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1 The Effectiveness Of Multimedia Training For Elementary School Teachers In Karangasem, Bali | Ketut Sudarsana¹, Pande Wayan Renawati¹, I Wayan Nerta¹, Poniman¹ and I Ketut Arta Widana¹, Kundharu Saddhono² and Darmawan Napitupulu³
¹Institut Hindu Dharma Negeri Denpasar, Bali, Indonesia ²Graduate program of Universitas Sebelas Maret, Indonesia ³Indonesian Institute of Sciences, Banten, Indonesia *iketutsudarsana@ihdn.ac.id Abstract.

This study aims to obtain information related to the effectiveness of multimedia training for elementary school teachers in Karangasem Bali. The training is held to improve the teachers by learning. This training is so important because there are still many teachers who use a single textbook as the only medium or source of learning.

The use of a single media, namely textbook which only contains some explanations certainly pay less attention to the conditions and principles of effective, meaningful, and fun learning. Students will feel bored and tired in taking the lesson presented by the teachers. Students can only memorize a number of words without properly understanding what is learned and possibly forget it.

That is what makes students' learning outcomes are still very low. 1. Introduction Learning process in elementary school in technological era should utilize an appropriate medium to empower students' visual, audio, or audio-visual sense. Learning by using the right media and having a match between learning materials and students' daily life will be more easily understood.

Learning with multimedia will give something interesting to students, so that they can be attracted and it increase the students' motivation to learn. Learning media has an

important role in managing an effective relationship in the learning process, namely the relationship between students and content of lesson. Arsyad states, to make the learning process can work well, students should be invited to utilize all senses and use various types of media related to the lesson.

Teachers attempt to display stimuli that can be processed with various senses. Empowerment of all senses in receiving and processing information will make students understands and can retain the information they obtain much better [1]. Preparation and implementation of learning process surely needs technology as a principle to improve learning outcomes.

It refers to the result of technology in the field of education such as information technology, namely computer device. Computer device consists of hardware and software as a facility in designing learning media by mixing some kinds of media called multimedia [3]. Technology and globalization era requires teachers to utilize the invention of technology in the learning process as an effort to improve the quality of education.

the use of technology in the field of education such as using powerpoint. It will give positive result on improving the quality of education. Although the use of multimedia in learning process has several advantages, but the teacher still has difficulties, especially in procuring computer equipment, multimedia design, and management in implementing learning process.

Teachers will not immediately be able to use computer hardware and 2 software, but they must take the training to operate computer devices and learning media design using powerpoint program [4]. Thus, in the implementing learning process, it requires the ability to manage the media resulted, namely moving from one slide to another slide in order to make the learning process effective and systematic.

One of ways that can be conducted to overcome the weakness of teachers' skills in utilizing multimedia is to provide training [5]. Multimedia training aims to improve and develop knowledge, skills and attitudes in order to make all the teachers' potencies can be applied in the constructing high quality learning. 2. Methodology The method used in this study is quantitative method, with nontest instrument, namely questionnaire.

The questionnaire is arranged in Likert scale with five choices of statements, where the scoring is set as follows: If it is very appropriate (SS), the score is 5, if it is appropriate (S), the score is 4, if it is doubt (R), the score is 3, if it is not appropriate (TS), the score is 2, and if it is very Inappropriate (STS), the score is 1. The multimedia training participants

for elementary school teachers in Karangasem consists 15 people.

Before the nontest instrument, namely questionnaire is distributed to the respondents, the validity test is conducted. Theoretical validity test on the questionnaire in this study uses the opinion of experts (judgment experts). The selection of opinion from the experts is based on the consideration to assess the accuracy of the questionnaire viewed by the material and indicator in question.

In addition, it views the validity of the order of sentences or words in the questionnaire, so that the explanation is clear and does not create other interpretation. After the questions in the questionnaire are revised based on the expert opinion. The next step is conducting empirical validity. Testing the validity of the instrument items with empirical validity is carried out through a limited trial in the field.

The limited trials are conducted on 15 respondents from elementary school in Karangasem District, where these respondents are not prospective multimedia trainees. The selection of respondents to the validity of the instrument items of the teachers is carried out because of the consideration that they have the same characteristics as the trainees who will measure the effectiveness before and after the multimedia training.

The validity test for nontest instrument, namely questionnaire uses correlation test between item score and total score. The formula is $r_{it} = \frac{\sum (X_i - \bar{X})(T - \bar{T})}{\sqrt{\sum (X_i - \bar{X})^2 \sum (T - \bar{T})^2}}$. If $r_{it} > 0.05$ the item is valid, but if $r_{it} < 0.05$ the item is considered invalid which is subsequently omitted or not used. Based on the result of validity test, from the number of questionnaires around 65 items of question, there are 50 items which are valid.

After the validity test, instrument reliability test is conducted, where this test uses alpha coefficient formula (alpha cronbach). After the calculation of reliability, it can be indicated that the value of Cronbach's Alpha is 0.985. Thus, the value is $0.985 > r_{table}$ 0,553. It means the questionnaire is completely reliable.

In this case the reliability coefficient of the questionnaire included in the criteria of reliability is very high. The general conclusion that can be taken is questionnaire which is valid and reliable so that it can be used in this research. The analysis of the effectiveness of multimedia training uses a wilcoxon-marked rank test for paired data.

The reason why this nonparametrics test is used is because the data is ordinal scale and the number of data is smaller than 30, and the reason of using Wilcoxon is due to the data in pairs. The average of pre-test will be said to be different from the post-test average if the probability value is less than 0.05. Result and Discussion a. Result 1).

Hypotheses Formulation This is the hypothesis formulation : There is no difference between pretest dan posttest result 3 : There is a difference between pretest dan posttest result 2). Statistical Hypotheses Formulation : $d = 0$: $d \neq 0$ 3). Creating of Data Processing Helper Table Table of Pretest and Posttest Score of Multimedia Training Respondent 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 PreTest 123 156 152 161 157 143 182 127 133 128 143 129 155 146 129 Posttest 231 245 243 238 244 239 242 239 245 237 233 236 248 246 224 PreTest Posttest Overall 2164 3359 Average 144 224 Based on the result of the pretest and posttest scores in Multimedia Training which is being processed by using SPSS 16.0

for windows, it can be described as Table Ranks as follows: Tabel Ranks N Mean Rank Sum of Ranks Posttest - Pretest Negative Ranks 0 a .00 .00 Positive Ranks 15 b 8.00 120.00 Ties 0 c Total 15 a. Posttest < Pretest b. Posttest > Pretest c. Posttest = Pretest From the calculation result, it obtains these: (a) The negative ranks or difference between the negative pretest and posttest result are 0 respondents.

It means that there is no posttest score less than the pretest score of respondents. (b) The positive ranks or difference between positive pretest and posttest result are 15 respondents. It means that all posttest result is more than pretest result of respondent with average rank = 8 and positive rank number = 120.

(c) Ties or no difference between pretest and posttest result is 0 respondent. : $d = 0$ (There is no difference between pretest dan posttest result) : (There is a difference between pretest dan posttest result) The result of statistical test scores can be viewed in the following table: Table of Test Statistics Posttest - Pretest Z -3.411 a Asymp. Sig. (2-tailed) .001 a. Based on negative ranks. b.

Wilcoxon Signed Ranks Test Based on the average score of pretest = 144, posttest = 224, and the test result of the statistical test d that the null hypothesis is rejected, which 4 means that there is a difference in the elementary school teachers' ability before and after taking the training. b. Discussion The participation of elementary school teachers in Karangasem, Bali as multimedia training participants is implemented in three stages of learning activities, namely program planning, implementation, and assessment.

Learning needs are expressed by multimedia training participants as a passion to obtain the knowledge, skills, and attitudes required in classroom learning. The learning needs are arranged carefully and sequentially. Then the order of priority needs of learning on the basis of importance and urgency to be fulfilled through learning activities is determined.

In the implementation stage of learning multimedia training participants are involved in creating a conducive atmosphere in learning process [2]. The conducive atmosphere includes these points; First is the discipline of the trainees marked by regularity in attendance at each learning activity. Second is keeping the relationship between participants and between trainees and facilitators to create an open, intimate, directed, mutual respect, mutual aid, and mutual learning relationship.

Third is the interaction in learning activities between multimedia training participants and facilitators conducted through horizontal relationship [6]. This relationship illustrates the establishment of good communication between the participants and the facilitator and between trainees. Fourth is the pressure of learning activities on the role of multimedia training participants who are more active in learning activities, not on the facilitators who prefer the teaching activities.

The assessment of learning outcomes is conducted by using pretest and posttest which aims to determine the change in knowledge, skill, and attitude experienced by multimedia training participants after following the learning program. The effectiveness of multimedia training carried out shows the improvements. The posttest score increases. So, it can be concluded that the training is successful. 4.

Conclusion The effectiveness of multimedia training for elementary school teachers in Karangasem Bali has a positive impact on both trainees and training providers. The receiving level of trainees to the material which is implemented is high. Some indicators that show the effectiveness of multimedia training include : a. This multimedia training program has a level of conformity with teachers' needs, in improving the knowledge, skills and attitude. b.

The significance of the multimedia training carried out has a positive impact on the trainees, so that it has an attitude appropriate to the characteristics of participatory learning. c. Multimedia training participants have ability to create and develop teaching materials using powerpoint. References [1] Arsyad, Azhar. 2008. Media Pembelajaran. Jakarta: PT. Raja Grafindo Persada. [2] Allington, R. L., & Walmsley, S. A. (1995). No Quick Fix: Rethinking Literacy Programs in America's Elementary Schools.

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