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### The Implementation of ARIAS Learning Model Integrated with Constructivist Theory to Improve Students' Learning Outcomes

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## THE IMPLEMENTATION OF ARIAS LEARNING MODEL INTEGRATED WITH CONSTRUCTIVIST THEORY TO IMPROVE STUDENTS' LEARNING OUTCOMES

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### Abstract

*There are several factors that influence low learning outcomes of MTsN Tungkob students of Class VIII-1 in studying physics. One of those factors is the implementation of inappropriate method or model of learning with the materials offered by teachers. Thus, to figure out that problems, this study aims to find out the activities of teachers and students, the skills of teachers in managing the learning, student learning outcomes and student responses to the use of ARIAS learning model which integrated with constructivist theory in learning process. This study is an action research conducted in three cycles. The results of the study showed that there were improvement of both teachers and students activities in the classroom. The skills of teachers in managing the learning were also increasing, and students' learning outcomes were also improved. Students' response to the use of ARIAS learning model integrated with constructivist theory tended to be positive. Therefore, it can be concluded that the implementation of ARIAS learning model integrated with constructivist theory can improve student learning outcomes on the topic of Simple Aircraft.*

**Keywords:** ARIAS Learning Model, Constructivist Theory, Learning Outcomes

## **A. Introduction**

The low outcomes studying physics by student at MTs Tungkob Aceh Besar recently is very concerned about. It is shown from low outcomes Middle Deuteronomy Semester students. Based on interviews and observations done by the researchers with one of the physics teacher at MTsN Tungkob, teachers have implemented several methods in teaching physics. However, interest, motivation and activeness of students in learning physics still looks very less. It is shown from the results of Middle Semester Exam students of MTsN Tungkob of VIII-1 Class that showed only 11 from 31 students can achieve mastery Minimum Criteria (KKM).

Where is the KKM for physics lessons at school is valued at 65, and complete learning is successful if the case of behavioral changes in each student less than 75%. It shows that the results of learning physics of VIII-1 class at MTsN Tungkob was poor. It necessary a changes that can make students more active so they can find their own knowledge according to the constructivist learning theory.

Learning theory of constructivism is a learning technique that involves learners to construct their own knowledge by using knowledge that has been previously owned as actively. In the opinion of Trianto (2013: 28), "The theory of constructivism states that students must find their own and transform complex information, check the new information with the old rules and revise them if the rules were no longer appropriate". The theory is consistent with the objectives of the curriculum in 2013 that is being in force. Students are demanded to be more active in learning process, they have to find their own problems and find out how to solve the problems' solutions. Teachers only take places as a facilitator in the learning process.

To achieve the objectives of the curriculum in 2013, a teacher must create a learning process which is innovative and progressive. According Trianto (2013: 12), "Models of innovative learning-progressive is a concept of learning that help teachers connections between what is taught with students' real-world situations and encourage students to make connections between knowledge possessed by the application in their

lives as family members and society". One of the difficulties faced by a teacher to create such learning is how to choose a learning model that suits the material and student situations. So that it can attract students, and students are actively involved in learning and enable them to understand the subject matter presented by the teacher. As stated by Rahyubi (2012: 251), "the learning model is a conceptual framework used as a guide in conducting the learning.

The learning model is a conceptual framework that describes a systematic procedure in organizing learning experiences to achieve the learning objectives". One model of learning that can be used as a new innovation in school is ARIAS learning model. In the opinion of Rahman and Amri (2014: 2), "ARIAS learning model consists of five components (Assurance, Relevance, Interest, Assessment, and Satisfaction) which is based on learning theory. The fifth component is a unity that necessary in learning".

The learning model ARIAS (Assurance, Relevance, Interest, Assessment, and Satisfaction) is a learning model that instills a sense of assured/confident among students, thus encourage them to attempted to the maximum in order to achieve optimal success. The learning activities are carried out which relevant to the students' lives, so that students will be motivated to learn things related to their lives and have a clear purpose. Trying to attract and maintain the interest/concern of students, so that it can fosters their curiosity towards learning given.

The evaluation of the students is performed to encourage students to do better than before in order to achieve maximum results. Then develop a sense of pride to the learners on results that have been achieved. The success and pride become reinforcement for learners to achieve next successful.

Kirani (2015: 35) entitled "Assurance of Learning Effectiveness Model, Relevance, Interest, Assessment, and Satisfaction (ARIAS) in Improving Motivation and Learning Outcomes Student of X Class at SMAN. 8 Purworejo in the school year of 2014/2015. The research results shows that there is improvement of student learning outcomes which taught using learning model Assurance, Relevance, Interest, Assessment,

and Satisfaction (ARIAS). Proven by the result of T observation = 9.10172 > T table = 9.01326 for learning motivation, and T observation = 5.61248 > T table = 3.17538 for learning outcomes.

A brief description of each component ARIAS learning model are as follows:

a. Assurance

Assurance (confident), related to the attitude of trust, sure to be successful or relating to hope for success.

b. Relevance

Relevance is related to students' life experience either now or who have owned or relating to the career needs of current or future

c. Interest

Interest is relating to the proclivity and attention of students. In the proclivity of learning activities and attention must not only be maintained but also raised during the learning activities take place.

d. Assessment

Assessment that is associated with the evaluation of the students. Evaluation is a tool to determine if the learning taught has been understood by students to monitor student progress as individuals and as a group, to find out what students' achievement.

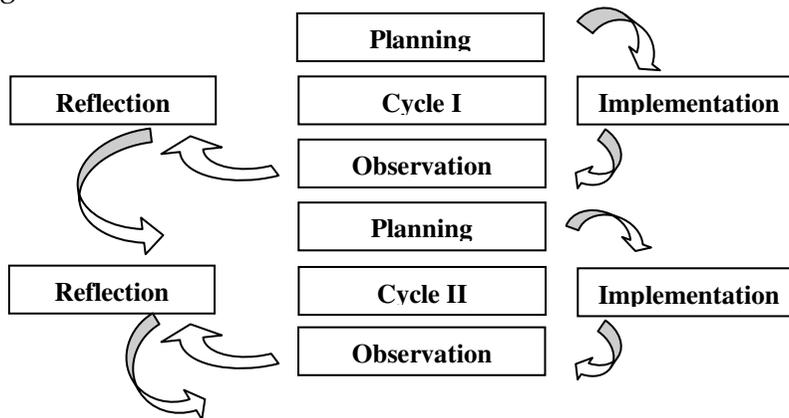
e. Satisfaction

Satisfaction is associated with a sense of pride, satisfied with the outcomes. Students who have successfully doing or achieving something feel proud / satisfied with that accomplishment. The success and pride became the amplifier for these students to achieve more results.

## **B. Method**

This study will be conducted at MTsN Tungkob which is located at the Tgk. Glee Iniem Street, Tungkob Darussalam, and District of Aceh Besar on the second semester of the school year 2016/2017. This research is

classroom action research by using model ARIAS (Assurance, Relevance, Interest, Assessment, and Satisfaction) integrated by constructivist theory that aims to improve physics learning outcomes of VIII-1 Class at MTsN Tungkob.



Picture 1. Cycle Design Class Action Research  
(Source: Arikunto, 2010: 137)

Based on the diagram above, the implementation of classroom action research began with the first cycle. After getting the results of the first cycle, then continued to the second cycle. Procedures for implementing the second cycle are equal to the first cycle, but activity in the second cycle is an improvement of activity in the first cycle. After obtaining the results of the second cycle and researchers have not yet satisfied, then it can continue the third cycle, the manner and stages the same as the previous cycle. The third cycle is an improvement from the second cycle. The corrective is carried out which aims to improve the constraints and difficulties in getting the previous cycle.

After the data is collected, the next step is an analysis of all data collected during the study. The purpose of data analysis is to answer the research problem that has been formulated. Management of data in this study using descriptive statistics.

$$P = \frac{f}{N} \times 100\% \quad (\text{Sudijono, 2011:43})$$

Where :

P = The percentage

f = Frequency of activities undertaken or observed

N = Number of activities undertaken or aspects observed

### C. Research Result

#### *Cycle 1*

Based on the posttest results in cycle 1, there were 21 students who completed learning outcomes individually. Overall the percentage of classical completeness of students is 58%. The assessment result activities of teachers and students consisting of 9 activities, there is one activity which is appropriate with the allocation of a predetermined time. While the assessment results skills of teachers in managing learning, from 4 parts of the learning activities only two parts were categorized excellent activity is at the core activities and the acquisition of the classroom atmosphere with an average score of 3.75 and 3.50. Weaknesses and constraint that still experienced by teachers and students.

Weaknesses and constraints in the implementation of the learning process in the first cycle are as follows:

- a. Based on the results of the posttest, there are 15 students who results of their study have not completed individually. This is because still lack the skills of teachers in managing learning, and the use of time is not appropriate with the allocation of a predetermined time. Thus, students lack of time in solving the posttest, which impacted on the completeness learning outcomes.
- b. Based on the assessment results activities of teachers and students, it can be said that teachers and students have not been able to optimize the use of time because there are still eight activities on teacher activity and students who not appropriate with the allocation of time specified in the lesson plan (RPP).
- c. Based on the assessment results skills of teachers in managing learning, there are still some points that have not been performing well on the preliminary activities, the core activities, the closing, and the classroom atmosphere. It indicates that the teachers were less skilled in managing learning.

### ***Cycle 2***

The results study of students in cycle 2 is better from the cycle 1. Based on the posttest, there are 24 students who completed individually. Overall the percentage of classical completeness is 67%. Based on the assessment results activity teachers and students consisting of 9 activities, there are five activities correspond to the allocation of a predetermined time. This shows that the activity of teachers and students in cycle 2 is better from the previous cycle. From the four part learning activities, there are three part activity that categorized very well which are preliminary activities, core activities, and closing activity. Acquisitions of scores from all the learning activities are 3.63, so that the learning activities in cycle 2 included into the excellent category.

Weaknesses and constraints in the implementation of the learning process in the second cycle are as follows:

- a. Based on the results of the posttest, there are 12 students who results of their study have not completed individually. This is because still lack the skills of teachers in managing learning and provide material reinforcement.
- b. Based on the assessment results activity teachers and students, it can be said that teachers and students are still not optimal in the use of time because there are still four activities on teacher activity and students who not appropriate with the allocation of time specified in the lesson plan (RPP).
- c. Based on the assessment results skills of teachers in managing learning, still have a few points that have not been performing well on activities.
- d. Closing activities and classroom atmosphere. It indicates that the teachers were less skilled in managing learning.

### ***Cycle 3***

Teachers have been successfully guide students in conducting learning by using an ARIAS learning model integrated by constructivist theory that enhance students' understanding of the material being studied. It can be seen from the growing of students learning completeness either individually or in

the classical style, in which the third cycle there are 30 students who completed individually and the overall percentage of classical completeness is 83%.

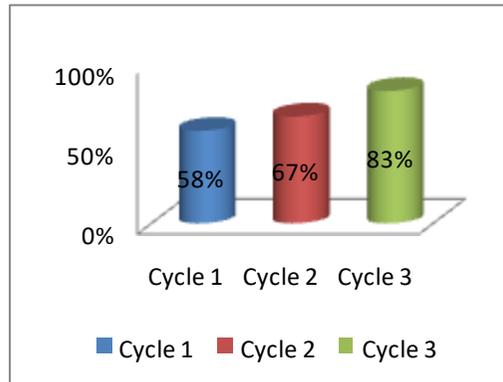
As outline, teachers are able to optimize the use of study time. It can be seen from the correspondence between a field of activity for teachers and students with the allocation of a predetermined time. The teachers' skills manage learning better in comparison with the previous cycle. Overall the skills of teachers in manage learning in cycle 3 was included in the excellent category with the acquisition of an average score of 4.00. This means that the teacher has successful to provide the learning that appropriate with the criteria expected.

Teacher capable to monitor students' work, started at the time doing groups work, until posttest and succeed in making students enthusiastic in learning.

Based on the improvement of learning outcomes obtained in cycle 3, the action in the cycle is dismissed because of considering the time inadequate.

#### **D. Result Discussion**

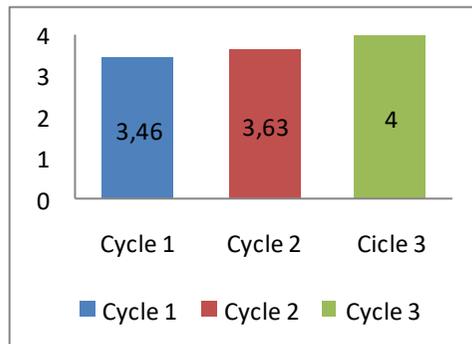
The data was obtained from MTs Tungkob in the academic year of 2016/2017 for three cycles and at each cycle was observed by two observers. The analysis is conducted by using descriptive statistics, which to describe the picture of the test beginning and the end student (pre-test and post-test), the descriptions of teacher activity and students, an overview of teacher skills in managing learning, and an overview of students' responses to learning by using ARIAS learning model integrated the theory of constructivism. Based on observations and data analysis for 3 cycles (3 meetings) the obtained results of the study as described below:



In Chart 4.5 is explained about the learning outcome of the first cycle, second cycle and third cycle. From 36 students, there are 21 students who completed individually in the first cycle. Thus the number of students who completed individually overall obtained percentage of completeness or classical completeness was 58%. In the second cycle students who completed individually by 24 students, the percentage of completeness in whole or in classical completeness was 67%. Similarly, in the third cycle, the value of individual completeness also increased. From 36 students, there are 30 students who completed individually overall obtained the percentage completeness or classical completeness was 83%. The result of student learning in cycle 1 to cycle 3 is increased.

The activity of teachers and students were observed using instruments began from cycle 1 to cycle 3 as a whole also increased, which in cycle 3 only two activities are not appropriate with the allocation set time, when the teachers instruct students to form a group and guide students in doing experiments. The discrepancy between the field time with a predetermined allocation of time is because there are still some students who are less serious in the learning process by implementing ARIAS learning model integrated by constructivist theory.

The improvements of teacher skills in managing learning are presented in the following graph:



In Chart 4.4 can be seen the enhancement teacher skills in managing learning by applying the ARIAS learning model integrated by constructivist theory of first cycle to the third cycle. In the first cycle the average score achieved by teachers was 3.46 with a good category, in the second cycle the average score achieved was 3.63 with a category teachers very good and in the third cycle the average score achieved teachers was 4.00 with excellent category. From the graph it appears that teachers more and more skills at managing learning by using ARIAS learning model integrated by constructivist theory.

## E. Conclusion

Based on the analysis of data on classroom action research that conducted for 3 cycles seen the changes as the research result in order to improve students' physics learning outcomes by implementing ARIAS learning model integrated by constructivist theory. Then the conclusions derived from these activities are as follows:

1. The activity of teachers and students in learning through the implementation of ARIAS learning model integrated by constructivist theory in VIII-1 class of MTsN Tungkob is very good.
2. Teachers' skills in managing learning by using ARIAS learning model integrated by constructivist theory in VIII-1 Class of MTs Tungkob is excellent.

3. Implementation of ARIAS learning model integrated by constructivist theory on material Simple Aircraft can improve student learning outcomes of VIII-1 Class at MTsN Tungkob.
4. Students responded positively towards the learning process using ARIAS learning model integrated by constructivist theory. Students of MTsN Tungkob excited to follow the lessons using ARIAS learning model integrated by constructivist theory, and interested in participating on the next KBM.

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