BLENDED-BASED TRAINING: IS IT EFFECTIVE TO IMPROVE TEACHER'S DIGITAL LITERACY COMPETENCE POST COVID-19 PANDEMIC IN KLATEN REGENCY INDONESIA?

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Abstract
Teachers are required to have literacy skills to provide quality education and effective learning processes after the COVID-19 pandemicbecause of the current educational paradigm. This study aims to measure the effect of blended-based training toward teachers' literacy competencies at the elementary school level which consists of basic literacy, digital literacy, visual literacy, and media literacy. This research was conducted at SD Negeri 2 SawitKlaten Regency, Indonesia. To achieve the objectives of this research, the research method applied was classroom action research which consists of planning, implementation, observation, and reflection. The subjects of this study were 7 teachers of SD Negeri 2 SawitKlatenRegency, Indonesia. The data collection technique was by individual test which carried out in the form of an assignment after attending training. The results showed: (1) The number of cycles in this study consisted of 2 cycles. (2) Increased literacy competence from first cycle to the second cycle by 18.54% with the average 83.86 by 100% completeness. So, blended-based training can improve teachers' literacy competence which consists of basic literacy, digital literacy, visual literacy, and media literacy.

Keywords: Blended-Based Training, Digital Literacy, Teachers' Competence

INTRODUCTION

Ungar &Hercu (2019) defines competent teachers are teachers who continue to improve their knowledge as teaching staff and improve teaching practices that lead to better student learning. Teacher knowledge needs to be increased through learning new things that can add insight to teachers' knowledge of changes such as curriculum changes, changes in student learning styles and characters. In addition, professional teachers are those who are able to adjust their behavior in the work environment, both in carrying out their main tasks and adapting themselves (Korthagen, 2016, and Li &Dervin, 2018). According to Abusomwan&Osaigbovo (2020) the professional competence of teachers consists of the ability to choose and apply teaching methods, strategies and techniques, the ability to manage effective classes, the ability to generate student motivation, the ability to measure learning outcomes, the accuracy of compiling and developing teaching materials effectively. Furthermore, Olohundare (2020) said that professional teachers are teachers who are totally dedicated to their work by preparing for learning, conducting learning with disciplined attitude, encouraging students to master the learning material better, making detailed notes on student development and paying attention to the difficulties which hinder students to study effectively.

Referring to the information above, 21st century teachers are required not only to be able to teach and manage student activities in the classroom effectively, but are advised to educate students in accordance with the demands of the 21st century (Ultay et al., 2021) and also required to be able to build relationships effectively with students and the school community, using technology to support improving the quality of teaching, as well as reflecting and improving learning practices continuously (Darling-Hammond, 2006). Teachers with 21st century skills tend to adapt to environmental conditions that are changing rapidly and tend to think flexibly and reflectively and produce creative and concrete solutions to the problems they face today (Nacaroglu, 2020). In addition, 21st century teachers consider the importance of working collaboratively by using effective communication and having the ability to use tools and information technology appropriately which are part of digital literacy skills.

Aspects of competence which must be possessed by teachers related to digital literacy are pedagogic competence, namely the use of learning technology, and social competence by using communication and information technology functionally (Asmoro et al., 2021). Improving the competence of digital literacy teachers provides support for online learning services which have a concept, where students can learn anywhere and anytime, and there are no space and time limits. Because all content and learning processes can be accessed using a laptop or smartphoneeasily, provided the laptop or smartphone device which connected to the internet. The competencies that must be mastered by teachers in the 21st century are the competence to seek and use information, the competence to

use and create media and the technological competence of the UNESCO ICT Competency Framework for Teachers (2021). Asmoro et al., (2021) stated that the ability of teachers to master information and communication technology can improve the quality of education services in the 21st century, especially in the midst of the Covid-19 pandemic.

Several research finding shows that the problems caused by the Covid-19 pandemic cannot be avoided and overcome due to the lack of available resources and low teacher competence, pedagogical knowledge and low mastery of technology (Adedoyin &Soykan, 2020., Alves et al., 2020 ., and Aydin-Guc&Baki, 2019). The transformation has revealed the limitations of schools how online learning carried out in schools, and what efforts are made to support existing deficiencies. The challenges which teachers face in teaching are revealed quickly so they need time and support to incorporate them into learning practices, and teachers will experience challenges in designing online learning so that students are able to follow the learning (Teras et al., 2020 and Carlo, 2021). Teachers who are over 45 years old tend not to be able to use various online learning support platforms because there is no preparation.

Technically, Covid-19 has also had an impact on students and parents while learning takes place from home. This situation is not surprising if the technology that is expected to be used by all students is not met, the difficulties experienced, the limitations of the devices that students have tend to be similar in various countries (Fitchen et al., 2021). The results of previous studies also show that there are many technical challenges that affect all students. The problems referred to in this case include internet connectivity, power outages, device technical support, and technical training (Dias et al., 2020 and Ro'fah, 2020). During a pandemic, family-owned computers and other support devices tend to be unavailable to post-secondary students because not a single family member is using them (Gillis & Krull, 2020). Online-based learning from home can be problematic because of the noise and distractions that occur at home (Top Hat, 2020). In addition, students may experience difficulties with Wi-Fi connectivity (Mupenzi et al., 2020). In fact, many studies have documented negative outcomes of distance learning for post-secondary students (Hagedorn et al., 2021).

Furthermore, based on the results of research conducted by Linda &Ngazijah (2021) revealed that the problems faced by teachers in Indonesia are teachers' lack of technology mastery, the power of smartphones that do not support downloading applications that support online learning, wasteful quotas, and difficult signals. Another problem is when teachers have to make materials and assignments that are easily translated by parents and students, teachers are more concerned with delivering material based on essential basic competencies, so that the competence of the school itself is not conveyed optimally. Teachers must be extra patient in dealing with misconceptions with students and guardians of students. Teachers must be able to communicate and coordinate well with parents and students both when delivering material and assignments, so that there are no misconceptions or miscommunications that cause misunderstandings, but over time they can adjust.

Referring to the problems explained above, the researcher assumed that increasing teacher digital literacy competencies needs to be done as soon as possible. Blended training is training which is carried out online using the help of a platform and face-to-face training (Pohan et al., 2021). Blended training is a teacher training activity that combines face-to-face training and self-development activities through the network (Hidayat et al., 2020; Ahmad et al., 2020; Ningsih et al., 2017). Blended training can increase participants' self-regulation and in the end can improve their final results effectively and efficiently (Usman, 2019). This is in line with research conducted by (Abdullah, 2018) which states that the blended-based training model can increase effectiveness in learning and training..

The results of research conducted by Saovapawhicadee (2017) shown that blended training was an effective way to achieve better results because it could improve skills through active participation in online classroom communities. This research shown blended training could improve content connectivity and interactivity among teachers in various modes of learning opportunities. With the use of technology support, the course will provide more collective knowledge and web-based applications on tasks outside of training that will benefit participants. Furthermore, research conducted bySubaidi et al., (2019) shown that blended training can improve teacher professionalism. This is because the application can help teachers in the training process in an applicative way in the learning process. Training provides flexibility where training can be carried out even though it is not in a face-to-face situation. Subsequent research conducted by Sujana et al., (2019) showed that blended training can increase learning effectiveness, expand learning reach, time and cost efficiency and improve final outcomes.

According to Spencer (1993) competence is an underlying characteristic of an individual that is casually related to criterion referenced effective and superior performance in a job or situation. This means that competence is a basic characteristic of a person that influences the way of thinking and acting, making generalizations to all situations faced, and surviving long enough in humans. Furthermore, Emron et al., (2017) state that competence is the ability of individuals to do a job correctly and have advantages based on matters relating to knowledge, skills, and attitudes. According to Fahrudi (2012), teacher competence is also the ability of a teacher to carry out his

obligations responsibly and appropriately. With this description of understanding, it can be concluded that teacher competence is the ability and authority of teachers in carrying out their teaching profession. Furthermore, Wahyudi (2012) teacher competence is the ability or ability of teachers to carry out their duties, carry out the teaching and learning process, the ability to have the knowledge and skills in accordance with.

Olohundare (2020) said that professional teachers are teachers who are totally dedicated to their work by preparing for learning, conducting learning with a disciplined attitude, encouraging students to better master the learning material, making detailed notes on the development of students and paying attention to the difficulties that prevent students from learning effectively. Teacher competence is experiencing changes in demands in this era of disruption, especially in the new normal era after the Covid-19 pandemic. According to Hussin (2018) teachers are guided to have 9 21st century skills fundamentally to suit the learning style of Z Generation, namely complex solving problems, critical thinking, creativity, human management, coordinating with others, emotional intelligence, judgment and decision making, service orientation, negotiation and flexibility cognitive.

According to Teale et al., (1986) literacy is the language ability possessed by a person in communicating such as reading, speaking, listening and writing in different ways according to their goals. If defined briefly, the definition of literacy is the ability to write and read. Furthermore, Kern (2001) states that the term literacy comprehensively is the use of practices in social, historical, and cultural situations in creating and interpreting meaning through texts. The above definition is in line with the Education Development Center (EDC) which defines literacy as a person's ability to maximize the potential and skills that exist within him. The scope of skills in question is not only reading and writing skills, but also includes the skills possessed by the individual.

In this study, researchers focus on discussing technological literacy (digital literacy). Can understand that digital literacy itself as one of the 21st century skills, digital literacy is a combination of various subtopics, including online learning, information literacy, digital competence and technology awareness, all of which contribute to learning for the development of useful skills (Wilson et al, 2018). Information and communication technology or in English called ICT is a breakthrough that more or less changes many aspects of human thinking. When compared to fields such as tourism, medicine, business, law, banking, engineering and architecture, the impact of ICT over the last two or three decades has been enormous (Siddiq et al., 2017). As elsewhere in the world, the integration of ICT plays a vital role in almost every aspect of life (Abdul Razzak, 2016).

There have been some conceptual changes in the notion of ICT in four main steps (Wilson et al., 2018). First, ICT is seen as a concentration of core knowledge and skills about computers and their use, incorporating into the concept of ICT literacy in the early years in the field. Second, this idea shifts to a view of ICT literacy as a broad set of skills that has links to many traditional and non-traditional school subjects, and moves to the integration of technology in education. Third, in the second transition, ICT literacy is expressed as a progress variable which is an important tool for curriculum design and assessment. The progress view illustrates the need to understand the initial ICT knowledge that tends to emerge followed by a developing mastery picture. Fourth, consider new views of ICT emerging from the impact of the network perspective on ICT as a critical need to build the power of virtual skills through proficiency with networks of people, information, tools, and resources. This is where a new framework for assessing students' ICT learning begins to be offered, based on a learning developmental point of view.

New possibilities enabled by ICT include flexible lifelong learning, increased knowledge sharing and social learning between peers and experts, and authentic learning experiences facilitated through simulation and virtual reality (So Yeon., Yoon Teng., & Bangkok, 2007). 2018). For this popular approach the importance of digital literacy can be defended by drawing an analogy with the importance of basic literacy skills in the past, lack of ICT literacy will be directly proportional to the same impairment as experienced by people without knowledge of the alphabet (Vlieghe, 2017).Blended training can increase participants' self-regulation and in the end can improve their final results effectively and efficiently (Usman, 2019). Blended training is a teacher training activity that combines face-to-face training and self-development activities through the network, (Hidayat et al., 2020; Ahmad et al., 2020; Ningsih et al., 2017). This is in line with research conducted by (Abdullah, 2018) which states that the blended training model can increase effectiveness in learning and training. Blended training is training that is carried out online using the help of platforms and face-to-face training (Pohan et al, 2021 &Bahri et al., 2020).

Blended-based training and blended-based learning are the same two, but the targets and participants who learn in the process of applying this concept are different. According to Hee Young Kang &Hae Ran Kim (2021), blended-based learning is a mixed educational strategy that combines active learning in the classroom and outside the classroom. Furthermore, Shantini et al., (2021) define blended learning to combine the best aspects of online learning, structured face-to-face activities, and real-world practice. Blended-based learning is an option for every educational institution to organize the learning process at this time because this learning concept integrates face-to-face learning with online learning (Lestari et al., 2021). Mixed learning (blended-based learning) directs students to

be able to have learning experiences between individuals and their environment in the form of interactions and students can be active in class discussions (Ma'rufa et al., 2021).

Chaeruman&Maudiarti (2018) synthesized that blended-based learning provides 3 important points, namely to provide access to learning anytime and anywhere by using technology. Integrating technological developments in response to technological developments. The right mix of synchronous and asynchronous learning settings. Chaeruman&Maudiarti (2018) explained that blended learning has three stages in its application, namely to seek information, seek information from various sources of information available independently asynchronously based on relevance, validity, content reliability, and academic clarity. Obtaining information finds, understands, and confronts them with ideas or ideas that are already in mind and then interprets information or knowledge from various available sources until they can re-communicate and interpret ideas and the results of their interpretation. Knowledge synthesis, construction or reconstruction of knowledge through the process of assimilation and accommodation starts from the results of analysis, discussion and formulation of conclusions from the information obtained. Returns and interprets interpretations of ideas and results in a synchronous virtual and asynchronous independent manner.Based on the theoretical constructing above, it can be concluded that blended-based learning and training is a training and learning concept that combines face-to-face learning directly in the classroom where teachers can interact with students and learn through the internet network with the help of learning platforms such as e-learning, websites, zoom meetings, and so on. Blended-based learning integrates the function of technology in training and learning as a form of development and facilitates the learning process under certain conditions.

RESEARCH METHOD

The design of this research was class action research type of individual action research. According to Sugiyono (2018), action research is a scientific way to obtain data with the aim of finding new problems and actions that can be used to solve problems, improve or improve work situations. To obtain effective and efficient action, the action is tested through several cycles, until a consistent action is found that can improve the situation. The following are the procedures of action research.

1. **Planning**

At this phase the researcher developed blended-based training guide in accordance with the provisions of the independent learning curriculum policy based on the national curriculm in Indonesia. In developing guidebooks and training materials, the researcher discussed with experts on how to develop the guidebooks and training materials.

2. **Implementing**

At this phase, activities are carried out through blended-based training. In this phase the researcher took mixed-based actions online and offline which consisted of face-to-face activities at SD Negeri 2 Sawit, Klaten Regency Indonesia and online activities through zoom meetings.

3. **Observing**

At this stage, activities are carried out simultaneously with blended-based implementation. The assessment is carried out during a blended process, so these two activities run at the same time. In this process, the researcher observes and records all things which needed and occur during the blended implementation.

4. **Reflecting**

This phase was carried out to find out thoroughly the actions that have been taken, based on the data that has been collected, then an evaluative decision was made to perfect the next action. Reflection in this action research included analysis, synthesis, and assessment of the results of observations of the actions taken.

This research was conducted at SD Negeri 2 Sawit, Klaten Regency, Indonesia. The subjects of this study were all teachers of SD Negeri 2 Sawit which consisted of 7 people. The data collection technique was an individual test which was carried out in the form of an assignment. The results of this study were processed using descriptive methods to determine the mean, median, mode, make class intervals and perform the presentation in the form of tables and graphs. The data were analyzed to explain the results of the actions given in each cycle I and II. The measure of the acceptability of this study was if the teacher's performance score reaches completeness of 80%, the teachers get score of 80.

RESEARCH RESULTS AND DISCUSSION

The results of this study were shown in the form of measurement results on teacher literacy competencies which include basic literacy competencies, digital literacy, visual literacy, and media literacy. The results of this research data processing include mixed-based training participants, environment, teachers, motivation and discussion activities, working on training tasks, online and offline class conditions and increasing teacher literacy competence, presenting graphs and tables of data analysis results showing The progress which occurs was accompanied by the results of systematic and clear data processing (Arikunto, 2006).

1. The First CycleResults

The results of observations in the first cycle using blended training completed in 4 meetings can be seen in the following table below.

Tabel 1 Results of Training Activities in First Cycle

No	Participant Name	Scoring Aspect				Everage
		Basic Literacy	Digital Literacy	Visual Literacy	Media Literacy	
1	Participant 1	65	62	66	60	63.25
2	Participant 2	65	60	63	62	62.5
3	Participant 3	60	65	67	67	64.75
4	Participant 4	70	75	71	70	71.5
5	Participant 5	72	71	72	70	71.25
6	Participant 6	65	60	63	62	62.5
7	Participant 7	65	59	64	58	61.5
	Average	66	64.58	66.58	64.15	65.32
	Highest Score	72	75	72	70	71.25
	Lowest Score	60	59	63	58	61.5
	Median	65	60	63	62	62.5
	Pass Percentage	28.57%	28.57%	28.57%	28.57%	28.57%

2. The Second CycleResults

The results of observations in the second cycle using blended training completed in 4 meetings can be seen in the following table below.

Tabel 2Results of Training Activities in Second Cycle

No	Participant Name	Scoring Aspect				Everage
		Basic Literacy	Digital Literacy	Visual Literacy	Media Literacy	
1	Participant 1	82	80	80	80	80.5
2	Participant 2	85	87	83	83	84.5
3	Participant 3	86	88	85	82	85.25
4	Participant 4	89	90	90	92	90.25
5	Participant 5	85	88	87	90	87.5
6	Participant 6	80	80	80	80	80
7	Participant 7	80	78	78	80	79
	Average	83.86	84.43	83.28	83.86	83.86
	Highest Score	89	90	90	92	90.25
	Lowest Score	80	78	78	80	79
	Median	85	87	83	83	84.5
	Pass Percentage	100%	100%	100%	100%	100%

3. Discussion

The cycle in this study consisted of 2 cycles because the results of the teacher's performance in the first cycle had not yet reached the indicators of the success of this study. The success of teachers as participants in this mixed-based training is measured by the teacher's mastery of the 4 types of literacy studied, namely basic literacy, digital literacy, visual literacy, and media literacy. The following table compares the results of the training to increase teacher literacy competence at SD Negeri 2 Sawit, Klaten Indonesia Regency in first cycle and second cycle.

Tabel 3 Comparison of Graduates of Blended Training Participants

Cycles	Pass Presentation		Scoring Aspect				Everage
	Pass	Not Pass	Basic Literacy	Digital Literacy	Visual Literacy	Media Literacy	
Cycle I	28.57%	71.43%	66	64.58	66.58	64.15	65.32
Cycle II	100%	0%	83.86	84.43	83.28	83.86	83.86

The third table above shows that the percentage of teacher literacy competence in first cycle is still low. This condition is evidenced by the average teacher literacy competency score of 65.32 where teachers who reach the

minimum score are only 28.57% and teachers who have not achieved the minimum scoreare 71.43%. Specifically, the basic literacy competence of teachers in cycle I was still low, where the average value of the trainees was 66 with a passing rate of 28.57%. The basic literacy competence of teachers has increased in second cyclewhere the average value is 83.86 with 100% completeness. The increase in the average value of the basic literacy competence of teachers is 17.86. Through blended training, teachers can improve their listening, speaking, reading, writing, and counting skills. In basic literacy, the ability to listen, speak, read, write, and calculate is related to the analytical ability to calculate, perceive information, communicate, and describe information based on understanding and drawing conclusions (Clay, 2001 and Klen, 2001). The results of the research above are in line with Subaidi et al., (2019) and Berga et al., (2021) where blended-based training can increase the professionalism of teachers to master learning technology.

In digital literacy competence, the training participants still have low digital literacy competence. The average value of teacher digital literacy competence is only 64.58 in first cycle. Students who achieve competency standards are 28.57%. The digital literacy competence of teachers has increased in second cycle by 84.43 where all training participants already have competencies that are in accordance with the standards and indicators set. The increase in teacher digital literacy competence from first cycleto second cycle is 19.85. Digital literacy competence can be interpreted as an ability consisting of aspects of science, critical thinking skills, and decision making in an effort to use technology and innovations made by humans effectively, especially in the world of education. In a mixed-based training process, trainees can collaborate with other participants flexibly both during training and after training. The results of this study are in line with the results of research by Bahri et al., (2020), Pohan et al., (2021), Aritonang&Safitri (2021), and Rahmawati et al., (2021) where blended training can be used to improve teacher competence.

The competence of teachers at SD Negeri 2 Sawit, Klaten Indonesia, is still low in visual literacy and media literacy competencies. However, the competence of these two types of literacy increased in second cycle where the average value of visual literacy competence was 66.58 and increased in second cycle with an average value of 83.28. While the average value of media literacy competence in the first cycle was 64.15 and increased to 83.86 in the second cycle. In general, all training participants were able to improve their literacy competencies after participating in blended-based training. In the training process, participants can share information, thoughts, and work effectively in online training. Participants can understand the training material after the training is completed. Saovapawhicadee (2017) revealed that blended training is an effective way to achieve better results because it can improve skills through active participation in online classroom communities. This research also shows that blended training can improve content connectivity and interactivity among teachers in various modes of learning opportunities (Anggraeni et al., 2019). The results of the research above are in line with the results of research by Hyoscyamania, & Al Karim (2021) where the application of mixed-based training can build positive attitudes to increase the level of resilience of teachers and students in the midst of a pandemic. Other studies have also shown that online training can actually be an effective method of educating or improving certain skills (Abdullah, 2018., Sudjana et al., 2019., Fadillah et al., 2021, and Pohan et al., 2021).

CONCLUSSION

Based on the results of the research and discussion above, the results of this study can be concluded that the teachers' literacy competencies of SD Negeri 2 SawitKlatenRegency, Indonesia have increased through blended-based training on each teacher literacy competency consisting of basic literacy, digital literacy, visual literacy, and media literacy. Increased literacy competence from first cycle to second cycle by 18.54% by the average 83.86.

SUGGESTIONS

Based on the results of the research and the conclusions above, the suggestion which recommend are: each school are required to implement the blended-based training to improve teachers' literacy competence which consists of basic literacy, digital literacy, visual literacy, and media literacy. The importance of this literacy competency is owned by the teacher because the change in the learning system from face-to-face to online-based learning will be an effective and efficient choice in the future.

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