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Hybrid Learning Based Training for Elementary School Teachers in Improving Pedagogical Competence

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ABSTRACT

Competence possessed by teachers in carrying out educational activities is required to utilize ICT as a learning tool-education and training activities for teachers to improve competency. Educators can optimally utilize and use ICT as a learning aid, especially for educators in elementary schools. One of them is the use of ICT with the use of a learning management system (LMS). The study aimed to determine hybrid learning-based training for elementary school teachers in improving pedagogic competence. Implementing education and training activities for elementary school teachers was carried out at SD Negeri Sukasenang, Singaparna District, Tasikmalaya Regency. The target participants for this activity were elementary school teachers throughout Tasikmalaya Regency. Two hundred teachers from various sub-districts in Tasikmalaya Regency attended this training and education, divided into five classes. In this activity, there were 11 topics of training material, and each participant took part in 32 hours of lessons delivered using the hybrid learning method by utilizing a learning management system (LMS). The study results show that applying the LMS-based hybrid learning model of training and mentoring can be said to be effective. This is indicated by the level of attendance of participants in training and mentoring activities using LMS-based hybrid learning, the participants' understanding of the material provided, and the level of motivation of participants after participating in training and mentoring activities using LMS-based hybrid learning shows a good category.

1. INTRODUCTION

Teachers have an essential role in implementing educational activities; educational activities can only run optimally with teachers. As the frontline in the implementation of education in Indonesia, the success of a lesson is in the hands of the teacher (Tambrin, 2021; Yulianti et al., 2022). This shows that as an educator, the teacher has a role that can influence the achievement of learning objectives.

In carrying out educational activities, at least a teacher needs to have four competencies: personal competence, pedagogical competence, social competence, and professional competence. Pedagogic competence is a competency that characterizes explicitly and distinguishes the teaching profession from other professions (Bertschy et al., 2013; Hakim, 2015; Nur, 2014). Therefore, this pedagogical competence is crucial and essential for every teacher. The development of an increasingly advanced era cannot be avoided.

The development of education in the 21st century begins to be marked by the use of information and communication technology in the implementation of learning activities. This fast flow of technological developments in the education sector significantly impacts the accelerated development of systems that utilize Information and Communication Technology (Heru & Yuliani, 2020).

Learning management activities require creativity (Khofiatun & Ramli, 2016). Concerning the competencies teachers possess during the development of 21st-century education, teachers have their challenges. In this era, many teachers still need pedagogical competencies, especially skills in managing learning well, from designing learning activities and managing learning to evaluating and improving learning according to the times (Sudana et al., 2019; Sutrisni et al., 2022).

The professionalism and competence of teachers in carrying out educational activities require them to keep up with the times (Pramuditya et al., 2020). However, this becomes a challenge for teachers to make it happen. Not only the facilities and infrastructure for utilizing technology in educational activities are a factor, but the internal side of the teacher, such as skills and competencies, can also be a factor. Therefore, to create good quality teachers, especially those with qualified pedagogical competencies, can be improved by having a series of education and training activities for teachers (Lestari et al., 2021; Marentic Pozarnik & Lavric, 2015; Sanusi et al., 2020).

Elementary school is the initial level of education which can be very important for the development of students in the future. Even though information and communication technology is now widely used and impacts the world of education. This only partially means that every school, including educators, can optimally utilize and use ICT as a learning tool, especially for educators in elementary schools. One of the uses of ICT is a learning management system (LMS). LMS is software for managing teaching and learning activities that can accommodate teaching materials to learning evaluation activities and can be directly accessed by students (Bradley, 2021; Hernawati & Sunarto et al., 2022; Kraleva et al., 2019).

Field observations conducted by researchers show that many elementary schools still need to be able to make optimal use of ICT in schools. One of them is elementary schools in the Tasikmalaya Regency area. Many elementary school educators in Tasikmalaya District still need to become more familiar with the use of LMS amid the many uses of various LMS for educational and learning activities.

Based on the explanation above, training and education activities for elementary school teachers need to be carried out to increase their pedagogical competence. A learning management system (LMS) can be introduced in training activities carried out in a hybrid

learning manner. This is done because an LMS is needed to support hybrid learning activities properly (Eliveria et al., 2019; Johan et al., 2020; Sunarto et al., 2022). Thus, hybrid learning-based training activities for elementary school teachers must be carried out to support and improve pedagogic competence. With these education and training activities, educators in Tasikmalaya Regency can make the most of ICT in learning activities by utilizing this LMS.

Teacher competency development needs to be carried out to improve the quality of educator human resources. One aspect that needs to be improved is pedagogical competence. Pedagogic competence is a competency that involves the teacher's ability to manage learning activities, and pedagogic competence is an absolute competency that every teacher needs to have (Hakim, 2015; Murkatik et al., 2019; Sutrisni et al., 2022).

Pedagogic competence is also defined as the teacher's ability to implement learning theory and practice for students, which consists of learning planning activities, implementation, and evaluation of learning outcomes (Lestari et al., 2021). In practice, teachers with good pedagogical competence tend to successfully carry out learning activities in class, including using models, media, and learning resources (Khofiatun & Ramli, 2016). Based on this, this pedagogic competence is essential for a teacher to support the implementation of learning activities in the classroom and maximize learning and teaching activities together with students.

Six aspects of pedagogic competence need to be mastered by teachers, including competency in mastering and understanding the characteristics of students, curriculum development, mastery of learning activities including classroom conditioning, developing potential students, communication and assessment, and evaluation of learning outcomes (Nur, 2014). Mastery of the six aspects of pedagogic competence can affect how teachers act, including in communication, assessment, behavior, setting learning objectives, and implementing teacher aspects (Yulianti et al., 2022).

The development of information and communication technology and globalization, which is now entering the 21st century, has also caused changes in the world of education. One is the emergence of learning activities that begin to be implemented in a hybrid manner or hybrid learning. Hybrid learning comes from the word hybrid, which means mix, and learning, which means learning. Hybrid learning is a hybrid course term for learning activities combining face-toface and computer-based learning (Fatria & Husna, 2022; Putra et al., 2020).

Mixed learning or hybrid learning means that learning activities are carried out using a technological approach that combines learning resources that can be accessed offline or face-toface with instructors on computers, cell phones, video conferencing, or other electronic media (Manciaracina, 2020; Verawati & Desprayoga, 2019). Based on this, the learning media used in mixed learning involves technology and the composition of class attendance, which does not have to be face-to-face but can be combined with online learning that utilizes electronic media.

The role of the teacher in blended learning is significant because the management of learning is carried out using the help of computer technology. So that the ability of teachers as educators also needs to be honed with the ability to be literate in technology and information. With this blended learning, teacher skills are not only related to conveying learning content, but interpreters also need to develop computer-based learning resources and skills in accessing the internet (Anglum et al., 2020; Verawati & Desprayoga, 2019)

In this regard, the increase in pedagogic competence, especially in this era of all technology and information, can be obtained by teachers through education and training activities.

Training activities are an alternative that can be carried out to improve the quality of teachers as human resources in the educational environment so that they can become competent and effective people carrying out their duties according to their functions (Akhmadi, 2021; Muazza, 2021; Runhaar, 2017).

Implementing education and training activities for teachers can be carried out hybrid using the lecture method and demonstrations. This training activity for teachers, which is carried out in a hybrid manner, is carried out while still paying attention to the interaction between participants and trainers, accompanied by assistance from electronic media and the introduction of learning management systems to teachers. The interaction process between participants and trainers needs to be carried out in two directions because this is one of the crucial things in education and training activities. This interaction can provide effective results, and training can also increase teacher competence.

2. METHODOLOGY

Education and training activities for elementary school teachers are carried out at Sukasuka State Elementary School, Singaparna District, Tasikmalaya Regency. The target participants for this activity are elementary school teachers throughout Tasikmalaya Regency. Training activities were carried out face-to-face on November 29 2021, and online training activities were carried out in the first and second weeks of December 2021, followed by mentoring activities carried out in the third week of December.Two hundred teachers from various sub-districts in Tasikmalaya Regency attended this training and education, divided into five classes. In this activity, there were 11 topics of training material, and each participant took part in 32 hours of lessons delivered using the hybrid learning method by utilizing the Edunex learning management system (LMS).

Tabel 1. Training materials and delivery methods

No	Topic	Syncronous	Asyncronous
1	Development of online learning to improve the quality of education in remote areas	2	-
2	LMS Karya Anak Bangsa	4	2
3	Evaluation of Learning in elementary school	6	6
4	ICT Literacy and Learning Media	6	6
5	Classroom management in Elementary School	6	6
6	Writing scientific papers and publications	6	6
7	Learning Planning in Elementary School	6	6
8	Extracurricular Development in Elementary School	6	6
9	English	6	6
10	The basic concept of Art	6	6
11	The basic concept of Mathematic	6	6

The effectiveness of training activities is assessed based on four variables, namely: 1) Attendance of training participants, 2) Understanding of the material provided with the needs of participants, 3) Post-training participants' motivation, 4) Participants' perceptions of training activities. The instruments used to carry out evaluation activities on the four variables are the attendance list of participants both offline and online on the LMS, submission of assignments on the LMS page and evaluation questionnaire forms.

3. RESULTS & DISCUSSION

Based on the activities, the participants who participated in this training activity consisted of 200 elementary school teachers throughout Tasikmalaya Regency. Previously, 61% of the participants had never participated in training activities, another 38% had attended, and another 1% often participated in similar activities related to the hybrid learning training model using this Learning Management System (LMS). During the training and mentoring activities, the Learning Management System (LMS) operated was LMS Edunex. The evaluation of education and training activities found that as many as 100% of the participants had participated in education and training activities from start to finish, with 92% of participants having completed assignments in the Edunex Learning Management System (LMS) used in this training activity.

Figure 1. Materialization of LMS Karya Anak Bangsa

After the introduction of the Edunex Learning Management System (LMS) as the basis of the training activities, it was followed by teaching activities. Based on the results of the evaluation activities, the following data were obtained:

Tabel 2. Level of Understanding of Participants on Training and Assistance Materials

No	Level of Understanding	Percentase
1	Very Incomprehensible	2%
2	Do not Understand	2%
3	Enough	27%
4	Understand	47%
5	Very Understanding	22%

Based on the responses given, as many as 22% of participants really understood the training and mentoring material, 447% understood, and 27% said they understood quite well, and another 4% disagreed. Based on the table above, it can be concluded that the level of understanding of the participants regarding understanding the training and mentoring materials both carried out offline and online by utilizing this LMS can be well understood.

Figure 2. Elementary School Teachers in Tasikmalaya Regency Participants in the Training
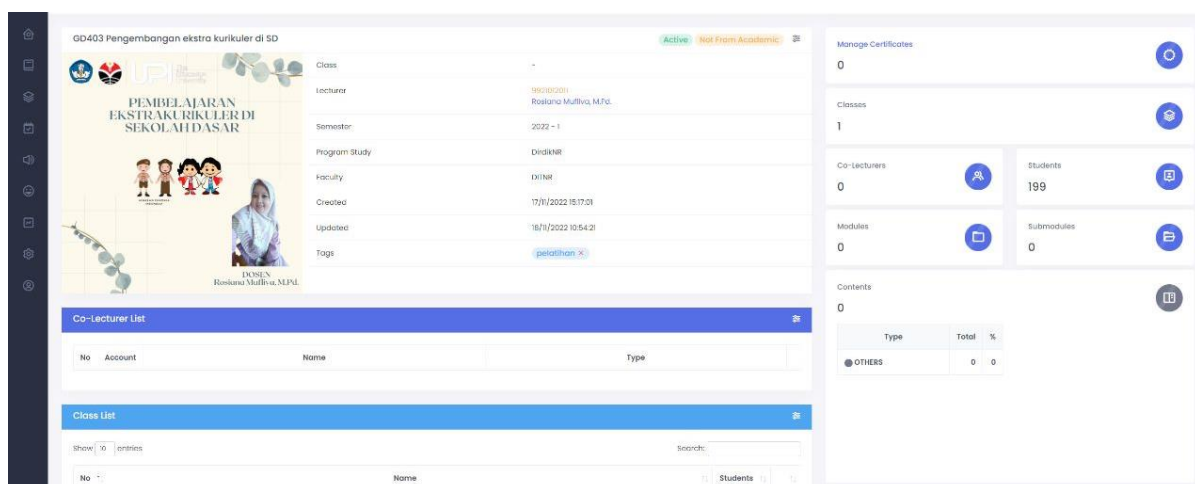

Figure 3. Training Subjects in LMS

The next aspect is the participants' motivation after participating in this training and mentoring activity. Based on the evaluation carried out, the motivation and level of confidence of the participants in carrying out their performance as educators can be seen in the table below:

Tabel 3. Level of Motivation and Confidence of Participants

No	Level of Understanding	Percentase
1	Very Not Good	2%
2	Not Good	2%
3	Enough	12%
4	Good	46%
5	Very Good	38%

Based on the table above, the participants felt more motivated and confident after participating in the LMS-based hybrid learning training and mentoring activities. The existence of motivation and the level of self-confidence can affect teacher performance in carrying out their duties (Mulang, 2021; Hidayat et al., 2020). So that there is a good increase in motivation after this training, and mentoring can mean that the teacher can carry out his duties well too. Next is the participant's perception of training and mentoring activities in LMS-based hybrid learning in achieving learning objectives. As many as 32% of participants strongly agreed that LMS-based hybrid learning training and mentoring activities could help achieve learning objectives, 46% agreed, 18% stated neutral, and others did not agree. Based on these results, training and mentoring activities in LMS-based hybrid learning can help elementary school teachers achieve learning goals.

Wasserman & Migdal (2019) research also shows the effectiveness of online training in improving teacher knowledge and skills. This reinforces the potential of this method in teacher professional development. In line with Bordoloi (2021) who links hybrid training to improving teacher performance. The increase in teacher knowledge and skills after hybrid-based training indicates the potential for increasing teacher performance. Nortvig et al. (2016) stated in their research that blended learning has a positive impact on understanding, but this depends on the context and is influenced by various factors such as design, assessment, and learner characteristics. In addition, the complexity of measuring learning outcomes in mixed environments emphasizes the need for a variety of assessment methods that are aligned with specific learning objectives (Zacharis, 2015). Furthermore, Zhang et al. (2021) reported positive perceptions of blended learning, including deeper engagement with the material and increased critical thinking, suggesting the potential for deeper understanding.

4. CONCLUSION

Applying the LMS-based hybrid learning and mentoring model can be effective based on the explanation above. This is indicated by the level of attendance of participants in training and mentoring activities using LMS-based hybrid learning, the participant's understanding of the material provided, and the level of motivation of participants after participating in training and mentoring activities using LMS-based hybrid learning shows a good category. As well as the participants' perceptions that the LMS-based hybrid learning training and mentoring activities can help them achieve their learning goals. Furthermore, to improve the

competence of educators in dealing with this era of all-around information and communication technology, education and training activities can be carried out with a model similar to the current training model through technological developments.

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