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Enhancing Digital Learning Management Capacity through Zoom Cloud Meetings Utilization Training for Teachers

Muhammad Ikrom Karyodiputro [1]

[1] *Institut Agama Islam At-Taqwa Bondowoso, Indonesia*
Correspondence: putromulyo1@gmail.com

Abstract : *This Community Service activity aims to enhance teachers' digital learning management capacity through Zoom Cloud Meetings utilization training at MA Sullamul Hidayah Leces, Probolinggo. This program was initiated based on the limited digital competence of teachers and the suboptimal implementation of technology-integrated learning management in the madrasah environment. The activity employed a participatory approach involving training sessions, technical assistance, teaching simulations, and continuous evaluation. Data were collected through observation, pre- and post-training assessments, and analysis of teachers' digital learning practices after the intervention. The results indicated an improvement in teachers' ability to operate Zoom Cloud Meetings features, design technology-supported lesson plans, manage virtual classrooms, and implement more interactive learning strategies. Beyond technical skills, the program contributed to strengthening teachers' confidence and readiness in adopting digital learning management practices. The activity also encouraged the development of sustainable follow-up initiatives, including the preparation of online learning management guidelines and further digital competency development programs. These findings highlight that contextual and practice-oriented technology training can effectively strengthen teachers' digital capacity and support the transformation of Islamic education in the digital era. The program provides a potential model for empowering teachers in other madrasahs facing similar challenges in digital learning implementation.*

Keywords : *Community Service Program; Digital Learning Management; Zoom Cloud Meetings Training.*

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INTRODUCTION

Digital transformation has significantly influenced the development of education by encouraging institutions to adopt technology-based learning systems (Zainuddin, 2019). The integration of information and communication technology (ICT) is no longer limited to the use of digital devices but also involves changes in learning management, instructional strategies, and teachers' professional competencies (Mulder, 2014; Taylor & Neimeyer, 2022). In this context, teachers become key actors in ensuring the successful implementation of digital learning. Strengthening teachers' digital competence is therefore essential to create an adaptive, effective, and sustainable learning environment that responds to the demands of educational transformation in the digital era.

The implementation of digital learning, however, still faces various challenges, particularly in educational institutions with limited technological readiness. Many schools experience difficulties in integrating digital platforms due to inadequate digital literacy, limited access to structured training, and the absence of continuous mentoring programs (Fehérvári & Varga , 2023; McQuillin & Lyons, 2021). These conditions often result in technology being used only as a supporting communication tool rather than as an instrument for improving learning quality (Filip, 2022). Therefore, strengthening educators' capacity through practical and contextual technology training is needed to ensure that digital transformation can be implemented effectively within educational institutions.

One of the digital platforms that can support technology-based learning management is Zoom Cloud Meetings (Adenegan & Abiodun, 2018). This platform enables teachers to conduct synchronous learning activities, facilitate communication, manage virtual classrooms, and provide more flexible learning experiences (Müller & Mildenberger, 2021; Valtonen et al., 2021). However, the effective use of Zoom requires more than technical knowledge of application features. Teachers need the ability to integrate digital platforms with learning planning, instructional design, classroom interaction, and learning evaluation (Gameil & Al-Abdullatif, 2023). Without adequate competence, technology adoption may not provide significant contributions to improving the quality and effectiveness of the learning process.

Similar challenges were identified at MA Sullamul Hidayah Leces, Probolinggo, as one of the private Islamic educational institutions that continues to improve its educational services. Based on preliminary observations and discussions with school representatives, teachers still encounter obstacles in implementing digital-based learning management (Fadhli et al., 2023; Purnomo et al., 2024; Tjiptady et al., 2024). The utilization of digital platforms remains limited due to insufficient understanding of technology integration, lack of practical experience in managing virtual learning environments, and the absence of systematic digital learning management practices. Consequently, digital technology has not yet been optimally utilized to support interactive and innovative learning processes.

The main challenge faced by teachers at MA Sullamul Hidayah Leces is not only related to operating digital applications but also their limited capacity to integrate technology into comprehensive learning management. Teachers require competencies in preparing digital learning plans, managing online classrooms, facilitating student engagement, and evaluating technology-supported learning activities (Alqasa & Arshad, 2023; Hart & Paucar-Caceres, 2017). These competencies are important to ensure that digital learning does not merely replace face-to-face interaction but becomes an approach that improves flexibility, collaboration, and learning effectiveness. Therefore, strengthening teachers' digital learning management capacity becomes a strategic priority for the madrasah.

Based on these conditions, a community service program was initiated to address the need for strengthening teachers' digital competence through Zoom Cloud Meetings utilization training. This program was designed as a practical and contextual intervention that combines technical training with learning management strategies. The activity focuses not only on improving teachers' ability to operate Zoom features but also on developing their skills in designing and implementing technology-integrated learning. Through this approach, teachers are expected to become more confident and prepared to utilize digital platforms as part of sustainable learning management practices.

This community service activity aims to enhance teachers' digital learning management capacity through Zoom Cloud Meetings utilization training at MA Sullamul Hidayah Leces Probolinggo. The program is implemented through training sessions, technical assistance, learning simulations, and evaluation activities to measure the development of teachers' competencies. The expected outcomes include improved digital skills, stronger readiness in implementing technology-based learning, and the establishment of a digital learning culture within the madrasah environment. Furthermore, this activity is expected to provide a practical model for strengthening digital learning capacity in other Islamic educational institutions facing similar challenges.

METHOD

The community service program was implemented at MA Sullamul Hidayah Leces, Probolinggo, with the aim of strengthening teachers' digital learning management capacity through Zoom Cloud Meetings utilization training. This activity applied a participatory approach that involved the service team and the partner institution throughout the program. The implementation process was designed systematically through several interconnected activities, including needs identification, training preparation, practical implementation, mentoring, and evaluation. This approach was selected to ensure that the program was not only focused on improving teachers' technical skills in using digital platforms but also on developing their ability to integrate technology into effective learning management practices.

The initial stage of the activity focused on identifying the needs and conditions of the partner institution. This process was conducted through preliminary observations and discussions with the head of the madrasah and teachers to understand the existing conditions of digital learning implementation. The results of the identification process showed that teachers had limited experience in utilizing Zoom Cloud Meetings as a learning platform, particularly in managing interactive virtual classrooms and integrating digital tools into learning activities. Based on these findings, the service team prepared training materials and learning scenarios that were adjusted to the participants' needs and technological readiness. The preparation stage included developing instructional materials, practical exercises, evaluation instruments, and coordinating the activity schedule with the madrasah to ensure effective implementation.

The training activities were conducted using a practice-oriented approach that emphasized direct experience and active participation from teachers. The materials provided included the basic operation of Zoom Cloud Meetings, account management, meeting preparation, virtual classroom management, screen sharing, interactive features, and strategies for utilizing Zoom in the learning process. In addition to technical explanations, participants were involved in practical simulations where they practiced creating online classes, managing student participation, delivering learning materials, and conducting interactive learning activities. This approach allowed teachers to immediately apply the knowledge gained and receive guidance from the service team during the training process. Group discussions were also conducted to identify challenges faced by teachers and to develop solutions based on their teaching contexts.

Following the training sessions, monitoring and evaluation were conducted to measure the effectiveness of the program and the development of teachers' competencies. Monitoring was carried out by observing the implementation of Zoom Cloud Meetings in teachers' learning activities and collecting feedback regarding the challenges encountered after the training. Evaluation data were obtained through observations, participant responses, and assessments of teachers' practical abilities before and after the training. The evaluation process focused on changes in teachers' understanding, confidence, and ability to manage technology-supported learning activities. The results of this evaluation were used to formulate recommendations for future mentoring programs and the continuous development of digital learning practices at MA Sullamul Hidayah Leces.

The implementation of this community service program involved active participation from MA Sullamul Hidayah Leces as a strategic partner. The madrasah contributed by providing information related to teachers' needs, supporting the preparation of participants, and facilitating the availability of training resources, including learning

spaces, internet access, and supporting equipment. During the implementation process, teachers participated actively in training sessions, discussions, simulations, and practical assignments. Their involvement was essential in ensuring that the training outcomes were relevant to their teaching experiences and institutional conditions.

The partner's involvement continued during the monitoring and evaluation stage by supporting the implementation of training outcomes in the madrasah environment. Teachers were encouraged to apply Zoom Cloud Meetings in learning activities and provide feedback regarding the effectiveness and challenges of its implementation. The madrasah also supported the documentation process and follow-up planning to sustain the development of digital learning management. Through this collaborative approach, the community service activity was expected to create continuous improvement in teachers' digital competencies and contribute to the development of a technology-based learning culture at MA Sullamul Hidayah Leces Probolinggo.

Table 1. Implementation of Community Service Activities

Activity	Description	Time
Preparation	Identification of partner needs, observation of digital learning conditions, preparation of training materials, instruments, and activity coordination.	One week before training
Training and Practice	Delivery of Zoom Cloud Meetings materials, practical exercises, virtual classroom simulations, discussions, and mentoring.	Two days
Monitoring and Evaluation	Observation of implementation, collection of feedback, assessment of teacher competency development, and preparation of follow-up recommendations.	One week after training

RESULT AND DISCUSSION

1. Improvement of Teachers' Digital Readiness through Contextual Needs Identification

The first finding of this community service activity reveals the importance of identifying teachers' digital readiness as the basis for designing an appropriate intervention program. The initial observation and interview processes conducted at MA Sullamul Hidayah Leces Probolinggo showed that teachers had begun to utilize digital technology in learning activities; however, the use of Zoom Cloud Meetings was still not optimal. Teachers experienced several difficulties, particularly in managing virtual classrooms, utilizing interactive features, and integrating digital platforms into structured learning activities.

The findings from the needs identification process indicate that the main challenge was not related to the availability of digital platforms but rather the limited capacity of teachers to use technology as part of effective learning management. Some teachers were familiar with basic online meeting functions, but they had not fully utilized Zoom features that could support interactive learning, such as participant management, screen sharing, breakout rooms, and other classroom interaction features. This condition shows that strengthening digital competence requires a training model that is adjusted to teachers' actual abilities and learning contexts.

Based on these conditions, the community service team developed a training program based on the identified needs of the partner institution. The preparation stage included the development of training modules, practical exercises, supporting learning materials, and evaluation instruments to measure participants' understanding and skill development. The training materials were designed to introduce Zoom Cloud Meetings gradually, starting from basic operations to the utilization of features that support digital learning management.

Table 2. Initial Digital Learning Conditions of Teachers at MA Sullamul Hidayah Leces Probolinggo

Digital Learning Aspect	Initial Condition Identified	Implication for Training Program
Knowledge of Zoom Cloud Meetings	Teachers had limited understanding of Zoom features for learning activities.	Training focused on introducing basic functions and classroom management features.
Digital classroom management	Teachers experienced difficulties in managing interaction and participation in virtual classes.	Training emphasized virtual classroom simulation and participant management strategies.
Utilization of interactive features	Features supporting interaction, such as breakout rooms, screen sharing, and other tools, were not optimally utilized.	Teachers were trained to apply interactive features in learning activities.
Integration of technology into learning	Digital platforms had not been systematically integrated into learning management.	Training encouraged teachers to design technology-supported learning practices.

The results presented in Table 1 demonstrate that the training program was developed based on a clear understanding of the partner's needs. This finding emphasizes that digital transformation in educational institutions cannot be achieved merely by providing access to technology but requires strengthening users' competence and confidence. Therefore, the identification of teachers' initial conditions became an important foundation for ensuring that the training intervention was relevant, contextual, and capable of addressing the real challenges faced by the madrasah.

The documentation of the preparation process serves as supporting evidence of the systematic planning undertaken by the community service team before implementing the training program. The preparation activities included coordination, development of learning materials, and arrangement of supporting instruments to ensure that the intervention could be implemented effectively.

Figure 1. Preparation of Community Service Program Activities

2. Enhancement of Teachers' Digital Learning Management Skills through Zoom Cloud Meetings Training

The second finding of this community service activity indicates that the Zoom Cloud Meetings training contributed to improving teachers' skills in managing digital-based learning activities. After identifying the initial challenges faced by teachers, the training was implemented using a practice-oriented approach that emphasized direct involvement and contextual application. The activity was designed not only to introduce Zoom as a digital communication platform but also to develop teachers' ability to utilize technology as part of instructional management.

The training implementation began with strengthening teachers' basic understanding of Zoom Cloud Meetings, including account preparation, meeting creation, participant management, and essential settings for conducting online learning activities. During this stage, teachers were guided to practice each function directly so that they could understand the relationship between technical features and classroom

needs. The participants were not only introduced to the operational procedures of Zoom but were also encouraged to apply the features within simulated learning situations.

The development of teachers' competence continued through the introduction of interactive features that support student engagement in digital learning environments. Teachers practiced utilizing breakout rooms for group discussions, virtual whiteboards for presenting learning materials, and polling features for collecting student responses. These activities provided teachers with practical experiences in creating more interactive and collaborative online learning processes.

Table 3. Development of Teachers' Digital Learning Management Skills after Training

Competency Aspect	Learning Achievement after Training	Supporting Evidence
Zoom operational skills	Teachers were able to perform basic Zoom operations, including creating meetings and managing participants.	Training practice and simulation activities
Virtual classroom management	Teachers demonstrated improved ability to organize online learning sessions and manage participant interaction.	Practical assignments and trainer feedback
Utilization of interactive features	Teachers were able to apply features such as breakout rooms, screen sharing, and interactive tools to support learning activities.	Feature practice during training sessions
Digital learning implementation	Teachers began understanding how Zoom could be integrated into technology-supported learning strategies.	Learning simulation activities

The results presented in Table 2 show that the training produced changes not only in teachers' technical abilities but also in their understanding of how digital platforms can support learning management. The practical approach used during the activity allowed teachers to move from limited familiarity with digital tools toward the ability to apply Zoom features in instructional contexts. This finding confirms that technology training for educators becomes more meaningful when it combines technical mastery with pedagogical application.

The improvement of teachers' competence was further strengthened through practical assignments at the end of the training sessions. Participants were required to conduct learning simulations using the Zoom features they had learned. Through these activities, the service team was able to observe participants' mastery and provide direct feedback for further improvement. Therefore, the training successfully encouraged teachers to develop greater confidence in implementing digital learning practices.

Figure 2. Implementation of Zoom Cloud Meetings Training Activities

3. Strengthening Sustainable Digital Learning Practices through Monitoring and Evaluation

The third finding highlights that the sustainability of digital learning implementation requires continuous monitoring and evaluation after the training program. The evaluation stage was conducted to examine how teachers applied the skills gained during training and to identify challenges that emerged during the implementation of Zoom-based learning. This stage was important because digital competence development is not achieved only through training sessions but requires continuous support and reflection.

The monitoring process was conducted by observing teachers' implementation of Zoom in learning activities and facilitating follow-up discussions regarding their experiences (Bech et al., 2020). Teachers were given opportunities to share difficulties, technical challenges, and strategies they applied after participating in the training. The service team also provided guidance through discussion sessions and direct feedback to help teachers improve their digital learning practices.

Evaluation data were collected through questionnaires and interviews to identify changes in teachers' understanding, confidence, and perceptions of the training program. The evaluation focused on several aspects, including teachers' understanding of Zoom features, confidence in managing virtual classrooms, and the relevance of training

materials to their teaching needs. These evaluation activities provided evidence regarding the effectiveness of the program and the areas requiring further assistance.

Table 4. Evaluation Indicators for Sustainable Digital Learning Implementation

Evaluation Aspect	Evaluation Focus	Expected Outcome
Application of Zoom skills	Teachers' ability to apply Zoom features after training	Teachers consistently utilize Zoom to support learning activities
Digital teaching confidence	Teachers' confidence in managing virtual classrooms	Increased readiness to conduct technology-supported learning
Training relevance	Teachers' perceptions regarding the usefulness of training materials	Training materials correspond with teachers' instructional needs
Follow-up support	Identification of remaining challenges and mentoring needs	Development of continuous digital competency improvement

The evaluation results became the basis for preparing follow-up recommendations and future mentoring programs. The service team continued providing support through consultation opportunities to assist teachers in overcoming technical and pedagogical challenges after the training (Sarre et al., 2018). This finding emphasizes that sustainable digital transformation in madrasahs requires long-term collaboration between educational institutions and supporting partners.

CONCLUSION

The community service program at MA Sullamul Hidayah Leces Probolinggo demonstrated that Zoom Cloud Meetings utilization training contributed to strengthening teachers' digital learning management capacity. The initial identification process showed that teachers had limited experience in integrating digital platforms into structured learning activities, particularly in managing virtual classrooms and utilizing interactive features. Through a practice-oriented training approach, teachers gained improved understanding and skills in operating Zoom, managing online learning environments, and applying digital features to support more interactive instructional processes. These findings indicate that contextual technology training based on teachers' actual needs can effectively support the development of digital competence among educators in Islamic educational institutions.

Furthermore, the program showed that sustainable digital transformation requires continuous monitoring, evaluation, and follow-up support. The involvement of the madrasah as an active partner throughout the preparation, implementation, and evaluation stages strengthened the effectiveness of the program and encouraged the development of a digital learning culture. Although the activity focused on Zoom Cloud Meetings utilization, its broader contribution lies in improving teachers' readiness to adopt technology-based learning management practices. Therefore, this community service model can serve as a reference for similar educational institutions seeking to strengthen teachers' digital capacity and respond to the challenges of technology integration in education.

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