lesson plans. Eighty percent of the lesson plans produced met the established standards. To ensure the sustainability of the program's results, a learning community was established at MI Raudlatus Shibyan, supported by the ChatGPT platform. This community serves as a forum for teachers to continuously share knowledge, experiences, and best practices in lesson plan development. Furthermore, access to digital learning resources remains available to support ongoing professional development.

Continuous follow-up ensures that improvements in learning quality are maintained and enhanced. Establishing a learning community and providing access to digital learning resources helps foster an environment that supports continuous teacher professional development. This approach ensures that the results of the community service program are not merely temporary but have a positive long-term impact on MI Raudlatus Shibyan.

Overall, this community service program has had a significant positive impact on MI Raudlatus Shibyan. The integration of technology into education, particularly the use of ChatGPT, has proven effective in improving teacher competency and learning quality. The program's success demonstrates that a participatory and collaborative approach, supported by modern technology, can bring about meaningful change in education. The program also demonstrates the importance of follow-up and ongoing support to ensure positive long-term impact.

CONCLUSION

The community service program demonstrated that intensive training and mentoring using ChatGPT successfully improved teachers' technological skills at MI Raudlatus Shibyan, improved access to quality digital learning resources, and resulted in more structured and effective lesson plans (RPPs). Continuous evaluation and monitoring demonstrated that teachers were able to develop lesson plans that met curriculum standards and covered all essential learning components. Furthermore, the ongoing mentoring system through the ChatGPT platform provided consistent support and built teachers' confidence in using technology to support the learning process.

The integration of technology into education, particularly through the use of artificial intelligence like ChatGPT, can have a significant positive impact on teacher competency and learning quality. Recommendations for further research include expanding

this program to other educational institutions to test its effectiveness across various contexts and subjects. Furthermore, it is recommended to develop more comprehensive training modules and add a long-term evaluation component to measure the ongoing impact of technology use in learning. Sustainable implementation and support from the government and relevant parties are also needed to ensure the program's benefits are widely and sustainably felt.

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