

Research Article

Training to Create Teaching Media for Preschool Teachers Based on Visual Communication Technology

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ORCIDFerry Darmawan: <https://orcid.org/0000-0002-3095-1697>**Abstract.**

The advent of the Industrial Revolution 4.0 and its subsequent transition to the Society 5.0 era necessitates that PAUD (Early Childhood Education) teachers enhance their knowledge and skills in Communication Technology. To meet this demand, teachers are encouraged to create their own teaching media using visual communication technology instead of relying solely on pre-existing products, such as storybooks from bookstores produced by printing companies. A preliminary study in Cicalengka District, Bandung Regency, revealed that PAUD teachers face challenges in developing information technology-based learning media. Therefore, this study aims to improve the skills of PAUD teachers in creating independent teaching media using Visual Communication Technology. The research includes ten teachers from Raudhatul Athfal in Cicalengka District as the study subjects. The research method employed is descriptive-analytic, and data collection techniques involve the use of test equipment. The analysis is conducted using different tests to assess the impact of the training. The study's results demonstrate a significant improvement in PAUD teachers' knowledge after undergoing training in creating teaching media based on visual communication technology. As a result, this training activity is highly beneficial for PAUD teachers in Cicalengka District.

Keywords: information and communication technology, early childhood teacher, independent teaching media, visual communication

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1. Introduction

The Branch Manager of the Ikatakan Guru Raudhatul Athfal (PC IGRA) in Cicalengka District oversees the Raudhatul Athfal (RA) institutions in Cicalengka District. The problem occurs among teachers in Cicalengka District, Bandung Regency. The results of a preliminary study conducted on February 2, 2022, found the issue of teachers still needing to be able to develop information technology-based learning media. Competence in using Information and Communication Technology (ICT) must be mastered by teachers in the industrial era 4.0 [1]. And the situation during this pandemic, then ICT is

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the primary learning media for teachers in the classroom. Many teachers in the school still use two-dimensional image media, which is less attractive, and the learning media generally still uses characterizations from outside figures, for example, upin-upin, Nusa and Hana, and others [2].

Of the 34 recorded RAs, each institution has a variety of educational qualification backgrounds for teachers, including 43 high school teachers, 85 undergraduate education and two master's degree teachers. As for everything linear, there are only about 30 early childhood graduates. However, most of them have received competency development empowerment training for RA teachers, including 2013 Curriculum Training, Fun Calistung, drawing empowerment, storytelling, etc. Of all the charges that PC IGRA has held, none has specifically developed the ability to create ICT-based learning media. In this technological era, educators must make digital learning effective and provide authentic learning experiences for children. In line with the program that PC IGRA has planned, Cicalengka District, the Community Service team, with the support of the Institute for Research and Community Service at the Islamic University of Bandung, has implemented empowerment to increase teaching competence for RA teachers as a solution to the lack of teacher skills in making ICT-based learning media.

2. Method

The approach was used to improve teaching skills for RA teachers in Cicalengka District through Participatory Rural Appraisal (PRA) or Participatory Understanding of Rural Conditions. PRA is an approach and method that involves the community in analyzing problems to formulate accurate plans and policies and take concrete actions [3]. This approach model is carried out in several stages, including the following: First Phase: Identification and dissemination of service programs. The team approached the head of the PC IGRA in Cicalengka District by having a dialogue regarding the analysis of the situation and condition of Raudhatul Athfal (RA) in his area.

This effort was carried out to gather information about the RA institution's potential, opportunities, constraints, and challenges in the Cicalengka District. The discussion results will be used as a foothold in carrying out community service activities to improve skills in making learning media based on Visual Communication media with Information and Communication Technology. Second Phase: Program Planning. The team prepared a plan for empowerment activities for RA teachers in Cicalengka District; the training period was carried out in July after the Ministry approved the PKM proposal for Education and Culture. Socialization with RA teachers is done to open the attitude of

awareness of teachers so that they are willing and willing to accept new changes to improve teaching skills at RA institutions through media zoom meetings. Third Phase: Program Implementation. Based on the initial study, the implementation of RA teacher competency empowerment will be carried out through training in the development of learning media in the form of storytelling image media based on visual communication technology through the Inkscape application; the goal is that teachers can plan their own story and image designs, then be able to make their image layouts and finally teachers can make image media tell yourself. Fourth Stage: Program Evaluation. At this stage, an evaluation will be carried out on RA teachers who receive direct empowerment; 25% of schools, or approximately ten schools, will be selected as samples. The empowerment team will always assist with the results of making learning media based on the Inkscape application.

Some basic principles in the PRA method are mutual learning and sharing of experiences, involvement of all group members and information, outsiders as facilitators, the concept of triangulation, optimization of results, practical orientation, and program sustainability [4].

3. Results and Discussion

The implementation of the training focused on improving the skills of teachers in making media teaching materials in the form of picture storybooks based on visual communication technology through the Inkscape application. Participants were explained how storybooks are for early childhood to understand how to make picture storybooks. Children's book writers must look at children's needs and preferences for reading from the eyes or point of view of children, not from their point of view as adults. For that, he must understand the psychology of children's development to obtain what information should be written down.

Early childhood has shown an interest in reading books, including: first: wordless picture books. A wordless picture book is a storybook that 100% uses picture media to tell an event. The wordless picture book is intended for preread readers. The use of this kind of book requires the support or involvement of teachers and parents in helping readers recognize the images. This wordless picture book effectively develops children's cognitive and affective aspects in concluding events that occur in an event. For some children, this may not be easy when they have to imagine the story itself. Second, picture storybooks. Short stories for children can be developed and realized into a complete book called a picture book. The portion of pictures or illustrations

in picture books is dominant, around 70%–90%. Picture storybooks are intended for pre-readers and early readers. In picture books, there are only a few words or a few sentences to convey the story.

To conceptualize children's stories, teachers must understand the themes and values. The theme of children's stories generally comes from simple things, which can spark children's curiosity. The theme of children's story books is also closely related to the values to be conveyed to children. The eighteen universal values that need to be instilled in children in the following character education can be used as references. Furthermore, the teacher must determine the character and characterization. Characters in children's stories can be anyone or anything. For pre-reading children, story characters can be humans, plants, and animals, even inanimate objects that are "made alive" like humans. The main characters in children's stories should be the children themselves. The adult characters shown in children's stories are generally companion characters, while children remain the central characters. Children's story writers must try to provide opportunities for the primary children in the story to solve their problems, even though children have limitations.

The next thing to prepare is the setting (place & time). The location of a home in a children's story can be anywhere, such as a house, school, playground, public place, village, city, or geographic location of a particular area. In addition, there are also excellent places for children, such as rivers, lakes, seas, mountains, caves, forests, kings' palaces, and planets (outside the earth). In addition to the place, the setting of time is also essential. Stories based on folklore always use the past with phrases from ancient times. The location of time becomes an explanation in historical stories, for example, about a past figure's biography.

The plot is what has to be prepared. The plot is the storyline used by the author to describe the events experienced by the characters in the story. In the storyline, there is usually a conflict faced by the main character. Children, as readers, are curious about the story, especially the main character and what happens to the main character.

Lastly is language and style. The problem of language cannot be excluded from the work of children's story books. Many children's storybook writers have a weak point in language because of the need for more experience and knowledge of child psychology. An essential element in children's language is diction (word choice) and sentence structure, besides the spelling in the book for early and fluent readers. Telling stories in picture books is prioritized for expression in the pictures themselves, while language or text is only a tool.

Next is the practice of making picture storybooks using the Inkscape application. Inkscape is a vector image editor software freely open under the GNU GPL license. The main goal of Inkscape is to create state-of-the-art graphics tools that comply with XML, SVG, and CSS standards. Inkscape is available for Windows, Macintosh, and Linux operating systems. Inkscape's programs and source code are publicly available on the official Inkscape website, so anyone can learn about and develop them. Inkscape can be downloaded through the official website, namely <https://inkscape.org>, for free.

After that, in the implementation, the sequence learned by the participants regarding the Inkscape application is the essential tools in the Inkscape application, starting with setting the canvas and pages, understanding Inkscape tools, using fills and strokes, adjusting object positions and getting to know layers. After understanding, the participants begin to learn to make an image object, while what is learned is a character object or an environmental object. Next, the participants practice making cartoons using tracing and creating a background/scenery. Finally, participants are guided to make their drawing objects and the work results due to limited training time. The results of the work are continued at home while still assisting WhatsApp.

The results can be known by using a different test to determine the extent of the differences in understanding above. To evaluate the effectiveness of the Training in Creating Visual Communication Technology-Based Teaching Media for Early Childhood Teachers, the researchers used a paired T-test with SPSS. Paired T-test is a parametric difference test on two paired data. The function or use of the test is intended for a different or comparative test, meaning that it compares whether there is a difference in the mean or average of two paired groups where the data source comes from the same subject. To calculate the T-test, we first do the normality test because, in the parametric statistical test, the research data is normally distributed is a requirement that must be met.

Normality Test

Normality test using Shapiro – Wilk test. The use of this test is motivated by the results of research by Nornadiah Mohd Razali and Yap Bee Wah in the Journal entitled "Power Comparison of Shapiro-Wilk, Kolmogorov Smirnov, Lilliefors And Anderson Darling-Tests. Faculty of Computer and Mathematical Science, University Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia. Mentioning samples 7 - 50 (< 50) then using Shapiro - Wilk [5]. The results of the normality test on the data from the pretest and posttest results of Teaching Competence are presented in the table. below this

The basis for decision making in the Shapiro – Wilk normality test a. If Sig. > 0.05, then normal distribution b. If Sig. < 0.05, then the distribution is not normal. The results of the

TABLE 1: Tests of Normality.

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretes	.206	10	.200*	.901	10	.225
Postes	.244	10	.093	.888	10	.160

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

pretest data distribution test, the data distribution shows sig. $0.225 > 0.05$, meaning that the data is normally distributed. As for the results of the Posttest distribution test, the data distribution shows sig. $0.160 > 0.05$, which means that the results of the data distribution are normally distributed.

Paired T Test

After the data can be proven to be normally distributed, then the effectiveness test of the effect of the Teaching Competency Development training on increasing participants' understanding can be done by using the Paired T-Test. The results are in table 2.

TABLE 2: Paired sample test.

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pretest posttest	-9.00000	8.75595	2.76887	-15.26363	-2.73637	-3.250	9	.010

Source: Data processing by SPSS 26

Basis of decision making in Paired T Test

- a. If Sig. < 0.05, then there is a significant difference
- b. If Sig. > 0.05, then there is no significant difference

The results show that the results of Sig. (2 Tailed) of $0.01 < 0.05$, the result is smaller, it can be concluded that Teacherpreneur Training Based on Visual Communication Technology For Early Childhood Teachers has a difference in knowledge before and after the training.

The use of visual communication technology has been widely developed in learning at the early childhood education level, such as developing video animations to introduce discipline to children [6] and teaching disaster mitigation through digital video [7]. Since

the world has been affected by the COVID-19 virus, teachers are required to be more innovative and creative. Teachers must create learning media easily adaptive to current developments, including Augmented Reality-based learning in introducing the names of animals and their characteristics [8].

The current phenomenon of children using gadgets has become a necessity. Teachers need to take advantage of these conditions by creating applications that can be interesting and useful for children [9]. Visual communication-based learning media is the most appropriate means of helping early childhood develop sensory and motor skills [10]. The results of literature research on the use of technology in early childhood education have a very positive impact [11]. however, it also has negative implications, including a lack of social skills needed to interact with others and (b) obesity due to a sedentary lifestyle associated with solitary indoor play [11].

4. Conclusion

The efforts to improve teacher skills in learning media that adapt to the 4.0 era have been developed through training activities to make media-based Inkscape applications. The results can be concluded that there is a difference in the positive direction, where teachers' knowledge regarding the practice of making media increases.

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