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Enhancing Kindergarten Teachers' Competence through an Innovative Training Management Model

Ditta Manullang[1]*, Aman Simaremare[2], Darwin[3]
[1,2,3]Department of Education Management, Universitas Negeri Medan, Indonesia
ditta.manullang@kemdikbud.go.id

Abstracts: Importance of the Research: The success of digital learning is closely tied to improved learning performance, largely influenced by kindergarten teachers who employ effective teaching strategies and embrace digital learning. Objective: This study aims to analyze the effectiveness of an integrated digital literacy training management model, combining online training teachers and teaching practice teachers, in enhancing the pedagogical competence of kindergarten teachers. Method: A prospective cross-sectional interventional study was conducted with baseline and re-survey evaluations. Seventy participants were selected through simple random sampling. The training program lasted five days, focusing on digital literacy and teaching practices. Competence levels were measured using a structured questionnaire and analyzed through an independent t-test with SPSS software.Results: The statistical analysis revealed that the integrated digital literacy training management model significantly improved the pedagogical competence of kindergarten teachers, with a p-value of 0.001, indicating strong efficacy.Conclusion: Managing digital literacy training effectively helps to develop more targeted and measurable training objectives. This integrated model presents a practical alternative for enhancing the professional competencies of kindergarten teachers. Impact: The findings show that combining online training and practical teaching significantly boosts pedagogical competence, providing a valuable framework for strengthening early childhood education through professional development.

Keywords: Management Model, Teacher Training, Competence.

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A. INTRODUCTION

Pedagogical competency oversees student learning by comprehending students, organizing and executing educational experiences, assessing learning outcomes, and fostering students' ability to realize their abilities (Aulia, 2021; Husna & Mundiri, 2023; Putra et al., 2020). According to (Esteve-Mon et al., 2020; Skantz-Åberg et al., 2022; Susanto et al., 2020), Pedagogical competence is one of the four fundamental skills required of educators. Prior research indicates that inadequate pedagogical competency, as shown by a teacher's capacity to manage learning, results in insufficient development of children's values and character, contributing to key issues in students' success profiles.

Training management encompasses the administration of training programs, including the identification of training requirements, the planning of training designs, the selection of training methods, the preparation of training materials, the execution of training, the evaluation of training effectiveness, and the establishment of training follow-ups. Based on the explanation above, planning refers to the process of determining in advance what actions need to be taken. Meanwhile, implementation involves executing the planned activities while adhering to the predetermined guidelines. Evaluation, on the other hand, serves as a means to assess whether the training program has been carried out in alignment with the initial plan

and whether it has successfully achieved its objectives. Effective management ensures that the training runs efficiently and achieves the desired outcomes (Blanchard & Thacker, 2023; Eliyawati et al., 2023; Lawrence et al., 2022; Shrubsole et al., 2021).

Early Childhood Education is an initiative aimed at nurturing children from birth to six years of age, implemented through the provision of educational stimulation to facilitate their physical and spiritual growth and development, thereby preparing them for subsequent educational endeavors (Law Number 20 of 2003). Early childhood education is a pedagogical approach that prioritizes establishing a foundation for physical growth and development (coordination of gross and fine motor skills), cognitive abilities (intellectual capacity, creativity, emotional intelligence, spiritual intelligence), socio-emotional aspects (behavioral attitudes and religious beliefs), as well as language and communication, tailored to the distinct stages of early childhood development (Aman & Saragi, 2020; Armita et al., 2024; Harmi et al., 2022; Li, 2024; Rahmatullah et al., 2021).

In the digital age, educators must stay abreast of technology advancements; hence, beyond fundamental teaching competencies, additional abilities must be cultivated in teachers to fulfill their roles successfully as learning facilitators (Karakose et al., 2021; Sanusi et al., 2022). The findings of the study by (Lin et al., 2017) substantiate this assertion, indicating that the efficacy of digital learning enhances academic performance, significantly influenced by educators who employ effective teaching strategies and are amenable to utilizing digital learning tools. Educators must possess competence in didactic media, media ethics, media education, and media-related school developments throughout implementation (Küsel et al., 2020). Educators must develop competence in the field of general media in order to plan, implement, and reflect on the use of safe and adequate digital media for early childhood (Gjelaj et al., 2020; Mattar et al., 2022; Novella-García & Cloquell-Lozano, 2021).

One type of literacy that utilizes digital technology is digital literacy. According to the World Economic Forum 2018, teachers must have the ability to understand three keys to educational progress, namely competence, character, and literacy, which are currently needed (Ministry of Education and Culture, 2018) (Kebudayaan & INDONESIA, 2018). In line with that, the CEO of Microsoft Indonesia (2018) stated that in this digital era, teachers must be able to respond to the increasing sophistication of current technology, where teachers must be wise as the vanguard in implementing technology in the world of Education. Starting from teachers designing teaching materials more interestingly and creatively, the learning process follows developments and progress in the current era.

The problem is the unpreparedness of teachers to face technological changes, including the low ability of teachers to master technology, which is one of the challenges faced in the world of Education today. In Permendikbud no. 137 of 2014 concerning PAUD Standards, one of the indicators of teacher pedagogical competence is the utilization of ICT to organise educational development activities. The incapacity of educators to use ICT in education hinders schools from modernizing instructional resources. Technology may enhance the efficacy, efficiency, and enjoyment of teaching and learning activities for students (Permendikbud, 2014). This condition aligns with the research findings of (Hutagalung & Purbani, 2021; Pratolo & Solikhati, 2021), which state that teachers' digital literacy levels in Indonesia are still limited. (Redecker & Punie, 2017), in their research on the influence of digital

literacy in the education system in Europe, found that although many teachers have recognised the importance of digital literacy, its adoption in learning is still limited. Then (Valverde-Berrocoso et al., 2021), in their research on digital training for teachers in developing countries, stated in their research results that they found a gap between the expected digital skills and those possessed by teachers. The mapping findings from the United Nations Educational, Scientific and Cultural Organization (UNESCO) indicate that just 14% of educators can proficiently use and implement information technology. This situation is alarming and indicates a lack of proficiency among educators in Indonesia.

Teachers in most regions of Indonesia also experience this digital divide. A survey by the Central Statistics Agency (BPS) of 4,014 schools spread across 34 provinces found that the proportion of teachers with ICT qualifications for all levels of Education was only 10.10 per cent (BPS, 2018). Meanwhile, the percentage of students who access the Internet in schools for all levels of Education was recorded at 33.67 per cent. Differences in data criteria and the proportion of information technology users cannot cover the gap in skills in using and accessing information technology owned by teachers and students.

Technological developments also impact Education. Various digital teaching resources, known as e-resources, are abundantly available online. The digital era provides various online information, both verified and unverified (Diputra et al., 2020). Therefore, a strategy is needed to trace information sources so that the information obtained is appropriate to needs, valid, and can be accounted for. The problem is that teachers use this information as a reference for developing learning resources or compiling their learning tools without further investigating whether the information has been verified. This is because teachers do not have the technical ability to search for information sources on the Internet and do not have adequate digital literacy Furthermore, the results of (Muharmi, 2022; Nurhayati et al., 2024) show that the use of digital-based media in learning is minimal due to teachers' limited ability to create digital-based learning media

Based on the results of an exploratory study conducted in several kindergarten units (Kindergartens) in Medan City, it is known that computers/laptops have not been used to create digital learning media that can be used in the learning process. This is because teachers have never participated in training to improve their competence in creating digital learning media. Then, there are still teachers who are less creative in providing learning media, which are the work of teachers that can be used in the learning process. The learning media used are only photocopies of images. In addition, teachers also use the Internet to search for sources of information and increase their knowledge about learning in kindergarten. However, when getting information regarding learning media, teachers cannot yet imitate and modify, which is correlated with the characteristics or learning needs they will implement. This is because teachers have never participated in training in creating digital learning media.

The integration of technology in the educational process may provide advantages in fostering overall child development as well as enhancing specific cognitive skills. According to research by (Hsin et al., 2014), children engaged in technology-mediated learning generally exhibit positive effects on cognitive, social, emotional, and physical development. Out of 94 participants, only two children experienced negative cognitive impacts, and one child faced a negative social impact. The research indicated significant favorable effects on children's

cognitive capacities in language, reading, mathematics, science, digital literacy, and other domains. Research by (Bulut et al., 2022; Xiong et al., 2022) indicates that the use of digital educational games as an instructional tool may enhance cognitive skills, namely the thinking capacities and creativity of early childhood learners in an engaging manner.

This study aims to evaluate the efficacy of the integrated digital literacy training management model (for online training teachers and teaching practice teachers) in enhancing the pedagogical competence of kindergarten educators, based on the findings from the exploratory and literature reviews conducted above. This study's novelty lies in the implementation of a digital literacy training management paradigm inside kindergarten teacher education and training. The results of this research are anticipated to serve as a digital literacy training model to enhance kindergarten teachers' competence in delivering services to preschool children.

B. METHODS

We conducted a cross-sectional prospective intervention study with baseline and repeat surveys to analyse and analyse the effectiveness of a digital literacy training management model in improving the pedagogical competence of kindergarten teachers. The digital literacy training management model training was conducted for 3 days. This study's population consisted of kindergarten teachers in Medan City from 21 sub-districts (N=1593). The sample in this study was selected purposively with the following criteria: kindergarten teacher education is a bachelor's degree. The sample that became research participants amounted to 70 people who were given digital literacy training by the established criteria. The research process in the intervention group was carried out using lectures, role play, practice and discussion methods. Researchers prepared the training curriculum and syllabus—digital literacy, which was tested in small groups.

In carrying out training activities, BBGP North Sumatra Province is guided by the regulations and policies of the PAUD Directorate, and the main focus in developing the Competence of kindergarten teachers is still tiered training for kindergarten teachers. After that, the BBGP North Sumatra work team will form a training committee and determine the place, training schedule and training participants. Usually, training activities are carried out at a hotel or in the BBGP North Sumatra Hall, with participants staying for 5 days. Participants must obtain approval from the Principal because they must leave learning for 5 days. The training session usually begins with an introduction, material provision by a resource person/tutor, and a closing.

Researchers developed training modules on digital literacy and designed digital literacy training management before implementing the intervention. To evaluate the training's effectiveness, a pre-test was conducted prior to the training, followed by a post-test one month after its completion. The assessment measured the competence of kindergarten teachers using a researcher-developed questionnaire that had undergone validity and reliability testing. Internal consistency was tested using Cronbach's alpha, yielding a result of 0.895. The questionnaire, comprising 20 questions, assessed knowledge, skills, understanding of the Canva application, and the ability to create educational videos. Knowledge-based questions were scored with five points for each correct answer and zero for incorrect responses, with a

maximum possible score of 100. To evaluate the training's impact, four aspects were assessed: (1) reaction, (2) learning, (3) behavior, and (4) results. Data analysis was performed using IBM SPSS version 25. Descriptive statistics were used to analyze participant characteristics, with results presented as mean ± SD. The effectiveness of the digital literacy training management model was examined using the Paired Test statistical method, with significance set at P-value < 0.05 (Kim & Park, 2019; Manfei et al., 2017).

C. RESULTS AND DISCUSSION

RESULTS

1. Digital literacy development paradigm for kindergarten teachers

The training that kindergarten teachers have attended, in general, is the Graduated Training for PAUD Teachers, and kindergarten teachers have never attended training themed on the use of ICT in learning. This was expressed by the Chairperson of the Indonesian Kindergarten Teachers Association, who is also the Principal of a Kindergarten in Medan City, as follows:

> *So far, the Training Organizing Institutions have generally held Leveled Training for PAUD Teachers and Curriculum Preparation Training. Therefore, many kindergarten teachers have participated in levelled training for PAUD teachers. However, training aimed at improving teachers' ability to use ICT or digital learning media in schools has never been implemented by LPD, be it HIMPAUDI, IGTKI, the Education Office, or BBGP North Sumatra.*
>
> *One of the Principals of Medan City Kindergarten: My teacher usually uses a laptop/computer to make RPPH and syllabus or to compile various reports or documents such as learning outcome reports, student attendance lists, and individual child development reports. The teacher has also used a laptop/computer to make learning videos, PowerPoint presentations, or online games. Usually, teachers only use laptops to play videos of healthy and happy children's gymnastics and regional dance videos to introduce children to regional dances.*

Kindergarten teachers usually use computers/laptops to create RPPH and syllabus or to compile various learning reports. Using laptops/computers to create digital learning media has never been done. This was expressed by the Principal of a Kindergarten in Medan City as follows:

> *My teacher usually uses a laptop/computer to create the RPPH syllabus or to compile various reports or documents such as learning outcome reports, student attendance lists, and individual child development reports. The teacher has never used a laptop/computer to create PowerPoint presentations, so PowerPoint points only use laptops to play videos of healthy and happy children's gymnastics and regional dance videos to introduce children to regional dances.*

Kindergarten teachers cannot produce innovative and interactive learning media such as interactive games, engaging presentations with PowerPoint presentations, and learning videos perper the learning theme. In general, teachers use Worksheets containing pictures and numbers or letters to be worked on by students as a learning medium to recognize and recognize numbers and letters. This was expressed by a Kindergarten Teacher in Medan City as follows:

> *Every morning, I usually ask children to memorize letters and numbers. At the beginning of the lesson, I invite children to count numbers 1-50 or read the letters I write on the board. Then, I distribute worksheets to the children to do activities such as connecting numbers with letters, counting the number of pictures in the worksheet, and colouring pictures. I have never compiled interactive learning media myself because I have not been able to use PowerPoint or Canva to create learning media for kindergarten children.*

Kindergarten teachers can operate Microsoft Office programs because they have taken computer courses during college. Therefore, teachers use laptops/computers for daily child development reports, attendance lists, RPPH, and syllabi. Use the Internet to search for sources of information related to learning in kindergarten. If there is an interesting YouTube video about children's learning in kindergarten, for example, introducing numbers and letters with learning videos, teachers use it for classroom learning. This was expressed by one of the kindergarten teachers in Medan as follows:

> *I once took a computer course for Microsoft Office programs in college. I usually do it myself for administration at school, and I usually do the RPPH, syllabus, and child development reports. I often use the Internet to get information related to learning in kindergarten, for example, activities to form various objects from origami paper and various kinds of beading and batik activities for kindergarten children's play activities. I also often use videos on YouTube to learn in my class. Usually, children are enthusiastic when learning using videos; they recognize numbers and letters faster by using learning videos because the appearance of YouTube videos is fascinating.*

The forms of training that have been held by BBGP North Sumatra Province, as conveyed by Kindergarten teachers who have participated in the training, are as follows:

> *The training that I have attended as a participant invited by BBGP North Sumatra Province is the same as training in general carried out by the Medan City Education Office; my Principal assigned me to be able to attend the training through an invitation sent to the Principal by BBGP North Sumatra. The invitation explains the day/date of the training, training location, training schedule, materials, and participant requirements. Usually, participants are not allowed to bring family members when attending the training even though the training time is long; it can be up to 5 days. So I have to leave my family and also my students; usually, if there is a training activity that is quite long, my fellow teacher and the children who replace me in my class are put together in one class by a fellow teacher because our kindergarten lacks teachers.*

Training activities have been carried out so far without an analysis of the needs of the training participants. Training participants are determined directly by the organizer's organizers by inviting training participants to come to the training location and leaving their duties with the programmed training materials is also a complaint from other kindergarten teacher respondents; here is an excerpt from the interview:

> *Before the training activity, the organizers never asked us about our learning problems. I was happy to be able to attend the training organized by BBGP North Sumatra because I could meet other kindergarten teacher friends and share new experiences and knowledge. However, I also wanted to develop more innovative learning in my class. I often see kindergarten teachers in Java on my social media who have become celebrities using learning media, such as interesting*

learning videos for kindergarten children. I want to attend training specifically for making learning videos so I can use them for my children at our school.

From the information above, it can be concluded that learning in kindergartens still follows traditional methods, with technology limited to administration and playing learning videos. Teachers' ability to utilize ICT to create digital learning media is still relatively low, even though they have an interest in learning. The training attended by teachers is more related to tiered training without considering the specific needs of digital literacy. Kindergarten teachers expect more effective training in utilizing time so that they do not leave their duties as teachers for long; in addition, participants also hope to receive training to improve their ability to compile learning videos to present in classroom learning with students. Teachers also expect a training model that aims to solve their problems in learning related to presenting more interesting and innovative learning in kindergartens.

2. The Influence of Training Management digital literacy to improve the pedagogical Competence of kindergarten teachers

The influence of digital literacy training management was carried out with 70 training participants. The following explains the pretest and post-test results:

Table 1. Effectiveness of training for Kindergarten Teachers based on digital literacy

Variables	Average± SD	Max Score	Min Score	p-value
Competence				
Before	44.00± 8,952	30	70	0.001
After	79.36± 5,379	60	90	
Difference	35.35± 9,220			

Referring to the table above, the average pre-test score for teacher competency was 44, with the lowest score recorded at 30 and the highest at 60. In contrast, the post-test results showed an increase, with an average score of 79.36, a minimum score of 70, and a maximum of 90. Furthermore, Tables 2 and 3 present the analysis results of the N-Gain Score test conducted on training participants. The N-Gain Score, or normalized gain test, is used to assess the effectiveness of the digital literacy training management model in enhancing the pedagogical competence of kindergarten teachers in Medan. For a clearer illustration, the distribution of the average N-Gain is presented descriptively in the following table.

Table 2. N-Gain Distribution

Interval	Limited Trial		
	F	Percentage (%)	Percentage Cumulative (%)
< 40	0	0	0
40-55	0	0	0
56-75	30	42.86	43
> 75	40	57.14	100
Total	70	100	

Source: Pretest and Post-Test Data Processing Results

Based on the table above, it is known that the number of respondents was 70 people. No teachers obtained an N-Gain Score <40 and an N-Gain Score between 40-55. There were 30 teachers, or 42.86%, who obtained an N-Gain Score between 56-75. Moreover, 40 teachers, or 57.14%, obtained an N-Gain Score> 75. It can be concluded that the digital literacy training management model effectively improves the pedagogical Competence of kindergarten teachers.

Table 3. Distribution of N-Gain Score

	N	Minimum	Maximum	Mean	Std. Deviation
N-Gain Score	70	0.56	1.00	0.7680	0.11485
N-Gain Percent	70	55.56	100.00	76.6391	11.55415
Valid N (listwise)	70				

Source: Pretest and Post-Test Data Processing Results

The N-Gain Score test results obtained 0.77 ≤ g ≤0.7, so the N-gain value is included in the high category (Hake, 1999). Furthermore, the N-gain category in the form of a percentage obtained a value of 76.64%, which means that the training management model effectively improves the pedagogical Competence of kindergarten teachers.

3. Results of Observations of Teaching Practices

The following is a recapitulation of the results of observations of teaching practices carried out by training participants using digital learning media in the form of learning videos:

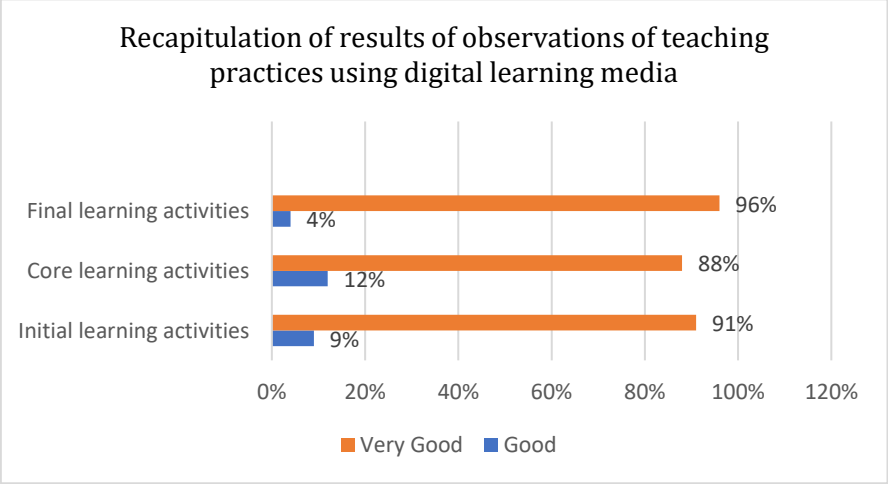

Figure 1. Recapitulation of the results of observations of teaching practices using digital learning media.

In the picture above, it is known that 9% of training participants carry out initial learning activities with a suitable category, and 91% of training participants carry out initial learning activities with an outstanding category. In the core learning activities, 12% of training participants use learning videos well, and 88% carry out core learning using learning videos

very well. While in the final learning activities, 4% of training participants carry out final learning activities well, and as many as 96% of training participants carry out final learning activities very well. The table above shows the results of the post-test obtained by the training participants. The average score of the teacher competency post-test was 79.36, with a minimum score of 70 and a maximum score of 90. Based on the observations of training participants who have learned to use learning videos well, digital literacy training certificates can be given to 70 participants because the training participants have increased their pedagogical Competence.

4. Evaluation of Digital Literacy Training Management Model for Kindergarten Teachers

When reviewing the teaching practice activities by training participants after attending the training, the results were that 91% of training participants carried out the initial learning activities with a very good category, and 88% of training participants carried out the core learning using learning videos very well. In the final learning activities, 96% of training participants carried out the final learning activities very well. The data from the training model assessment results by the training participants are used to determine the participants' responses to the developed training model. The following are the results of the training model effectiveness assessment:

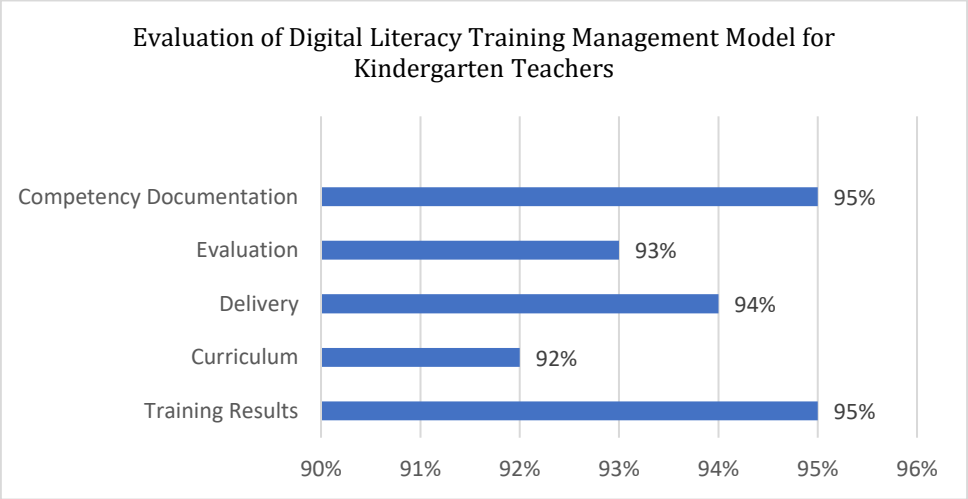

Figure 2. Assessment of the Effectiveness of the Digital Literacy Training Management Model

Based on the picture above, it can be seen that the assessment of the training results aspect obtained a score of 95% with an outstanding category. In the curriculum aspect, it obtained a score of 92%, with an outstanding category. In the delivery aspect, it scored 94%, with an outstanding category. In the assessment aspect, the score was 93%, with an outstanding category. The competency documentation aspect scored 95%, with an outstanding category. The average score for the training model assessment was 93%, with an outstanding category. Thus, it can be concluded that the training model developed received a very good response from training participants. Next, the questionnaire was distributed to the training participants to determine the effectiveness of implementing the digital literacy training program according to the perceptions of the training participants. The following are the results of the assessment of the effectiveness of the digital literacy training program:

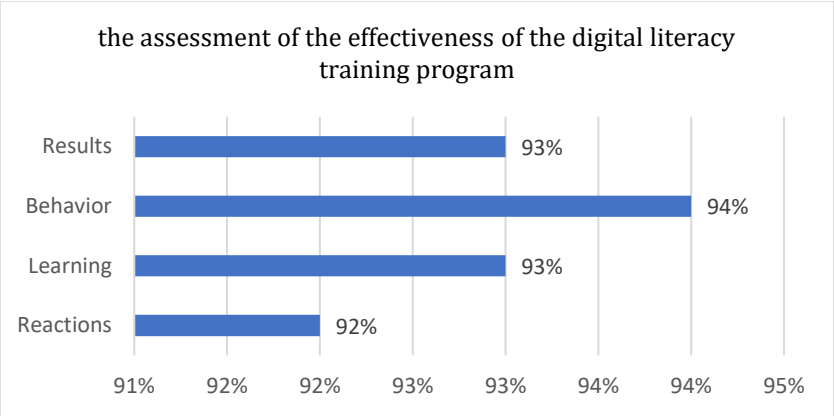

Figure 3. Assessment of the Effectiveness of the Digital Literacy Training Program

Based on the image above, it can be seen that the assessment of the reactions aspect obtained 92% with an outstanding category. In the learning aspect, it obtained an average score of 93% with an outstanding category. In the behaviour aspect, it obtained an average score of 94% with an outstanding category. In the results aspect, it obtained an average score of 93% with an outstanding category. The average score of the training evaluation was 93, with an outstanding category. Thus, based on the assessment results, it can be said that the digital literacy training program, according to the perception of training participants, is very effective.

DISCUSSION

1. Digital literacy development program paradigm for kindergarten teachers

Currently, learning in kindergarten still adopts conventional methods, where technology is limited to administrative purposes and learning videos are played. Meanwhile, the ability of teachers to utilize information and communication technology (ICT) to create digital learning media is still relatively low. Many teachers have shown interest in improving their skills in this field. However, the training they attend tends to focus on tiered training and does not explicitly discuss digital literacy according to their needs. In addition, the training program organized by BBGP North Sumatra has not fully considered actual conditions in the field. In terms of material and format, the training is still not flexible enough and is not in line with the needs of the participants. Hence, its effectiveness in improving the Competence of kindergarten teachers in digital literacy is still limited.

Researchers created characteristics of a digital literacy training management model to improve the pedagogical Competence of kindergarten teachers, namely: (1) This model aims to improve the pedagogical Competence of kindergarten teachers in utilizing digital technology, especially in compiling and using digital learning media, namely digital-based learning videos; (2) The Digital Literacy Training Management Model adopts five stages of the training model developed by (Goad, 1982), namely analysis, design, development, implementation, and evaluation. Then, this model is integrated with the approach of online training teachers and teaching practice teachers, where teachers take part in digital literacy training and then implement the knowledge gained into classroom learning. (3) This Digital Literacy Training Management Model also uses the flipped classroom approach (Bergmann

& Sams, 2014) in implementing its training, where training participants study the material independently before the class session (pre-class). The class session (in-class) focuses on discussion and problem-solving through Zoom meetings and practice making learning videos guided by a facilitator. This approach was chosen because it increases participant engagement in online training sessions and the effectiveness of time use (Hew & Lo, 2018; Rotellar & Cain, 2016). (4) The Digital Literacy Training Management Model has good quality training inputs including Participants are kindergarten teachers who have fundamental laptop skills and a high commitment to completing the training, facilitators have a minimum education of S1 Informatics/Informatics Engineering, have experience teaching digital literacy, and master the training materials, training materials are adjusted to the pedagogical competencies of PAUD teachers as stated in Permendikbud No. 137 of 2014 concerning PAUD Standards, validated training devices consist of training modules, training guidelines and digital literacy training model books.

Practical training depends not only on the method used but also on the quality of training input. This is according to the theory put forward by (Nadler, 1982), which states that training based on quality input will produce a more effective learning process and increase participant competence. In line with Nadler's theory, the research results from (Kirkpatrick, 1998) also stated that high-quality training increases participant satisfaction, understanding, and application of material in work. (Celis-Morales et al., 2012) stated that quality input training will improve participant skills and performance more effectively. (6) The Digital Literacy Training Management Model improves competence ienting torientedeal products where the. This model aims to improve the pedagogical competence garten teachers using digital media, not just theory. With training output, teachers can make their learning videos using the Canva application, and after that, teachers can apply learning videos in the classroom to improve teaching effectiveness. This is in line with what was conveyed by experts (McClelland, 1998), (Gagne, 1970), and (Spencer & Spencer, 2008), who stated that training must be competency-based so that participants indeed master skills that can be applied in the workplace. Digital Literacy Training is also oriented towards Real Products, and this is according to the opinions of experts (Stewart et al., 2013), Kolb (1984), and Trowler (2003), who stated that training that produces real products is more effective because participants can apply their skills directly in the workplace or everyday life.

2. Effectiveness of Digital Literacy Training Management Model to Improve Pedagogical Competence of Kindergarten Teachers

The effectiveness of the digital literacy training management model in enhancing teachers' cognitive competence is evaluated based on four key aspects: (1) The average N-Gain Score for the field trial was 76.64%. Since the g-value > 55% falls into the practical category, it indicates that the digital literacy training management model is effective in improving the pedagogical competence of kindergarten teachers in developing and utilizing digital learning media. (2) The Wilcoxon test results showed an Asymp. Sig (2-tailed) value of 0.001 and a Z value of 7.07 in a broad field trial. This suggests a significant improvement in the pedagogical competence of participants in designing and implementing digital learning media in kindergarten. (3) Participant feedback on the training model's effectiveness showed an average

assessment score of 94%, categorizing it as outstanding. This indicates that the developed training model was well-received by the participants. (4) Regarding the implementation of the digital literacy training program, participants rated it highly, with an average evaluation score of 93, also in the outstanding category. This suggests that, based on participant perceptions, the training program was highly effective.

The findings of this study strengthen the theory that a model can be considered effective if the average value of n gain reaches at least≥ 70 (Hake, 1999; Hussin & Hamdan, 2016). In the context of training management effectiveness, a training program is considered adequate when the results of the training implementation are in accordance with its objectives (Blanchard & Thacker, 2023; Pratomo & Shofwan, 2022). This study's improvement of teachers' pedagogical Competence strongly supports (Avalos, 2011; Choi & Kang, 2019). The theory states that implementing training programs is integral to school human resource management. This study is also supported by research from (Zhang, 2023). This article evaluates the digital literacy of English as a Foreign Language (EFL) teachers and examines the differences in digital literacy based on factors such as gender, education level, and teaching experience. The findings indicate that contextual factors play a significant role in the development of teachers' digital literacy, which in turn affects their teaching effectiveness. The findings of (Temirkhanova et al., 2024) further support this study. Their research explores the development and impact of digital literacy skills among teachers at Astana International School, Kazakhstan, and how these skills influence the teaching of Computer Science and Design to high school students. The results show that teachers trained in digital literacy can create a more interactive and engaging learning environment, enhancing students' technical skills and creative capacity. Additionally, research by (Dewanto et al., 2024) investigates the influence of digital literacy, innovative attitudes, and interpersonal communication on teachers' performance. The findings suggest that digital literacy and innovative attitudes directly affect teachers' performance, highlighting the importance of digital literacy training in improving teaching effectiveness. Research results from (Sudarti et al., 2022) showed that the average pretest score was 46.27, while the average posttest score increased to 88.91. These findings indicate that digital literacy training has improved teacher competence. The availability of adequate facilities and infrastructure and support from each educational institution supports the success of this training. In line with the research results above(Marnita et al., 2023), research shows that teachers' digital Competence plays an important role in increasing the effectiveness and efficiency of learning management. The digital literacy skills teachers possess can build student enthusiasm and create harmonious interactions between teachers and students in the classroom. This significantly impacts thematic learning, especially in science subjects, which are often considered more challenging for students. Research from(Záhorec et al., 2019)This study evaluates the importance of utilizing digital media and various interactive educational activities in the teaching process to improve educational efficiency. The significance of using this technology is analyzed from various aspects of the learning process. The evaluation is carried out by reviewing certain aspects of the teaching process based on the contribution of digital media, which are obtained through collecting opinions from teachers. This analysis also considers the segmentation factor of educators' subcategories and the length of their teaching experience.

Online Learning Teacher: Participants take part in training to improve their pedagogical Competence without having to leave their place of duty and with a training implementation time that is not long if classically carried out for 8 hours in a day, but if with online training, it is carried out for 1 hour 45 minutes online/synchronously, and for asynchronous it is carried out with time given freedom to training participants to study the material that has been given first. Then, after completing the online training, there is a follow-up to the participants' training results, and they are asked to apply the training results in kindergarten learning. In this Teaching Practice Teacher activity, training participants use the products they produce during the training, namely Learning Videos, to be used during learning together with their students. 2) Places that have never been studied before, namely, the research was carried out in kindergarten schools where research on the development of kindergarten teacher competence in compiling and using learning videos has never been studied before.

D. CONCLUSION AND SUGGESTIONS

The positive response given by participants to the effectiveness of the Digital Literacy Training Management Model and to the evaluation of the implementation of the digital literacy training program, namely the average score for the training model assessment of 94 and the average score for the training evaluation obtained a score of 93 with an outstanding category. The pedagogical Competence of training participants in compiling and using learning videos that have increased can be reviewed from: First: The N-Gain acquisition of participants at the end of 76.64% in the practical category and the Asymp. The sig value (2-tailed) is 0.000, and the Z value is 7.07. It can be interpreted as a result of digital literacy training participants increasing their pedagogical competence in compiling and using digital learning media in kindergarten. Implications: The Digital Literacy Training Management Model can improve the pedagogical Competence of kindergarten teachers and can be used as an alternative choice of training that is carried out online so that it dramatically helps kindergarten teachers improve their Competence without having to leave their jobs as teachers.

To train managers and resource persons who are trying to improve teachers' abilities in using the Canva application to create learning videos in order to present enjoyable learning in kindergartens according to the material that the teacher has prepared in the learning design, the digital literacy training model to improve the pedagogical Competence of kindergarten teachers can be used as an answer to this problem.

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