ARTIFICIAL INTELLIGENCE BASED LEARNING MEDIA DEVELOPMENT WORKSHOP FOR MADRASAH IBTIDAIYAH TEACHERS

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Abstract:
This workshop activity was held with the aim of improving the abilities of Madrasah Ibtidaiyah teachers, especially in developing learning media based on Artificial Intelligence. The participants of this workshop consisted of elementary madrasah teachers in the Pakis District, Malang Regency. This workshop was designed in several stages including the preparation stage, implementation stage, and evaluation and follow-up stages. The results of this workshop showed that at the planning stage, the community service team carried out initial coordination to identify and conduct a needs analysis with partners in this case, KKMI, Pakis, Malang. The workshop was successfully implemented on May 10, 2025 in the MI NU Sumberpasir hall, Pakis, Malang. In this workshop, activity evaluation was also carried out by distributing participant satisfaction questionnaires which showed that 95% of participants experienced an increase in knowledge and ability in developing learning media based on Artificial Intelligence.

INTRODUCTION

Technological advances, especially Artificial Intelligence, have provided new opportunities in the development of more innovative and interactive learning media. The use of Artificial Intelligence in learning not only increases efficiency in delivering materials but also provides a more interesting learning experience for students (Heeg & Avraamidou, 2023). Therefore, teachers as learning facilitators need to have an understanding and skills in developing and utilizing Artificial Intelligence-based learning media in order to be able to provide meaningful learning experiences according to the needs and developments of the times (Chen et al., 2020; Laksmi et al., 2021). Madrasah Ibtidaiyah as an Islamic-based basic educational institution has a strategic role in shaping the character and skills needed in the 21st century as a whole. However, in fact, it is still often found that teachers' knowledge and skills in utilizing Artificial Intelligence technology are still limited. This is one of the main obstacles in implementing digital-based learning, so in this context, ongoing assistance is needed so that elementary school teachers are able to develop learning media that are appropriate to the needs of students in the digital era (Susilawati et al., 2024).

The development of technology-based learning in Madrasah Ibtidaiyah is an urgent need, as reinforced by various studies stating that the use of technology including Artificial Intelligence can increase learning motivation, conceptual understanding, and student involvement in the learning process (Alam, 2021; Ouyang & Jiao, 2021). Artificial Intelligence

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allows the provision of interactive and adaptive learning media and feedback based on individual student abilities, making learning more effective. However, the limited mastery of technology by MI teachers is a major challenge. Many teachers do not yet have adequate access or skills in integrating technology into learning due to the lack of continuous competency development activities. As a result, there is a gap between the great potential of AI technology and its application in educational practice (Anggraheni, 2025; Lestari, 2024).

On the other hand, the presence of Artificial Intelligence actually opens up opportunities for teachers to design learning to be more interesting and interactive (Muttaqin, 2023; Yulianti et al., 2024). Artificial Intelligence offers solutions that enable teachers to create innovative learning media to increase learning effectiveness. In this way, teachers can more quickly identify students' strengths and weaknesses and provide appropriate interventions to help them develop optimally (Chaudhry & Kazim, 2022; Chiu et al., 2022). Moreover, Artificial Intelligence technology is very suitable for the challenges of education in the digital era, where students are required to be more active, creative, and independent in learning (Huang et al., 2021; Knox, 2020). AI not only functions as a learning aid, but also as a driver of learning transformation through the development of learning media. However, the effectiveness of implementing Artificial Intelligence in education still depends heavily on teacher readiness.

Without increasing digital literacy and adequate training, the use of Artificial Intelligence will not be optimal (Almeida et al., 2022; Nguyen et al., 2023). Therefore, training programs or workshops are crucial so that teachers can integrate this technology wisely and appropriately to realize quality learning (Huang et al., 2021; Puspita et al., 2023). Based on the initial study and needs analysis conducted by the service team through interviews with the Head of the Elementary Madrasah Working Group (KKMI) in Pakis District (11/23/2024), it showed that teachers' ability to understand and utilize Artificial Intelligence technology is still low. This is a serious concern for the service team considering that students in this digital era are very familiar with the use of technology in their daily lives.

The lack of understanding of teachers about Artificial Intelligence technology is a major challenge in efforts to create learning that is relevant and in accordance with the needs of today's students (Murphy, 2019; Tiple, 2020). Many teachers feel less confident in utilizing this technology due to limited knowledge, lack of training, and limited access to supporting devices. As a result, learning is often still conventional and less interesting for students, so that it has the potential to reduce student motivation and involvement in the learning process. Initial studies and needs analysis results also showed that the majority of teachers do not yet understand in depth the potential of Artificial Intelligence in education. Whereas on the other hand this technology can be a strategic solution to improve the quality of education in elementary madrasas, especially in providing interesting learning media according to student characteristics.

This gap further emphasizes the importance of ongoing mentoring for MI teachers in the Pakis District area to improve technological literacy skills. With an adequate understanding of AI technology, in the future teachers are expected to be able to integrate this technology into learning, so that they have the ability to utilize technology productively. This community service program focuses on strengthening teacher skills in developing AI-based learning media. at the same time this is a strategic step to answer educational challenges. With this mentoring activity, it is expected that MI teachers in Pakis District, Malang Regency, can use Artificial Intelligence technology in learning, especially having the ability to develop creative and innovative learning media according to student needs. Thus, the service team hopes that this activity will have a positive impact on improving the quality of education at

the elementary madrasah level.

METHOD

This community service activity was held in the form of a workshop aimed at improving the capacity and competence of elementary school (MI) teachers in Pakis District, Malang Regency, especially in facing the challenges of 21st century learning (Hasanah & Monica, 2023). The workshop was held on May 10, 2025 and took place in the MI NU Sumberpasir hall, Pakis, Malang, attended by teachers from various elementary school (MI) in Pakis District. The implementation of this activity was designed in a structured manner to provide a deep understanding of Artificial Intelligence and the development of learning media. Through this workshop, participants not only gain theoretical insight, but are also trained to develop artificial intelligence-based learning media according to the learning context in their respective madrasas (Ahmad et al., 2024). This workshop activity is expected to encourage teachers to be more innovative in presenting interesting learning according to the needs of students in the digital era (Hidayat et al., 2024; Tri Atmojo et al., 2024).

In this activity, participants received several materials related to learning media and Artificial Intelligence and were specifically trained to develop learning media that can be implemented in learning at each participant's institution (Hasanah & Monica, 2023). This activity also facilitates participants to share experiences related to the application of Artificial Intelligence in learning at MI, so that with this activity it is hoped that the quality of learning in madrasas will increase. The data on the workshop participant institutions that are members of the Elementary Madrasah Working Group (KKMI) Pakis District, Malang Regency are as follows.

Table Data on Workshop Participating Institutions

Name of Institution	NSM	Head of Madrasah
MI NU Bunutwetan	111235070155	Dra. Masluhah
MI Al Fatah	111235070159	Ahmad Asyik, S.Pd, M.PdI
MI Al Hasib	111235070168	Rodliatul Ulum S.Pd.I
MI Al Khoiriyah	111235070167	Hermawan, S.Pd
MI Al Ma'arif	111235070158	Abd. Shomad, S.Ag
MI Hayatul Islamiyah	111235070152	Salamah,S.Pd.I
MI Islamiyah	111235070153	Suaidi, SH.
MI Mambaul Ulum	111235070160	Titik Herawati, S. Pt.
MI NU Asrikaton	111235070156	Lilik Azizah, S.Pd
MI Nurul Huda 01	111235070169	Zumrotul Jannah, S.PdI
MI Nurul Huda 02	111235070161	Nurul Yaqin,S.Pd.I
MI Sunan Ampel	111235070162	Bambang S, S.Pd.
MI Tarbiyyatul Arifin	111235070328	Nur Baidah, S.Pd.
MI Wahid Hasyim	111235070164	Muhamad Ansori, S.Pd.I
MI Darul Falah	111235070154	Moh.Junaidi
MI Hasyim Asy'ari	111235070157	Elok Mayasari, S.H, S.Pd
MI NU Sumberpasir	111235070163	Muhammad S. A., S.Pd.I
MI Anbaul Ulum	`111235070165	Ahmad Samsudin,S.PdI
MI Al Hidayat	111235070166	Samsulibat, S. Pd.

Technically, this workshop activity is carried out in three stages, including the preparation stage, implementation stage, and evaluation and follow-up stage (Hasanah & Monica, 2023). This stage is carried out with the aim of supporting the effectiveness of the workshop activities so that they truly provide benefits and have an impact on improving the quality of learning in MI. The stages in this workshop activity in detail are as follows.

1. Preparation Stage

In the preparation stage, the community service team began the activity by establishing initial coordination with strategic partners, namely the Elementary Madrasah Principal Working Group (KKMI) of Pakis District, Malang Regency. This coordination aims to ensure alignment of objectives, readiness for implementation, and institutional support from partners who have a central role in coordinating target schools (Hidayat et al., 2024). In this process, the community service team and KKMI also jointly identified and analyzed needs in the field to obtain accurate data on the conditions and challenges faced by MI teachers, especially in the use of Artificial Intelligence technology in learning. In addition, at this stage the community service team also prepared workshop equipment such as administrative needs, participant worksheets, and presentation materials containing basic concepts of Artificial Intelligence to practical steps in developing Artificial Intelligence-based learning media. This stage also includes other technical preparations needed during the implementation of the workshop, such as providing presentations and arranging activity logistics so that the implementation runs smoothly (Kaswar et al., 2023).

2. Implementation Stage

The implementation stage is the core of this series of workshop activities which are designed to provide meaningful learning experiences for participants. This workshop was held directly on May 10, 2025 in the MI NU Sumberpasir Pakis hall involving Madrasah Ibtidaiyah teachers from various institutions in Pakis District. In its implementation, the resource persons used various methods such as lectures, interactive discussions, and direct practice in developing learning media based on (Hasanah & Monica, 2023) Artificial Intelligence. This lecture session is used to introduce concepts and theoretical understanding of learning media and Artificial Intelligence, while the discussion is used to explore thoughts between participants, exchange ideas and experiences that have been experienced by participants in using artificial intelligence in each school. Furthermore, direct practice becomes the main and most important part where participants are invited to develop learning media accompanied by resource persons according to the context of the subjects taught by the participants. Direct practice can run well with modern facilities and infrastructure support such as laptops for each participant, LCD projectors for material presentations, sound systems for smooth communication, and presentation materials that have been prepared by the presenters in a structured manner.

3. Evaluation Stage and Follow-up Plan

The evaluation and follow-up stage is a crucial part that is no less important than the entire workshop implementation process, because it is a benchmark for the success of the activity as well as a basis for future improvement and development. After the activity took place, the community service team conducted a comprehensive evaluation by distributing satisfaction questionnaires to all participants, which included aspects of understanding the material, the relevance of the material to learning needs, and the effectiveness of delivery and practice methods (Emilia, 2022). In addition, an assessment was also carried out on the results of the work in the form of Artificial Intelligence-based learning media that had been developed by participants during the practice session. Based

on this data, the team prepared a number of strategic recommendations to support the sustainability of the implementation of the workshop results, including plans for implementing artificial intelligence-based learning media in each class. As a form of commitment to the continuity of the program, a communication group was formed between workshop participants which functioned as a forum for sharing and a means of continued collaboration in the Madrasah Ibtidaiyah environment.

RESULTS

This workshop was held to strengthen the understanding and skills of teachers in designing and developing learning media based on Artificial Intelligence. The implementation of this activity was designed in stages starting from the planning stage, implementation stage, and evaluation and follow-up stages. The entire series was designed to provide a meaningful learning experience for workshop participants. The results of this activity can be described in more detail in the following points.

1. Preparation Stage

In the community service planning stage, the service team began the activity by coordinating with partners, namely the Elementary Madrasah Principal Working Group (KKMI) of Pakis District, Malang Regency. Coordination with partners is the initial and important step, because KKMI has a central role in bridging communication with teachers in madrasas that are the targets of the workshop. In this coordination process, an initial exploration was carried out on the readiness of the institution, scheduling of activities, and determining the location of implementation. This was done because the active involvement of partners greatly determines the success of the program, especially in the context of collaborative service based on field needs. Furthermore, the service team identified and analyzed needs with the head of KKMI Pakis District.

This process was carried out to find out the issues and challenges faced by MI teachers as workshop participants, especially in the development of learning media. Based on the results of this activity, data was obtained that the majority of MI teachers do not have much experience in utilizing Artificial Intelligence-based technology for learning purposes. The majority stated limited access to training and minimal assistance in integrating technology into the learning process. Therefore, based on the results of the initial coordination, this workshop was directed to answer the problems faced by partners. Specifically, the problems faced by partners are focused on the development of artificial intelligence-based learning media, where this is to facilitate the learning of Madrasah Ibtidaiyah students who are increasingly close to technology. The documentation of the results of the initial coordination can be seen in Figure 1 below.

Figure Initial Coordination and Needs Analysis with Partners

Based on the needs analysis, the service team also prepared the equipment needed for the workshop activities. The equipment prepared includes administrative documents such as invitations, attendance lists, certificates, and evaluation instruments. In addition, the service team also prepared participant worksheets containing practical guides and AI-based media development assignments, and presentation materials. The preparation of the materials is not only theoretical, but also emphasizes a problem-solving approach so that participants can immediately develop media that is in accordance with the subjects they teach. Technical preparation is also an important aspect at this stage. The team ensures the availability of supporting facilities such as projectors, LCD screens, internet connections, and adequate laptop devices so that participants can participate in the practice sessions optimally.

In addition, activity logistics such as consumption, documentation, and participant stationery are also well prepared to support the comfort and smoothness of the activities. This thorough preparation is a form of commitment from the service team in creating a conducive learning atmosphere. Thus, the preparation stage is not only an administrative phase but is a series of collaborative work that determines the effectiveness of the entire program. Based on data and observations during the initial coordination, the enthusiasm and involvement of partners were very high. This is an important key in ensuring the success of the workshop activities to answer the challenges of improving the quality of education at the Elementary Madrasah in Pakis District, Malang Regency.

2. Implementation Stage

The implementation stage of the workshop was held on May 10, 2025, at the MI NU Sumberpasir Pakis hall, Malang. This activity was attended by Madrasah Ibtidaiyah teachers from various institutions in the Pakis District. The implementation of the workshop was designed using a participatory approach where participants not only listened to the presentation of the material, but were also directly involved in the process of exploring and developing learning media based on Artificial Intelligence. This approach was chosen as a strategy to avoid passive one-way learning methods, and as an effort to foster participants' learning motivation towards the material being studied. Based on observations during the activity, the participants seemed enthusiastic about participating in all activity sessions, especially when they were asked to try out several platforms that were introduced directly. The workshop activity was opened with a ceremonial activity with the head of the KKMI Pakis District, Malang Regency, as seen in Figure 2 below.

Figure Opening Ceremony of Workshop Activities

After this opening session, the activity continued with the presentation of material on the concept of learning media and the use of Artificial Intelligence in learning at Madrasah Ibtidaiyah. The community service team focused the explanation on the urgency

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of adapting technology in the context of basic education, especially at Madrasah Ibtidaiyah as a form of response to the dynamics of changes in student characteristics that are increasingly close to technology. The material presented was not only theoretical, but also presented various practical examples of the use of AI in learning, thus triggering the enthusiasm of the participants. This was evident from the emergence of several critical questions from participants related to the potential negative impacts of the use of technology. On the other hand, the community service team responded to these concerns by emphasizing that AI was not intended to replace the role of teachers, but rather as a tool that enriches learning strategies as seen in Figure 3 below.

Figure Delivery of Material to Workshop Participants

After the presentation session on the urgency of learning transformation in the digital era, the workshop continued with an exploration session on various AI-based platforms and applications that are relevant and applicable in the context of learning at the Madrasah Ibtidaiyah level. This session was designed to provide participants with practical insight into how AI can be used directly to support the learning process in the classroom, especially in terms of developing adaptive learning media according to the characteristics of elementary school students. The facilitator team introduced a number of AI-based educational platforms that cover a variety of functions, from automatic question creation, AI-based infographic and video learning creators, to student learning data analysis tools. Participants were also invited to get to know the main features of the platform, as well as being invited to discuss its integration with the subjects that participants are teaching. The main objective of this session was to equip participants with an understanding and initial skills in selecting and using AI platforms appropriately, so that learning becomes more enjoyable. Several platforms introduced to participants can be seen in Table 2 below.

Table Artificial Intelligence-based Platforms for Learning

Platform Type	Benefits in Learning
Gamma App	To make it easy to create attractive and professional presentation materials, documents, and websites without requiring design or programming skills.
Suno.com	To create songs and music easily and efficiently, it is very useful for people who want to explore musical creativity.
Pictory AI	To create online learning videos that are equipped with advanced features and can create videos by providing various types of visual content
ElevenLabs	An amazing tool that can be used to generate AI voices

	and to create imitations or other voices that have been authorized
Jungle AI	To create questions in a short time, simply uploading material in the form of presentation slides, videos or notes can produce various types of questions
Quizizz	To create interactive quizzes that can be used in learning, they can also be used to check students' understanding after discussing a lesson material through a quiz
Hotpot.ai	To create professional graphics and images easily, you can also create various graphic designs that are easy to edit
Canva AI	To generate design templates based on user preferences and the latest design trends, it can also be used to create teaching materials in visual format

To strengthen the participants' understanding and skills, this practical session was designed with a learning by doing approach where participants not only received theoretical explanations, but were also directly involved in the hands-on process. In this session, participants were also encouraged to not only understand the basic features of the application, but to try it as a whole. This activity aims to build teacher confidence in using AI technology and encourage contextual learning innovations that are oriented towards student needs. During the practice, participants had the opportunity to experiment with various features in the application, such as compiling interactive questions, creating AI narrative-based learning videos, and producing interesting concept visualizations for Madrasah Ibtidaiyah students. Although some participants faced technical challenges, the collaborative atmosphere and the presence of a direct question and answer forum made the learning process more effective. This activity also facilitated the exchange of ideas between teachers, resulting in various varied innovations. The results of this practical session are proof that with the right guidance, MI teachers are able to adapt quickly to technological developments, and are able to produce AI-based learning media that are in accordance with the characteristics of their students. As seen in Figure 4 below.

Figure Participants Practice Making Learning Media

Observation data from the activity also showed that this kind of practical training was more effective in improving participants' understanding than the usual lecture method. This was reinforced by the positive responses of participants in the reflection session, where many teachers stated that this activity had opened up new insights and encouraged

them to try technology in the learning process. This finding shows that the implementation of the workshop succeeded in building awareness and motivation of participants to integrate AI technology into learning, which is one of the main objectives of this community service activity.

3. Evaluation Stage and Follow-up Plan

The evaluation and follow-up stage is designed to explore the extent to which the activities that have been implemented are able to meet the needs of participants and identify obstacles that arise during the workshop process. The evaluation was carried out by distributing participant satisfaction questionnaires and assessing the results of AI-based learning media products developed by participants. This approach was chosen so that the service team could obtain a comprehensive picture, not only from the aspect of participant understanding but also from other aspects. From the results of the questionnaire distributed, the majority of participants expressed satisfaction with the materials, methods, and facilities provided during the workshop. Participants felt that they had gained new knowledge that was relevant to current learning challenges, especially related to the use of artificial intelligence-based technology. Several participants stated that this workshop was their first experience of getting to know and trying out AI applications directly in the context of developing learning media.

This shows that this activity is able to answer the gap in technological literacy among MI teachers, who so far have tended to rely on conventional methods in the learning process. In addition, several challenges were revealed by participants, such as limited device facilities in madrasas and the lack of policy support from institutions. This aspiration is an important note for the service team in developing an applicable follow-up strategy. As part of the sustainability strategy, the community service team compiled several recommendations for participants, including conducting independent dissemination in their respective madrasahs, as well as establishing communication between participants across madrasahs. To facilitate this, a Whatsapp group was formed for communication between teachers participating in the workshop. This group functions as a space for sharing good practices and learning, especially the development of learning media in Madrasah Ibtidaiyah. Specifically, the results of the questionnaire can be seen in Figure 5 below.

Figure Results of Workshop Participant Satisfaction Survey

With all these stages of evaluation and follow-up, the workshop activity does not stop as an incidental activity but becomes a continuous activity towards educational transformation that is adaptive to technological developments. The service team believes that strengthening the character of students through innovative AI-based learning can only

be realized if supported by the spirit of continuous learning from teachers and collaboration between institutions. Therefore, the sustainability of the program is the main indicator of the success of this service activity, which is measured not only from what is achieved during the workshop, but from what continues afterwards.

DISCUSSION

The initial stage of implementing the community service program carried out through strategic coordination with the Working Group of Elementary Madrasah Principals (KKMI) in Pakis District reflects collaboration in community empowerment-based service. Coordination is not just an administrative activity, but also a form of in-depth stakeholder engagement (Hasanah & Monica, 2023). In the context of community service, partner involvement is part of the approach taken by the service team. According to Hidayat et al. (2024) all stakeholders must have an active role in formulating joint solutions to the problems faced by partners. The initial exploration carried out with KKMI serves as a communication bridge and shows the strategy of building ownership from partners towards the program to be implemented (Hasanah & Monica, 2023). This is very important because the success of a service depends not only on the excellence of the program designed, but also on the extent to which beneficiaries feel involved and have ownership of the process and results of the activity.

As explained by Busran (2023) & Kaswar et al. (2023) that community strength will grow when local potential is identified and involved in the process of change. Furthermore, the process of identifying and analyzing needs becomes the foundation that determines the direction and form of the program. The finding that most MI teachers experience limitations in utilizing AI-based technology and a lack of applicable digital training indicates a digital competency gap that needs to be bridged immediately (Hashim et al., 2022; Moto, 2019). These results reinforce the importance of needs analysis in designing workshop programs. In community development literature, this approach is recognized as a strategy that ensures that community service activities are relevant, focused, and responsive to social realities in the field (Ife & Tesoriero, 2006).

On the other hand, from an instructional design perspective, the preparation of workshop materials that not only contain theory but also direct practice is an application of the principle of experiential learning (Akrim, 2018; Cahyanto, Fuady, et al., 2025). Participants are actively involved in real experiences, reflecting, understanding concepts, and applying learning outcomes through the development of AI-based learning media. This approach is effective in adult education (andragogy), where direct experience and relevance to daily tasks are the keys to successful learning (Emilia, 2022; Hasanah & Monica, 2023). In addition, attention to technical preparations such as the provision of devices, internet connectivity, and complete logistics shows that the success of the workshop is not only determined by the substantive aspect, but also by efficient and professional implementation management (Kaswar et al., 2023).

In this case, the community service team has implemented the principle of total quality management in education, which emphasizes the importance of structured planning, process quality control, and commitment to participant satisfaction (Ahmad et al., 2024). In general, the planning stage of this program has met the principles of community service based on collaboration and needs in the field. This program is not top-down, but rather the result of dynamic interactions between academics and the target community. This approach is able to produce sustainable impacts, because partner institutions are not only objects of the workshop but also subjects of change. By considering theories and best practices in community development, this planning stage can be used as a model for other community

service activities that want to encourage digital transformation in the field of basic education based on the needs of teachers and madrasas (Banerjee et al., 2021; Chiu et al., 2023).

The implementation stage of the workshop held on May 10, 2025 at the MI NU Sumberpasir Pakis hall showed the success of the active learning approach in teacher training. The direct involvement of participants in the exploration and creation of Artificial Intelligence-based learning media demonstrates the application of the principles of constructivist learning theory (Cahyanto, Dina, et al., 2025; Goksel & Bozkurt, 2019). According to this theory, knowledge is actively constructed by participants through direct involvement with the material, not just through passive transfer of information (Hasanah & Monica, 2023). The active involvement of participants in the practice and discussion sessions makes learning more meaningful, because participants experience the process of constructing meaning through direct experience. The participatory strategy used in this activity is also in line with Emilia's principle (2022) which states that effective learning occurs through four stages: concrete experience, reflection on that experience, concept formation, and application in new situations.

The hands-on practice and group discussion sessions in this workshop allow participants to experience all four stages in their entirety. This is evidenced by the observation that participants not only understand the material but are also able to develop real products in the form of AI-based learning media that are ready to be implemented in the classroom. The material delivery session at the beginning of the workshop provides an important foundation in building participants' awareness of the urgency of digital transformation in education (Ahmad et al., 2024). This is in line with Murphy's (2019) transformative learning approach which aims to change participants' mindsets through a process of critical reflection. The introduction to various AI platforms shows concrete efforts to provide relevant and applicable skills to participants. By introducing applications that can be directly connected to the subjects they teach, this workshop provides a real model of the application of AI in the context of learning in madrasas.

Furthermore, the practical session which is the core of this activity, succeeded in creating a meaningful experience for participants, where participants gained skills through direct development of learning media. This success cannot be separated from the role of the facilitator who provided intensive assistance, both from a technical and pedagogical perspective (Anggraheni, 2025; Lestari, 2024). The assistance provided by the service team is a crucial factor in ensuring that all participants can complete media products that are appropriate to their context. Based on observations and reflective data from participants, this workshop has had a positive impact on teacher readiness and motivation in integrating AI-based technology into learning. This phenomenon shows that the program has succeeded in triggering teacher agency or professional independence, which is the main indicator of success in developing educator capacity (Cahyanto et al., 2024; Susilawati et al., 2024). This means that workshops not only provide skills, but also raise collective awareness to change and develop according to the demands of the times.

Based on the analysis above, the implementation of this workshop can be categorized as successful in achieving the objectives of community service, especially in increasing the capacity of MI teachers in developing AI-based media. This activity not only produces products, but also encourages the transformation of teachers' mindsets and professional practices, which are important foundations for sustainable educational change (Tejawiani et al., 2023). In addition, the workshop evaluation stage is an important phase in the community service activity cycle. The evaluation carried out through a combination of questionnaires, reflective discussions, and product assessments provides a holistic picture of the effectiveness

of the program. The results of the questionnaire showed a high level of satisfaction from participants with the substance of the material and the facilitation approach. This shows that the workshop has met the learning needs of participants in terms of introducing and using Artificial Intelligence-based technology in education (Faliyandra et al., 2024; Hasanah & Monica, 2023).

The reflective group discussions carried out in the evaluation stage reinforce the importance of a participatory approach in community service. Participants are not only asked to evaluate, but also to share ideas, solutions, and further recommendations. This shows the practice of participatory action research in community service activities, which emphasizes the importance of active involvement of participants as co-creators of solutions (Emilia, 2022). Community service is not just about providing training, but also opening up space for dialogue, sharing experiences, and joint strategic planning. The strategic steps taken by the community service team in forming a communication forum between participating teachers are a concrete form of strengthening the community of practice (Hasanah & Monica, 2023). According to Atmojo et al. (2024), the success of education reform is largely determined by the internal motivation and collaborative capacity of the education actors themselves.

Thus, the success of the program is not only measured by enthusiasm during training, but also by the sustainability of activities after the training ends. This is in accordance with the principle of outcome-based community engagement, which emphasizes the importance of the long-term impact of community service activities (Hasanah & Monica, 2023). The existence of a teacher forum, the resulting learning products, and future development plans show that this activity has contributed to the process of transforming learning that is based on needs and adaptive to global technological developments. Reflective and participatory evaluations, as well as community-based follow-up make this activity a model of good practice in sustainable teacher capacity development. The relationship between transformative learning theory, participatory action research, and community of practice strengthens that this program has been running according to the principles of empowerment-based community service (Emilia, 2022).

CONCLUSION

This workshop activity was held with the aim of improving the ability of Madrasah Ibtidaiyah teachers, especially in developing learning media based on artificial intelligence. This workshop has been carried out successfully and has succeeded in improving teachers' understanding, skills, and awareness of the importance of integrating artificial intelligence in learning. Through a participatory and contextual approach, this workshop not only provides conceptual insight to participants, but also equips participants with practical experience in designing learning media. The enthusiasm and results of the participants' products show that this program is able to encourage changes in mindset and more innovative learning practices. This success reflects the effectiveness of this workshop and shows that community service designed collaboratively with partners can have a significant impact on strengthening the capacity of participants.

Based on the results of this workshop, it is recommended that similar training or workshop activities be carried out continuously to strengthen the capacity of teachers in utilizing artificial intelligence more deeply in various aspects such as developing teaching materials or others. In addition, in the future, it is necessary to strengthen the community of practitioners as a forum for collaboration between teachers in the Pakis District, Malang Regency through various ongoing coaching activities.

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