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The Problem Based Learning Demonstration Model on Learning Outcomes in Class Iv Science Learning in School Negeri 3 Balong Jepara

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Abstract: Study This aim For know influence use of *the Problem Based Learning* model to results learning on learning student material photosynthesis in class IV SDN 3 Balong Jepara. Study This use type study quantitative. Research methods used in the research This is *Pre- Experimental Design* and with design *One Group Pretest-Posttest Design.* Research sites This will carried out in class IV of SDN 3 Balong Jepara. Population in study This is all over participant educate class IV SDN 3 Balong. Deep sample study This use One class that is participant educate class IV, totaling 18 participants educate. Deep data collection techniques study This that is form test. Data analysis carried out with using statistical tests parametric namely the Paired Sample T-test. Research result show that mark significance 0.061 < 0.05, which means H_o rejected. So that can conclude that There is influence use *Problem Based Learning* model to results learning on learning student material photosynthesis in class IV SDN 3 Balong Jepara.

Keywords: Problem Based Learning, Science, Photosynthesis

1. Introduction

Education according to Abdillah (2019) it is business conscious and planned for give guidance in develop potency physical and spiritual care provided by adults to participant educate For reach the goal is to be able carry out task his life in a way independent. Without education impossible man can develop with Good. Education is one elements that play a role create source Power man quality. This matter in accordance with mandate from chapter 3 of the Act number 20 of 2003 concerning national education system that states that national education goals is create or develop potency participant educate to become a man who believes, is pious to God Almighty, knowledgeable, independent, creative, capable as well as not quite enough answer independent (2019). Education is also a factor something activities that are universal in humans, because Education does not regardless from study and learning (Burgstahler et al, 2010)

Learning process can carried out by participants educate in a way independent, meanwhile learning carried out by the teacher (Zainuddin et al, 2019). Study is a process of thinking and changing through a number of stages or exercise in a way repeated repeat for obtain knowledge (Sagor, 2010). Study is a business process, action or experience that occurred with objective get something new form knowledge, skills, abilities, will, habits, behavior behavior and attitudes (Ahsanti et al, 2018). Activity the show activities carried out someone who is aware or intentional (Pane & Derwis Dasopang, 2017)

A necessary learning process get teacher's attention ie How create the class is conducive, fun and interesting, so can produce results maximum learning (Dörnyei et al, 2019). Can mentioned that learning is something deliberate effort

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involve and use professional knowledge that teachers have for reach objective curriculum (Suardi, 2018). In the learning process teach, if participant educate No notice or no interested when the teacher gives explanation, then can said happen boredom in convey material with so required something conducive environment, one effort For created it with use of learning models. Learning model is framework conceptual and operational learning that has characteristic, sequence, sequence logical, regulatory, and cultural (Kolb et al, 2014). Therefore That a learning model that can be used help participant educate to be easier accept and understand material lesson in a way maximum and learning process No become monotonous.

Learning model is One component important in learning. There are some reason importance development of learning models namely, an effective learning model very help in the learning process more achieved, learning model give useful information for participant educate in the learning process, variations in learning models can give Spirit in follow learning, avoiding boredom, and will grow interest as well as motivation participant educate in follow the learning process, and they No stuck in a certain model (Asyafah, 2019). One of the learning models that can be done develop formation attitude participant educate is a learning model-based problem (*Problem Based Learning),* because can practice ability think marked critical enhancement success learning (Nisa & Rhosalina, 2020).

Learning model *Problem Based Learning* is learning that presents group small problem, aside that's a learning model *Problem Based Learning* is emphasized learning participation active from participant educate, grow Skills solution problems and abilities think critically (Westberg et al, 2004). Learning model *Problem Based Learning* is a learning model that expects participant educate do authentic problem with Meaning For compile knowledge they separately, develop inquiry, and skills think higher, developing independence and trust self. Learning model *Problem Based Learning* can increase activity scientific knowledge to participants educate through Work group. Application of learning models *Problem Based Learning* can supported with use method demonstration (Riswari et al, 2018).

Demonstration is method presentation lesson with move and show to participant educate in a process, situation, or object certain moderate one studied Good in form Actually or imitation demonstrated by the teacher or other sources who understand topic demonstration (Kochhar, 1992). With application of learning models *Problem Based Learning* method demonstration expected ability analysis participant educate can increase. Learning based problem, No Can regardless from method solution problem, p This because of the learning model *Problem Based Learning* takes root from method solution problem. Solving method problem is one of method presentation material lessons that make problem as point reject discussion For analyzed (Suardana, 2019). Successful educator apply the learning model new can make participant educate become more active moment teaching and learning No monotonous, then will possible happen enhancement results Study participant educate.

According to Jarboe (1988) results Study is output or *output* from an input process or *input*. What have you done? entered into a process can form various information whereas the output change or performance that has been got it. Learning outcomes is part most importantly in learning. Teacher will measure the extent of the participants educate Already control material presented.

Observations and interviews conducted researchers on learning process activities teach eye science and science lesson material photosynthesis class IV at SD Negeri 3 Balong, shows activity in the learning process teach low and nature passive, p This seen from low results Study. So that participants educate not enough interactive in the learning process. Participant education is also visible. No cheer up, many are sleepy, move on move seating, crowded talk about material outside lessons, and less notice material presented. Based on observation Lots Of participant still learn get mark

under KKM where? KKM standards for science lessons Already determined. Therefore That required there is a learning model

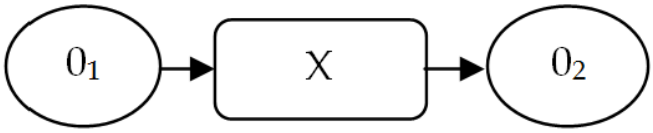
See from problems that occur, yes done repair with use appropriate learning models with science and science learning material photosynthesis. A learning model that can used For help the learning process teach in delivery material very many, including *Problem Based Learning* Demonstration, participants educate in learn science and science learning material photosynthesis with easy and not boring.

See background behind learning above, then researcher will study study with title " Influence Use of *the Problem Based Learning* Model Demonstration Regarding Learning Outcomes in Class IV Science and Science Learning at SDN 3 Balong Jepara ".

2. Research Methods

Study this is study quantitative with type *Pre-Experimental One Group-Protest Design.* Study experiment is exploratory research connection because consequence between variable free and variable bound with control and manipulation variable free in a way intentionally (Harel et al, 1998).

Research design This there is two treatment that is pretest and protest. Population and sample in study This is participant educate class IV SDN 3 Balong. Deep data collection techniques study This is interviews, tests and observations. Research data analysis techniques This that is using pre- test condition analysis and hypothesis testing. Test prerequisites analysis used For test whether the data from *pre-test* and *post-test* use formula *Kolmogorov Smirnov* assisted by SPSS.



Information:

O_1 = *Pretest before treatment*

O_2 = *Posttest after treatment*

X = *Problem Based Learning* (PBL) *treatment demonstration*

3. Results and Discussions

Research purposes This is For know the influence of *the Problem Based Learning Demonstration* model to results Study participant educate class IV in the eye science and science lesson material photosynthesis at SDN 3 Balong Jepara.

The Table 1 show results that the class average experience enhancement from 79 (pretest) rose to 81 (posttest). Value data the Then will processed using the normality test For know data normality and paired sample t-test as hypothesis testing.

Analyzed data obtained from results mark pretest and posttest that have been done done by participants educate, as following :

Table 1: Learning Results Student

pretest value	56
pretest value	100
Pretest average	79

Min posttest value	60
posttest value	100
Posttest average	81

3.1. Normality test

On results calculation with using SPSS version 26.0, obtained results as following.

The Shapiro Wilk Normality Test is the test carried out For know random data distribution something sample small. In 2 seminar papers conducted by Shapiro, Wilk in 1958 and Shapiro, Wilk, Chen 1968, it was used data simulations do not more of 50 samples. So that recommended For using Shapiro Wilk 's test insufficient data sample from 50 samples (N<50). In testing, a data is said normally distributed if mark significance more from 0.05 (sig. >0.05).

Based on normality test table using SPSS version 26.0 above obtained normality test results as following. Pretest scores with mark significance 0.64 > 0.05 and value posttest with mark significance 0.130 > 0.05. From these two data mark significance α> 0.05 which means the data normally distributed.

Table 2: SPSS Normality Test Output Results

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	Df	Sig.
Pretest	.139	17	.200*	.898	17	.064
Posttest	.142	17	.200*	.917	17	.130

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

3.2. Paired Sample T-test

Paired Samples T-Test was used For know hypothesis A test or treatment. Basis for taking hypothesis testing decisions is :

H_O = None influence application of *the Problem Based Learning* Demonstration model to results studying in class IV science and science learning at SDN 3 Balong Jepara.

H_a = Yes influence application of *the Problem Based Learning* Demonstration model to results studying in class IV science and science learning at SDN 3 Balong Jepara

Significant level α= 0.05

Criteria :

If significant > 0.05, so H_o accepted

If significant < 0.05, so H_o rejected

Criteria used is if mark significant > 0.05, then H_o accepted meaning application of *the Problem Based Learning* Demonstration model No own influence to results studying in class IV science and science learning at SDN 3 Balong

Jepara. Whereas if mark significant < 0.05, so H_o rejected which means implementation *Problem Based Learning* Demonstration model own influence to results studying in class IV science and science learning at SDN 3 Balong Jepara. Based on table SPSS test results above obtained mark significant 0.016 < 0.05, which means H_o rejected. With thereby can concluded that There is influence application of *the Problem Based Learning* Demonstration model own influence to results studying in class IV science and science learning at SDN 3 Balong Jepara.

Table 3: Hasil Uji 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	-1.882	3.855	.935	-3.864	100	-2.013	16	.061

4. Conclusions

Application of learning models *Problem Based Learning* done with do pretest before done treatment For know mark beginning student. After pretest done application learning *Problem Based Learning* Demonstration. Giving material done in accordance achievements and competencies results learn that will achieved. Once done application of learning models *Problem Based Learning,* students given posttest For know results end after treatment. Obtaining data from mark pretest and posttest showing exists influence of learning models *Problem Based Learning* Demonstration to results Study students in science learning. Average value before and after treatment show difference Where There is enhancement results Study from learning model treatment *Problem Based Learning.*

Research conducted on students Class IV of SD Negeri 3 Balong, totaling 18 students. Based on results observations that have been made done to guardian class IV SD Negeri 3 Balong, low results Study science learning is also visible to students Class IV of SD Negeri 3 Balong. Where is the results pretest that has been done done, there is student get mark lowest 56. One reason too much value low is experience lagging behind material learning. Use of *the Problem Based Learning* Model This can help student For each other Work The same in understand material learning taught.

Use *Problem Based Learning* Model Demonstration on science learning become more meaningful fun, and students can role active in the learning process. Student can find draft new science learning. Activities carried out by students in learning can make learning more meaningful and fun so that draft science learning can be done with easy remembered by students.

Use *Problem Based Learning* Model Demonstration on science learning on research This useful for make it easier student in learn IPAS material. Application of learning media this is also purposeful so interesting attention and interest student in study science and science material photosynthesis. With thereby exists application learning *Problem Based Learning* This expected can help student in master and understand material photosynthesis.

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