

Enhancing Teachers' Competence through Training in the Use of Microsoft PowerPoint as an Interactive Learning Tool

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ABSTRACT. The development of educational technology requires teachers to develop interactive, engaging learning media that are tailored to students' needs. One problem still encountered in schools is teachers' limited ability to utilize presentation applications as a learning medium that supports active student engagement. This community service activity aims to improve teachers' competency in utilizing Microsoft PowerPoint as an interactive learning medium at Nurul Faizah IBS Junior High School. The implementation method uses a training and mentoring approach, encompassing preparation, material delivery, media creation practice, and evaluation of training results. Participants are teachers actively involved in the learning process. The results of the activity demonstrated an increase in teachers' understanding and skills in operating PowerPoint features, designing engaging learning media, and integrating visual, audio, and animation elements into the learning process. Furthermore, participants demonstrated high enthusiasm throughout the activity and were able to produce more creative and communicative learning media. This activity positively contributed to improving teachers' pedagogical competence and supported the creation of more interactive and effective learning in the school environment.

Keyword: Teacher Competence, Interactive Learning Media

Abstrak. Perkembangan teknologi pendidikan menuntut guru untuk mampu mengembangkan media pembelajaran yang interaktif, menarik, dan sesuai dengan kebutuhan peserta didik. Salah satu permasalahan yang masih ditemukan di lingkungan sekolah adalah terbatasnya kemampuan guru dalam memanfaatkan aplikasi presentasi sebagai media pembelajaran yang mendukung keterlibatan siswa secara aktif. Kegiatan pengabdian kepada masyarakat ini bertujuan untuk meningkatkan kompetensi guru dalam memanfaatkan Microsoft PowerPoint sebagai media pembelajaran interaktif di SMP IBS Nurul Faizah. Metode pelaksanaan kegiatan menggunakan pendekatan pelatihan dan pendampingan yang meliputi tahap persiapan, penyampaian materi, praktik pembuatan media, serta evaluasi hasil pelatihan. Peserta kegiatan merupakan guru yang terlibat secara aktif dalam proses pembelajaran. Hasil kegiatan menunjukkan adanya peningkatan pemahaman dan keterampilan guru dalam mengoperasikan fitur-fitur PowerPoint, mendesain media pembelajaran yang menarik, serta mengintegrasikan elemen visual, audio, dan animasi ke dalam proses pembelajaran. Selain itu, peserta menunjukkan antusiasme yang tinggi selama kegiatan berlangsung dan mampu menghasilkan media pembelajaran yang lebih kreatif dan komunikatif. Kegiatan ini memberikan kontribusi positif terhadap peningkatan kompetensi pedagogik guru serta mendukung terciptanya pembelajaran yang lebih interaktif dan efektif di lingkungan sekolah.

Kata Kunci: Kompetensi Guru, Media Pembelajaran Interaktif

Introduction

Advances in information and communication technology (ICT) have brought about major and fundamental changes in the world of education. The use of technology is no longer merely a supplementary tool or an optional aid in the classroom; rather, it has become an essential requirement for creating an effective, innovative and student-centred learning process (Azizah dkk., 2024; Qohhar, 2026). In this digital age, the successful adoption of technology in schools depends heavily on the readiness of educators. In this context, Depita explained that teachers are required to possess strong competencies in integrating ICT into their teaching strategies (Depita, 2024). Effective integration aims to transform the presentation of abstract material into something more visual, engaging and easy to understand. Through this process, the classroom atmosphere becomes more lively, thereby stimulating motivation and increasing students' active participation throughout the learning activity.

As part of ICT, educational media play a vital role in helping teachers deliver content in a more systematic and engaging manner. According to Trikesumawati et al., the appropriate use of media can enhance pupils' attention, motivation and understanding of the subject matter (Trikesumawati dkk., 2025). Conversely, teaching that is still dominated by lectures without adequate media support often results in pupils being less engaged and quickly becoming bored during the learning process. Through the use of visual and interactive aids, concepts that were previously abstract and difficult to explain can be presented in a more concrete manner. Conversely, a learning process that remains dominated by one-way lectures without adequate media support tends to make students passive (M. F. L. Arsyad dkk., 2024; Mutia dkk., 2025). As a result, pupils become bored more quickly, are less actively engaged, and ultimately absorb information less effectively during lessons.

In the context of school digitalisation, Microsoft PowerPoint stands out as a practical yet highly promising learning resource. The application's key strength lies in its ability to integrate various multimedia elements such as text, visuals, audio, video and interactive hyperlinks—into a single platform. When teachers are able to use PowerPoint creatively, it ceases to be merely a digital whiteboard and becomes a dynamic teaching aid. This multimedia approach has been shown to reduce monotony in the classroom, improve pupils' concentration and active engagement, and support better learning retention.

This demand for technology-based learning innovation is also a key focus at SMP IBS Nurul Faizah, a boarding school-based educational institution located in Tutar Sub-district, Regency Pasuruan. This school offers an educational programme that combines the national curriculum, religious studies and the development of 21st-century skills, with a focus on creative, innovative and higher-order thinking skills (HOTS)-based learning. (*Higher Order Thinking Skills*). This situation

indicates that improving teachers' competence in the use of educational technology is essential to supporting the vision and development of educational quality in schools.

However, initial observations indicate a gap between the potential of the technology and its actual implementation in the classroom, with some teachers failing to make the most of PowerPoint as a teaching tool. The presentations used remain conventional in nature, dominated by dense, simple text, and are therefore not particularly effective at capturing pupils' attention visually. The main obstacle lies in teachers' lack of understanding of how to explore the advanced features within PowerPoint, such as hyperlink navigation, transition effects, contextual animations, and the inclusion of audio and video. Without the use of these interactive features, PowerPoint presentations merely serve as one-way digital whiteboards that are unable to stimulate active participation and a deeper understanding among students during the learning process.

In light of these issues, this community engagement initiative was carried out through training on the use of Microsoft PowerPoint as an interactive learning tool. The aim of this initiative is to enhance teachers' professional competence in designing, creating and developing engaging learning materials that are adaptable to technological advancements. It is hoped that this training will equip teachers with the technical skills to make the most of various interactive multimedia features independently. These skills are expected to provide a practical solution to combating student boredom, whilst also supporting the ongoing effectiveness and efficiency of the learning process in schools.

Method

This community service initiative took place at SMP IBS Nurul Faizah in Pasuruan in February 2026, targeting teachers involved in the teaching and learning process at the school. The participants comprised 15 teachers from various subject areas. The initiative was delivered using a participatory training approach (*participatory training*) which emphasises active participant involvement through the delivery of material, demonstrations, hands-on practice and guidance. This approach was chosen so that participants not only understand the material in theory, but are also able to independently apply their skills in creating interactive learning materials.

Before the activity took place, the community service team carried out preliminary observations and coordinated with the school to identify the participants' needs regarding the use of Microsoft PowerPoint in teaching. The findings of the observations showed that the majority of teachers were still using PowerPoint in a basic way and had not yet made optimal use of interactive features such as animations, hyperlinks, audio and video. In view of these circumstances,

The community service team developed training materials covering the concepts of interactive learning media, effective presentation design techniques, the use of animations and transitions, the insertion of images, audio and video, and the creation of simple quizzes using

Microsoft PowerPoint. The material was delivered through lectures, demonstrations and interactive discussions to help participants better understand the content.

Following the presentation of the material, participants engaged in hands-on practice by creating teaching materials tailored to their respective subjects. At this stage, the outreach team provided individual and group support to help participants overcome various technical challenges during the process of creating the learning materials. The activity was evaluated through observation of participants' levels of participation, assessment of the learning materials produced, and the distribution of a questionnaire to gauge participants' feedback on the training. The success of the activity was demonstrated by an increase in participants' understanding and skills. teachers in using Microsoft PowerPoint as an interactive teaching tool. The data from the activity were then analysed using qualitative descriptive methods to illustrate the improvement in teachers' competencies following the training.

Results and Discussion

Results

A training session on the use of Microsoft PowerPoint as an interactive learning tool at SMP IBS Nurul Faizah in Pasuruan was attended by 15 teachers from various subject areas. Based on the results of initial observations and a pre-test conducted prior to the training, the majority of participants were still using PowerPoint in a basic manner, limited to presenting material in the form of text and images without making optimal use of its interactive features. The participants' average pre-test score was 58. This situation indicates that teachers' understanding of the design of interactive learning materials still needs to be improved, particularly with regard to the use of animations, hyperlinks, audio, video, and the creation of interactive quizzes using PowerPoint.

The training was delivered through lectures, demonstrations, hands-on practice and mentoring. Throughout the programme, participants demonstrated active engagement in every training session. During the practical phase, teachers began experimenting with various PowerPoint features to create more engaging and communicative learning materials tailored to their respective subjects. The practical results showed that the majority of participants were able to develop learning materials that integrated text, images, animations, audio, video, and interactive navigation within a single presentation. In addition, some teachers have also successfully created simple hyperlink-based exercises to boost student participation in the learning process.

Based on the results of the post-test conducted after the training, there was an improvement in participants' understanding, with an average score of 84. This improvement indicates that a There has been an improvement in teachers' competence in using Microsoft PowerPoint as an interactive teaching tool. The results of the improvement in teachers' competence before and after the training can be seen in the following graph.

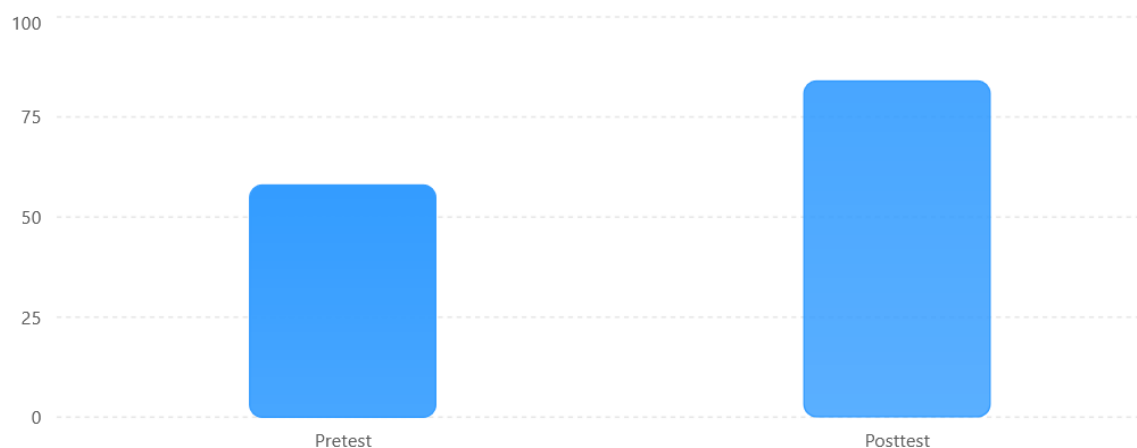


Figure 1. Comparison of Teachers' Pre-test and Post-test Scores

The results of the participant feedback survey also indicate that the training programme had a positive impact on teachers' skills in designing more creative and innovative learning materials. The majority of participants stated that the practice-based training methods and direct mentoring helped them to understand how to use PowerPoint's features more easily. Although the programme ran smoothly, there were a few challenges encountered during the training. Some participants still encountered difficulties in using the animation and hyperlink features due to their limited experience with educational technology. Furthermore, the limited duration of the training meant that not all participants were able to develop their learning materials to the full. To address these challenges, the community service team provided individual support and consultation sessions throughout the programme, ensuring that participants were still able to complete the learning materials they had created.

Discussion

The delivery of training on the use of Microsoft PowerPoint as an interactive learning tool has demonstrated an improvement in teachers' ability to create more engaging, creative and communicative learning materials. Prior to the training, the majority of teachers were still using simple, text-heavy presentation slides, resulting in a one-way learning process that did not sufficiently encourage active student participation. Following the training, teachers have begun to understand how to utilise various PowerPoint features such as animations, audio and video embedding, hyperlinks, and the creation of interactive quizzes. This improvement in skills is evident from the evaluation results, which show an increase in participants' average scores from 58

in the pre-test to 86 in the post-test. These data indicate that practice-based training has a positive impact on enhancing teachers' pedagogical skills in utilising learning technologies. The changes in teachers' competencies following the training can be seen in the following diagram:

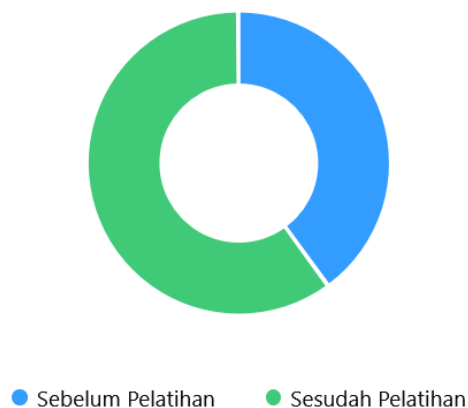


Figure 2. Comparison of teachers' competence levels before and after attending the training

This improvement was achieved because the training methods were not solely focused on the theoretical delivery of content, but also emphasised hands-on practice and intensive mentoring throughout the training process. Teachers were given the opportunity to try out various PowerPoint features first-hand, tailored to the needs of their respective subjects, thereby making the learning process during the training more practical. According to (Kartika dkk., 2021), Practical learning (learning by doing) can enhance the effectiveness of training because participants are actively involved in the learning process. Through this direct involvement, teachers find it easier to understand how to develop digital learning resources that are tailored to the characteristics of the learners and the learning objectives. This view is supported by (Doni dkk., 2024; Solechan dkk., 2023) which states that hands-on learning experiences will help participants to understand the material and develop their skills more effectively. In line with this, the training results show that teachers not only understand the concepts behind using PowerPoint, but are also able to produce learning materials that are ready for use in teaching and learning activities

In addition to improving teachers' technical skills, this training has also led to changes in classroom teaching methods. Prior to the training, the teaching materials used tended to be monotonous and lacked interactivity, meaning that pupils' attention levels would easily wane during lessons. Following the training, teachers began to incorporate visual elements, animations, audio, video and interactive quizzes, making lessons more engaging and interactive. These findings indicate that the use of interactive learning materials can create a more active and participatory learning environment. This is in line with the view that (Mayasari dkk., 2021; Rahman dkk., 2024)

which states that visual and multimedia learning materials can improve learners' attention, motivation and understanding of the learning material. The results of the training evaluation are shown in the table below.

Table 1. Changes in Teachers' Competencies Before and After the Training

Evaluation Aspects	Before the Training	After the Training
Proficiency in PowerPoint	Low	Good
featuresSlide design skills	Lacks variety	More interesting
Use of multimediaCreating	Rarely used	Being implemented
interactive quizzes	Not yet capable	Capable of creating
Teacher confidence	Quite low	Improving

The results of this study are also consistent with research (Afrida dkk., 2018; M. N. Arsyad & Ifianti, 2022) which indicates that training in digital learning resources can enhance teachers' creativity and pedagogical competence in managing technology-based learning. However, this community engagement initiative has the advantage of providing individual mentoring throughout the practical sessions, enabling participants to receive direct guidance when encountering technical difficulties. This approach makes the training process more effective. As explained by (Hamid, 2025) that learning through a mentoring model is considered more meaningful because participants not only understand the concepts but are also able to produce learning materials that are ready for use in teaching and learning activities.

Although the training has had a positive impact, the implementation of the programme still faces several challenges, particularly regarding differences in participants' initial proficiency with technology and time constraints. Some teachers still require additional support in using certain features in PowerPoint. Furthermore, a lack of supporting equipment also hinders the full implementation of practical activities. According to Mulyasa, the development of teachers' competencies requires an ongoing process through training and ongoing support to ensure that the skills acquired can be applied effectively in the learning process.

The training session on the use of Microsoft PowerPoint at SMP IBS Nurul Faizah in Pasuruan has made a positive contribution to enhancing teachers' pedagogical competence and digital literacy. This training not only enhances technical skills in creating interactive learning materials but also encourages a shift in the learning paradigm towards more innovative, creative, and technology-based learning. Consequently, this community service initiative has practical implications in supporting the enhancement of learning quality and teachers' readiness to face educational challenges in the digital age.

Conclusion

Training on the use of Microsoft PowerPoint as an interactive learning tool at SMP IBS Nurul Faizah in Pasuruan has had a positive impact on improving teachers' competence in developing technology-based learning materials. The training programme, which comprised lectures, hands-on practice and intensive mentoring, successfully enhanced teachers' understanding of PowerPoint features such as animations, audio, video, hyperlinks and interactive quizzes. The evaluation results indicate an improvement in participants' abilities, marked by an increase in the average score from 58 in the pre-test to 86 in the post-test.

This training also encourages a shift towards more interactive, creative and communicative teaching methods. Teachers no longer rely solely on text-based materials, but are beginning to utilise multimedia elements to enhance pupils' engagement and participation in the learning process. In addition to improving technical skills, this initiative helps to strengthen teachers' digital literacy and supports the development of technology-based learning within the school environment.

Although the implementation of the activities still faced a number of challenges, such as differences in participants' initial abilities and time constraints, overall this community service programme ran smoothly and provided tangible benefits for teachers. Consequently, follow-up measures in the form of further training and ongoing support are required to enhance teachers' ability to develop learning materials.

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