

## **Artificial Intelligence (AI) Integration Training in The Creation of Innovative Learning Media**

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### **ABSTRACT**

*The digital era demands teachers to innovate in creating learning media. In response to this challenge, the community service team organized training on integrating Artificial Intelligence (AI) in the creation of innovative learning media. This community service activity aims to: (1) introduce the concepts and potential of AI in education, (2) train practical skills in using AI tools to create learning media, and (3) increase teachers' motivation to innovate. The training was conducted at MIT Al Ishlah Gorontalo, involving 47 teachers as participants. The method used was participatory, through a combination of material presentations, tutorials, and self-practice facilitated by the team. Based on pre-test and post-test results, there was a 75% increase in participants' understanding. Additionally, the satisfaction questionnaire recorded that 98% of participants felt the material delivered was relevant to their needs and they successfully created AI-based learning media prototypes during the workshop session. This activity proves that teachers' capacity in educational technology can be significantly enhanced through structured and applicative training, opening opportunities for digital transformation in the MIT Al Ishlah Gorontalo environment.*

*Keywords: Artificial Intelligence, Innovative Learning Media, Technology Integration*

### **INTRODUCTION**

The transformation of the global education world is now taking place fundamentally in line with the acceleration of the advancement of intact digital technology. The global view of the direction of education in the 21st century emphasizes that today's education system needs to evolve from a traditional model to one that is capable of developing complex skills such as critical thinking, problem-solving, and digital literacy. The World Economic Forum (2020) in its Schools of the Future report affirms the need for education that is more adaptive to the demands of the world of work and society of the 21st century as well as the development of skills relevant to the fourth industrial revolution, including complex problem-solving skills, creativity, and technological skills. The report recommends that quality education in the future must be able to create innovative, personalized, and contextual learning experiences.

Within this framework, Artificial Intelligence (AI) is emerging as one of the key technologies that promises a revolution in educational practices. AI has the potential to personalize the learning process, provide hands-on feedback, and assist educators in designing more meaningful and efficient learning experiences. International research by Celik et al. (2022) shows that AI can expand teachers' abilities through reduced administrative workload and learning planning, as well as support the implementation of adaptive learning that pays attention to the individual needs of students.

In addition to this potential, other literature on AI in education suggests that the use of AI can improve learning personalization, monitoring learning outcomes, and adaptive feedback that are not always possible in traditional learning. Findings from the latest systematic study indicate that AI helps in the planning, implementation, and evaluation of the learning process, while reducing the workload of teachers so that time can be prioritized for more meaningful pedagogical interactions. However, this potential will only be realized if teachers have adequate technological literacy and pedagogical readiness to effectively integrate AI in the classroom context (Garzon, et. all., 2025).

The digital transformation of technology-driven education is also in line with education policies in Indonesia. Through the Merdeka Learning program, the Ministry of Education, Culture,

Research, and Technology (Kemendikbudristek) encourages innovation and the use of information technology to support flexible, relevant, and supportive learning for students. This program opens a space for educators to explore and apply various digital media and tools in the learning process, including the use of AI. However, at the grassroots level, there are significant challenges related to teachers' readiness to adopt this digital technology.

A number of studies show that although many teachers have a high interest in technological innovations in learning, their technical abilities in operating digital devices and AI are still limited. This condition is reinforced by national research that identifies the low level of adoption of educational technology by teachers as a result of lack of adequate training, limited digital competencies, and high workloads that leave little time for teachers to explore with innovative learning media (Sofyan, et. all., 2025; Susanti, et. all., 2025).

This gap risks widening the disparity in educational quality between the demands of the modern curriculum and the capacity of teachers in the field if not systematically addressed. On the one hand, Generation Z as learners today grew up with an intense digital experience they are familiar with applications, interactive media, and digital technologies that are constantly evolving. On the other hand, limited access to technology and educators' competencies can make the learning process less relevant to the characteristics and needs of the digital generation.

MIT AI Ishlah Gorontalo, as an educational institution committed to improving the quality of learning and developing the potential of the nation's children, faces similar challenges. Based on initial observations, the majority of teachers have a strong desire to innovate but are still very limited in access to and use of modern digital tools, including AI to create learning media that is interesting, efficient, and in accordance with the character of students. The high administrative workload increases the need for teachers to gain practical skills that can reduce their work time in preparing teaching materials through effective technology solutions.

Therefore, community service activities were designed in the form of training with the theme "Artificial Intelligence (AI) Integration Training in the Creation of Innovative Learning Media". This activity refers to the principle of participatory and hands-on effective training, where teachers not only passively accept theory, but are actively involved in the process of creating learning media. The main objective of this training is to empower MIT AI Ishlah Gorontalo teachers with: (1) conceptual understanding of the role and benefits of AI in educational contexts, (2) practical skills in using easily accessible AI platforms to create learning media, and (3) motivation and innovative mindsets to continue developing more meaningful and relevant learning experiences for students in the digital age.

## **METHOD**

At the preparation stage, several important steps were taken to ensure the smooth implementation of activities. First, prepare a TNA (Training Need Analysis) to identify specific training needs related to the integration of AI in learning. Furthermore, the preparation of training designs will be a guide for the implementation of activities. The team then observed the training venue at the MIT AI Ishlah Gorontalo Hall to ensure that the facilities available were adequate. After that, a technical meeting was held involving all relevant parties to discuss the material, speakers, time, place, and process of the flow of activities in detail. Letters related to the invitation of participants, invitations to attend, and requests for resource persons were also carefully prepared. Finally, materials and activity equipment such as ATK, documentation, sound system, and LCD are prepared to support the smooth training.

The training will be held on November 08, 2025 at the MIT AI Ishlah Gorontalo Hall, starting at 07.00 to 12.00 WITA. This activity began with participant registration, followed by a technical explanation of the implementation of the activity by the committee. The opening of the event was carried out by the Head of MIT AI Ishlah Gorontalo. Before the material begins, participants are given a Pre-test to gauge their initial abilities about the integration of AI in learning. All training materials were delivered by Mrs. Feybi Octaviani Tanipu, S.Kom as an Informatics Teacher, Gorontalo Learning Ambassador, Captain of Belajar.ID Prov. Gorontalo, Google Master Trainer, Wardah Inspiring Teacher, and Special Supervisor. The materials presented include: (1) Basic Concepts of Artificial Intelligence in Education; (2) Utilization of AI Tools for the Preparation of

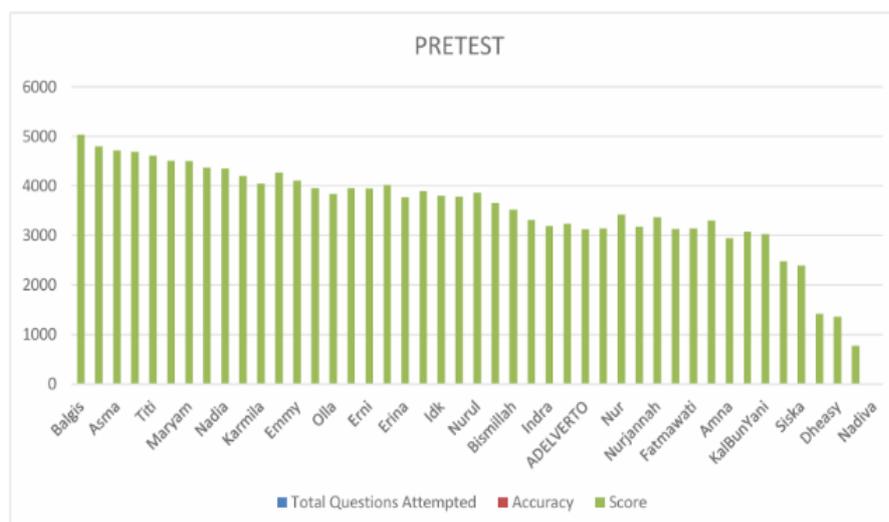
Teaching Materials; (3) the practice of making AI-based interactive learning media; and (4) AI Integration Strategy in Classroom Learning.

After all the materials were delivered, the committee gave a Post-test to assess the improvement of participants' abilities. Participants were also given a question and answer session and direct assistance in practicing making learning media using AI tools.

Evaluation of participants, resource persons, and the organizing committee was carried out to identify successes and areas that needed improvement. Evaluation uses pre-test and post-test instruments to measure knowledge improvement, as well as satisfaction questionnaires to assess the quality of training implementation. This activity was closed with a closing ceremony that summarized the entire series of events and expressed appreciation to all parties involved. With this structured method of service, it is hoped that participants can improve their skills in integrating artificial intelligence to create innovative learning media that is effective and interesting for students.

## RESULTS AND DISCUSSION

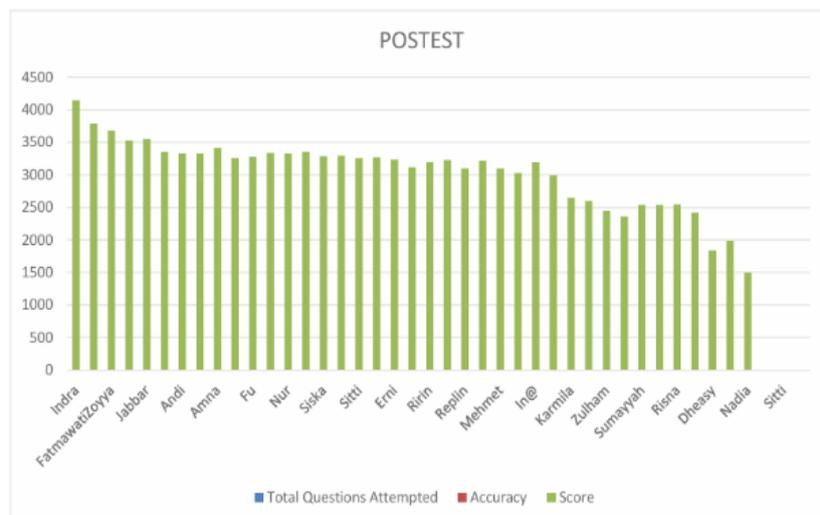
The training activity "Integration of Artificial Intelligence (AI) in the Creation of Innovative Learning Media" was successfully carried out involving 47 teachers from MIT AI Ishlah Gorontalo. To measure the effectiveness of training, assessments were carried out through pre-tests and post-tests which showed the following results. The average pre-test score of participants was 42 on a scale of 0-100, while the average post-test score increased significantly to 73.5. Thus, there was an increase in participants' understanding by 75% which proved the success of the knowledge transfer process during the training.



**Figure 1.** Pretest

The median pre-test score was at 40, indicating that half of the participants had a preliminary understanding below that number. After training, the median post-test score increased to 75, indicating that most participants experienced an even improvement in comprehension. The pre-test score range is 20-85, while the post-test score range is 45-95. This narrowing of the range of values shows that the variation in participants' abilities becomes more homogeneous after participating in the training, with no more participants being in the very low comprehension category.

In addition to the cognitive aspect, the psychomotor aspect of the participants also experienced a noticeable improvement. In the workshop session, participants succeeded in creating various prototypes of AI-based innovative learning media, including interactive presentations, educational illustrations, learning video scripts, and teaching material designs. Participant satisfaction levels measured through the questionnaire showed that 98% of participants stated that the training material was relevant to their needs and felt very satisfied with the overall implementation of the activity.



**Figure 2.** Posttest

Based on observations during the training, it was identified that there was an increase in teachers' motivation and commitment to apply AI in the learning process. Participants actively discussed the plan to implement AI tools in the preparation of learning media in the coming semester. These results show that the training not only successfully improves cognitive and psychomotor abilities, but also successfully fosters participants' intrinsic motivation to innovate in daily learning practices. From the overall results obtained, it can be concluded that this training activity has succeeded in increasing the capacity of teachers in mastering AI technology for education, as evidenced by a significant increase in pre-test and post-test results, the production of various innovative learning media prototypes, and the high level of satisfaction and motivation of participants.

The results of the Artificial Intelligence (AI) integration training in the creation of innovative learning media showed an increase in participants' understanding by 75%, which indicates the effectiveness of the training approach applied. The increase in the average score from a pre-test of 42 to a post-test of 73.5 indicates a significant transformation of knowledge, especially in conceptual understanding and practical skills related to the use of AI in the context of learning. These findings confirm that participatory and hands-on training approaches are the right strategies for transferring relatively complex technological knowledge to teachers.

These results are in line with the research of Hrastinski et al. (2019) which emphasizes that participatory learning through a combination of material exposure, structured tutorials, interactive discussions, and independent practice can significantly increase participants' cognitive engagement. In the context of this training, teachers not only play the role of receivers of information, but also as active actors who explore, try, and reflect on the use of AI in the development of learning media. This approach has proven to be effective in bridging the gap between theory and practice, which has been a major challenge in educational technology training.

The success of the participants in producing various AI-based learning media prototypes, such as interactive presentations, educational illustrations, and learning video scripts, reinforces the findings of Celik et al. (2022) and Safika, et. al. (2025) which states that AI can function as a cognitive partner for teachers. AI plays a role not only as a technical tool, but also as a facilitator of creativity and pedagogical decision-making. With the support of AI, teachers are able to speed up the learning design process without reducing the quality of the material substance, so that time and energy can be allocated to more meaningful pedagogical aspects.

These findings also strengthen the view of Zawacki-Richter et al. (2019) who stated that the integration of AI in education will have an optimal impact if it is directed to support the professional capacity of teachers, not replace them. This training shows that when teachers are given the right understanding and adequate practice opportunities, AI actually expands the space for creativity and efficiency of teachers' work. This is especially relevant

in the context of 21st century learning that requires teachers to be able to present a contextual and student-centered learning experience.

Furthermore, the ability of teachers to adopt the role of creative learning designers shows a paradigm shift in teacher professionalism in the digital era. Teachers no longer only act as passive users of technology, but as learning innovators who are able to utilize technology strategically. These findings are consistent with the views of Koehler and Mishra (2016) and Silvester, et. the. (2024) which emphasizes the importance of technology, pedagogy, and content integration (TPACK) in improving the quality of 21st century learning.

The satisfaction rate of the participants which reached 98% showed that the training materials were very relevant to the real needs of teachers in the field. This relevance is a key factor in the success of training, as emphasized by Fatah et al. (2020) that the low adoption of educational technology is often caused by the incompatibility of training materials with the context of teachers' daily work. This training successfully answered the practical needs of teachers, especially in facing the demands of a modern curriculum that emphasizes digital literacy, creativity, and learning innovation.

The high satisfaction of participants also reflects the success of the training in bridging the gap between the demands of education policy and the actual capacity of teachers. Many teachers previously experienced limited access to applicative and contextual AI training. Therefore, this training not only improves technical competence, but also increases teachers' confidence in adopting new technologies. This is in line with the findings of Trust et al. (2017) and Ulum, et. al. (2024) which states that teacher confidence is an important factor in the successful implementation of educational technology.

In addition to improving competence, this training also has an impact on teachers' motivation and commitment to apply AI in learning. The results of the observation showed that teachers showed high enthusiasm and readiness to allocate time in developing innovative learning media. These findings support the research of Mulyati and Fathurrochman (2021) who stated that even though teachers have a high workload, they still have a great interest in innovating if they are given adequate space, support, and training.

However, the low pre-test score at the beginning of the activity confirms that teachers' digital competence is still limited, especially in the use of AI technology. This condition is in line with various national and international reports that highlight the digital competency gap of teachers in developing countries. The World Economic Forum (2020) emphasizes that teacher readiness is the main determining factor for the success of 21st century education transformation. Therefore, this training can be seen as a form of effective strategic intervention in increasing teacher capacity relatively quickly through structured and applicable program design.

The success of this training opens up great opportunities for the realization of digital transformation in the MIT AI Ishlah Gorontalo environment. However, the sustainability of the program is a crucial aspect that needs serious attention. Without ongoing mentoring and institutional support, the skills that have been acquired have the potential to not be optimally implemented in daily learning practices. Therefore, a follow-up strategy is needed in the form of a community of practice, mentoring, and school policies that support the integration of AI in a sustainable manner. This approach is in line with recommendations (Holmes, W., & Miao, F., 2023) that emphasize the importance of a supporting ecosystem in the implementation of AI in education.

## **CONCLUSION**

Based on the entire implementation of the training activities "Integration of Artificial Intelligence (AI) in the Creation of Innovative Learning Media", it can be concluded that this training has succeeded in significantly increasing the capacity of MIT AI Ishlah Gorontalo teachers. The 75% increase in conceptual understanding measured through pre-test and post-test proves the effectiveness of participatory and applicative training approaches, through a combination of material presentation, tutorials, and independent practice. The satisfaction rate of the participants which reached 98% and their success in creating various prototypes of AI-based learning media during the workshop session showed that the training materials were very relevant to the needs of teachers and succeeded in transforming innovation interests into real abilities. Not only cognitive and psychomotor aspects, this training also succeeded in

fostering teachers' intrinsic motivation to apply AI in daily learning. This success opens up opportunities for digital transformation in the school environment in line with the Merdeka Learning policy. To ensure sustainability, continuous mentoring and integration of this kind of program into the professional development of teachers is needed, supported by the commitment of all school stakeholders.

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