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RESEARCH ARTICLE

ANALYSIS OF STUDENTS' RESPONSE TO THE MODEL OF PROBLEMS BASED CONTEXTUAL LEARNING ON SCIENCE LEARNING.

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Abstract

This research is descriptive research which was aimed at describing and analyzing students' responses to the learning of science using the learning model of PBCL (Problem Based Contextual Learning). The review was based on the research results having been conducted in May 2017. The respondents of this research were 32 students of class VIII B of SMPN 1 Situbondo (State Junior High School 1 Situbondo). The technique of collecting the data was a questionnaire and unstructured interview. The data result obtained was then analyzed in percentage form using the aid of Excel for Windows. The data percentage obtained was analyzed in accordance with the prepared category. The result of the research shows that all aspects covered in the questionnaire of the students' responses showed the average score of 50.96 and percentage 91% excellent. This shows that the learning using the model of Problem Based Contextual Learning got a positive response from the students. The result of the interview of several students showed that they found it easier to do the learning process and comprehend a learning concept easier as well.

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Introduction:-

The process of learning science for students of junior high school is expected to be a space to learn themselves and their natural surrounding, and to the development extend they can apply them in their daily lives. This process should be done in the way of scientific inquiry in order to develop their thinking, and working ability and their scientific attitude as well as communicate it as an important aspect of their life skills. Therefore, science learning should emphasize more on giving students direct learning experiences and scientifically, so that they must be active in the learning process to achieve the maximum result. Selecting a correct learning model is an active effort to activate students in the learning process and improve their achievements. Model of learning is not static, can be developed by combining some existing models or constructing a brand new one, without ignoring the elements in a model, they are syntax, reaction principle, social system, supporting system, instructional impact, and the side impacts. (Indrawati, 2011:21). PBCL is an integration of models PBL and CTL. Research result, conducted by Khusniatus (2014) on the application of the learning of integrated science using CTL on the topic of material change at class VII of SMP, showed that students' achievement classically achieved 86% of learning mastery. Harun's research (2010) about an experiment on mathematics learning with CTL, if learned from the students' initial competence of class VII of state schools in Sukoharjo regency, showed that their mathematics achievement was better compared to the one using expository learning approach. The research by Aisyah (2015: 26) on the impact of

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learning strategy Jigsaw and problem based learning to the score of students metacognitive skills at biology showed that at PBL class 31 of 40 students declared mastery whereas at Jigsaw class 37.66. The integration of PBL and CTL are expected to plant and develop student metacognitive skills so that they can improve their learning achievement. Model PBL supports the phase not available at CTL and CTL can supports phase not available at PBL. Learning model of PBL has the characteristic like stating questions or problems and making a solution to solve the problem (Arends, 2008:42). The problem solve learning in the class will arise, if in solving the problem, students do not do observation activities to the real event and do not make a hypothesis. CTL learning can minimize the weakness of PBL, that is improving students competence to do observation activities and proposing a hypothesis before doing investigation activities. Based on the strength and weakness, a new learning model called as PBCL was then developed which was the integration of syntaxes of PBL and CTL i.e.: 1) orienting problem; 2) organizing student; 3) doing observation (observing); 4) stating hypothesis; 5) investigating; 6) developing and presenting result; 7) analyzing and evaluatin

Methodology:-

This research is the development research which was referred to the Thiagarajan model. The development procedure of learning model PBCL consist of stages: define, design, develop and disseminate. The scoring of students responses to the questionnaire of the PBCL learning model is presented as follows:

Table 1:-Criteria of students response to the learning model PBCL

Score	Category
14,0 – 24,5	Not good
24,6 – 35,0	Fairly good
35,1 – 45,5	Good
45,6 -56,0	Very good

(Akbar, 2013:82)

The effectiveness of applying model PBCL is obtained from the learning the result of pre-test and post-test using formula Normalized Gain (N-Gain) (Meltzer, 2002:1260).

$$N - Gain = \frac{Nilai\ Post\ tes - Nilai\ Pre\ tes}{Nilai\ maksimal - Nilai\ Pre\ tes}$$

Criteria of score N-Gain is presented as follows:

Table 2:-Criteria Normalized Gain

Score	Category
$g > 0,7$	High
$0,3 < g \leq 0,7$	Medium
$g \leq 0,3$	Low

(Hake, 1998:3)

Result and Discussion:-

At the developing stage, learning model PBCL was validated by validator involving leaning experts and users (senior teacher). The validator validated the guide book of learning model PBCL to attain validity of components in learning model PBCL. the validator also validated supporting components to carry out the learning model which involved validating syllabus lesson plan and learning test result. The validation result guidance book of learning model PBCL and supporting component of the model had been stated as valid with little revision and could be used in learning.

The next stage was the experiment stage which consisted of two stages, a limited trial and a class trial. A limited trial was done to twelve students representing actual class condition. The students were selected based on their cognitive competence: 4 students of high cognitive competence, 4 students of medium cognitive competence, and 4 students of low cognitive competence. At this trial stage, a pre-test was given before students did learning process using PBCL. the pre-test was done to know the student's initial competence of the learning materials to be taught. At the end of the learning, the students were given a post-test to know their comprehension about the material. Then the

students were given the questionnaire to know their response to the learning using model PBCL. the obstacle in the limited experiment was used as the material improvement in the class trial.

A class trial was done to 32 students of class 8B SMPN 1 Situbondo. The result of the student's responses to the learning of Human Excretion System using PBCL at cycle 1, 2, and 3 are presented as follows:

Table 3:-The result of the student's responses to the learning using PBCL

Cycles	Score	Percentage	Category
1	45,4	81,07%	Very good
2	53,5	95,53%	Very good
3	54,0	96,42%	Very good
Average	50,9	91,0%	Very good

Based on the score or percentage, the response of the students at it cycle had increased from cycle 1 to cycle 3. The average score or the percentage showed that students experience interesting learning process, had more learning spirit, comprehended material easily, solved the problems or test items easily, had the courage to ask and stated their opinion. The student's responded to the learning using model PBCL was positive. It is in accordance with the opinion of Sutikno (2005:37) that effective learning is learning that enables students to learn easily, fun, and suitable with a learning objective.

The student's positive responses were proven with the learning result obtained from their pre-test and post-test score using PBCL. the learning result is presented as follows:

Table 4:-Learning result (N-Gain of Pre-Test and Post-Test)

Cycles	N-Gain	Category
1	0,56	Medium
2	0,67	Medium
3	0,71	High

The result at cycle 1 resulted in N-Gain 0.56 with the medium category. Cycle 2 resulted in N-Gain 0.67 with the medium category. Cycle 3 resulted in 0.71 with the high category. It can be said that its cycle got the increase of N-Gain although cycle 1 and 2 had the same category medium, the N-Gain score did increase. It is suitable with students response to score to the learning with model PBCL which increased at each cycle. According to Wicaksono (2008), the learning model is effective in increasing the learning result if statistically, the result shows significantly between initial comprehension and post-learning comprehension.

Hence, it can be concluded that on the class experiment the learning with model PBCL is declaring effective to be applied in learning.

Conclusion:-

The usage of learning model PBCL is categorized effective, because on cycle 1, cycle 2, and cycle 3 there was increased of a score of students' response to the learning using PBCL at the material of Human Excretion System. With the scoring average of 50,9 or 91% and proven by the students learning result at cycle 1, cycle 2, and cycle 3 which was measured by using N-Gain between pre-test and post-test there was a significant increase between initial comprehension and post-learning comprehension.

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