Application of Active Learning Strategy Type *Everyone is A Teacher Here* (ETH) to Increase Student Activity and Learning Outcomes in Chemistry on Salt Hydrolysis

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***Abstract*—The aim of this study is to increase the activity and student learning outcomes with the application of learning strategies mentioned above. This research was conducted in senior high schools 5 Banda Aceh with sample of students in class XI IA 3 as much as 15 students. The research type is descriptive of qualitative approach. This research was conducted in two meetings. Data collection technique obtained by using observation sheet student activity and learning outcome test is conducted in each meeting. Based on the data analysis showed that the average percentage of the activity of students in the first meeting is 92.94% belong to very good category and at the second meeting is 87.80% with good category. The completeness percentage of student learning outcomes obtained in the first meeting with conceptual study material by 80% and in the second meeting is 73.33%, both of them included in either category. Based on the results of this study concluded that the application of learning strategies ETH can increase the activity and student learning outcomes than before doing treatment of learning strategies ETH on salt hydrolysis.**

Keywords—learning activities; learning outcomes; ETH; salt hydrolysis

I. INTRODUCTION

The ultimate activity of the entire educational process is teaching and learning. Chemical learning involves teaching and learning processes. The teaching process is carried out by the teacher as an educator and the learning process is carried out by the students as learners. The good learning could be seen of the activity on student's study in the following process of study. The learning activity is the biggest influence on thinking's process of student [1]. The majority on the learning process of the teacher held on errand is dominant, so that the teacher have function as the study source and the holding of the highest science (teacher centered) in which the material is just forwarded by the speech's method. This perception must be changed, a teacher will apply the variation of strategy in learning and emphasize to the active's learner on the learning activity. In addition, teachers should also be able to improve students' learning motivation in the form of ways that are applied in the learning process to obtain an effective learning process.

Based on observation on class of XI Senior High School 5 Banda Aceh and the information from a chemistry teacher tell many the student which still obtain the low score of minimal completeness on the chemistry lesson. Actually, on the subject of chemical hydrolysis. The subject is assumed difficult to be understand. The student is obligated be able to understand the features of saline solution which is formed and the concept of hydrolysis in the life, and counting pH from the various of temper in saline solution.

The low of result in student's learning is probably involved by student activity is low since the learning process, the lack of student's understanding on the subject learning, the learning media is limited and classroom learning tends to be conventional so students tend to get bored during the learning process. In addition, the low creativity of chemistry teachers in the planning and implementation of chemistry learning is one component that participated in the implementation of chemistry learning [2].

One of strategy on learning is used to increase the learning activity and the communication among the student is the learning strategy "*Everyone is a Teacher Here*". ETH is a learning strategy which is complete to obtain a participation of learner is totally and individual. This strategy give a chance to each student to errand as teacher for his/her friends. This strategy also make the student that during do not want to be involved on the following into the learning is actively [3].

ETH strategy steps according as follows: 1) Distribute an index card to each student in the class. Ask students to write down a subject matter question that is being studied in the classroom, 2) Collect index cards, then randomly index the cards in such a way before being distributed back to each student, so no one student will accept the self-made question, 3) Then each student is asked to read and try to think of an answer to the question posed in the index card, 4) Each student must explain the answers of the questions and the related material concepts of the matter (being a teacher) to other friends, and 5) After the explanation of the answer is given, ask another student to respond. Continue with the next volunteer until the time is up [3].

In the application of ETH strategies can be varied according to teacher creativity, as follows: 1) The cards (piece of paper) you have collected are held. Created a panel of respondents. Each card is read and discussed. Rotate panel members as often as possible, 2) Students are instructed to write their opinions or observations about the subject matter on the card. Instruct other students to express agreement or disapproval of such opinions or observations [4].

Several related researches include, Research with the application of cooperative learning model type ETH there is a significant improvement in student learning outcomes with the concept colloid. The average learning outcomes obtained by 92% included in the excellent category [5]. Other research proves that student learning outcomes on the influence of cooperative learning model type ETH in vocational high School 2 Surabaya get 90% results can improve student learning outcomes [6]. whilst increase of student activity with the application of active learning type of ETH includes activity viewing, speaking, listening, mental and emotional activity with result of cycle 1 get 77.55% and in cycle II equal to 83.94% also increased [7].

Looking at the problem, the use of EHT strategy can be one of the right solutions to solve the problem of chemical learning on salt hydrolysis material. Therefore, the purpose of this study is to improve student activity and student learning outcomes on salt hydrolysis material by application of ETH type learning strategy in class XI SHS 5 Banda Aceh.

II. METHODS

On approaching which applied by this research is kualitative approach namely the approach which extremely notice are process, occasion, authenticity into implementation of research [8]. The kind of research which is implemented is descriptive research, this research describes the influence of strategy application on learning ETH on the salt hydrolysis material that using the observation data directly toward his the way of learning process in class. This research is implemented at one of the high schools in Banda Aceh which addressed in Street. Hamzah Fansuri No. 03 Kopelma Darussalam. Research time is held during January until March 2015.

The reseach is performed on even semester 2014/ 2015. This research is acted for 2 weeks with twice meeting. The time alocation every meeting 2 × 45 minutes like syllabus. The population on this research is student on class XI. The sample on this research is taken by using the technic of purposive sampling. On research is choosen students on class XI IA 3 amount 15 students which consists of 7 male and 8 female, this thing based on deliberation until become the ideal sample to this research.

A. Data Analysis Technique

Data analysis starts from calculating the percentage of student activity and and learning outcomes. Data analysis of research results are processed using Microsoft Excel software.

Intrusment which is used on this research are: 1) observation student sheet with observe the student activity with inspect the student activity throughout the learning process to twice meeting. The observation sheet contains the aspects which will be marked by three observer consists of teacher and college student by marking (√) in the scoring column for the preliminary aspects, core activities and closing. Each aspect has student rating points with a predetermined range of scores. The description of activity scores during the learning process (1) = Less, (2) = Enough, (3) = Good, (4) = Very Good. ; 2) Cognitive matters, the written test form of the selection of even matters as many as 15 matters which is acted individually. On the first meeting as 10 question and second meeting as 5 question. Instruments about the test used in taking from several sources that have been validated such as the problem of the year 2011-2013, SNMPTN in 2011-2013 and about SPMB 2010.

The activity of student data and value of the learning study is acquired by using the formula is:

$$P = \frac{f}{N} \text{ X } 100\%$$

Note:
P = Percentage figure
f = Score is acquired
N = Maximal score

By interpreting the percentage of student activities during the learning activities can be seen in Table 1

TABLE 1. SCORE OF STUDENT ACTIVITY RATING

No	Mastery Level (%)	Category
1	80-100	Very good
2	66-79	Good
3	56-65	Enough
4	46-55	Bad
5	0-45	Very bad

B. Research Procedure

There are steps in the implementation of this research as follows:

1. Field observation and class observation in SHS 5 Banda Aceh.
2. Preparation of learning tools, such as syllabus; RPP; student activity observation sheets; and test questions at each meeting.
3. Observation of student activity by three observers during the learning process took place.
4. Implementation of learning in class XI IA 3 using ETH strategy.
5. Implementation of post-test at each meeting to find out student learning outcomes.
6. Analysis and data processing on activities and student learning outcomes with the implementation of ETH strategy.
7. Withdrawal of CONCLUSIONs from the problems that have been formulated**.**

III. RESULT AND DISCUSSION

A. The Observation of Student Activity

The observation toward student activity for the learning activity transpiring by measured with using the student of observation sheet. Observations were conducted by three observers, one chemistry teacher and two chemistry students.

The learning process held 2 meetings. Learning is carried out in groups, group formation based on teacher initiative. Students are divided into three study groups. Each member of the group is responsible for the role of teacher within each group. Furthermore, each student will be asked to play the role of teacher in front of the class explaining the material he obtained from his friend's question through the index card that the previous teacher has shared. Each student in each group will have a turn to play a role as a teacher for his friends, thus training students to be more daring to appear and responsible in explaining the material. The comparison of activity on second meeting could be seen on the following picture 1.

Image on the graph of the percentage average of the student activity on the strategy application ETH. ON first meeting is acquired result of 92.94 % and the second meeting amount 87.80%. This percentage shows excellent results on a predetermined range of scores. This shows that students' high student (SHS) enthusiasm with the implementation of ETH strategy. Seen on increased student activity during the learning process, in the form of student interaction with students in each group and explain each other and discuss together questions obtained by each student in the group, as well as the responsibility of students in role as teacher in front of class and response by other students from the explanations of friends who play the role of teachers. ETH is an easy-to-use strategy to gain great class participation and high individual responsibility [9].

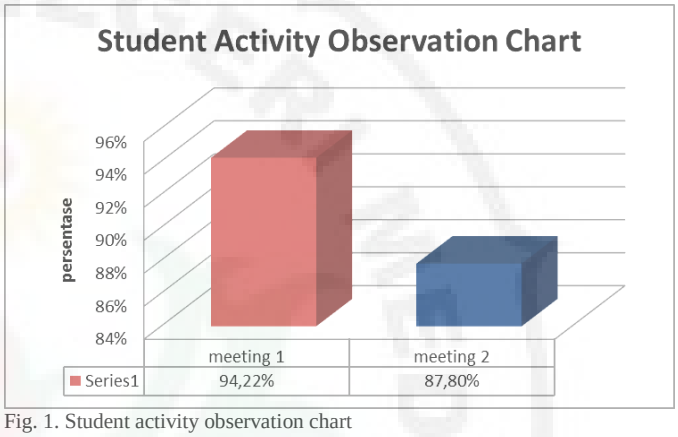

Fig. 1. Student activity observation chart

The result of previous research enhancing the student activeness through the application of learning model ETH result of student's study increase on first cycle is acquired 61,4 with completeness 63.4 % and on second cycle increase become 74.6 with completeness 87.8 % [10]. The corresponding with research on class action which have done demonstrate that the increasing student learning with the application of active learning type ETH pervade the activities , see, speak, listen, mental and emotional activity with the result of first cycle is acquired 77.55% and on second cycle as 83.94% undergo the increasing [7].

Based on the observation that the value of student activity at the first meeting is slightly larger than the second meeting. This percentage difference can be caused by differences in indicators learned at each meeting, where at the first meeting the students study the salt hydrolysis material in the form of conceptual while in the second meeting the students study the material in the form of mathematical calculations. Some students who play the role of teachers look less confident in the class environment, perhaps because students have to explain the matter of calculation to other friends. In teaching and learning process the characteristics of student really need to be considered in order to achieve the goal of good

Students have different levels of motivation, like different attitudes about teaching and learning, and different responses to specific classroom environments and instructional practices. Three categories of diversity that have been shown to have important implications for teaching and learning are differences in students' learning styles (characteristic ways of taking in and processing information), approaches to learning (surface, deep, and strategic), and intellectual development levels (attitudes about the nature of knowledge and how it should be acquired and evaluated) [11].

B. The Result of Student Learning

Test of student result is acted to perceive the student skill toward material which have taught. Assessment of learning outcomes is done by giving the students 10 double round tests at each end of the learning meeting. To know the completeness of student learning outcomes, need a comparison benchmark the value of KKM. Student learning outcomes include individual learning completeness and learning mastery in a classical way.

The KKM set at SHS 5 Banda Aceh for salt hydrolysis material is ≥75. Thus the students will be declared thoroughly on the hydrolysis material if it gets a value of ≥ 75. Here, the grafic which signs the percentage of completeness result the student learning between first and second meeting which could be seen in "Fig.2".

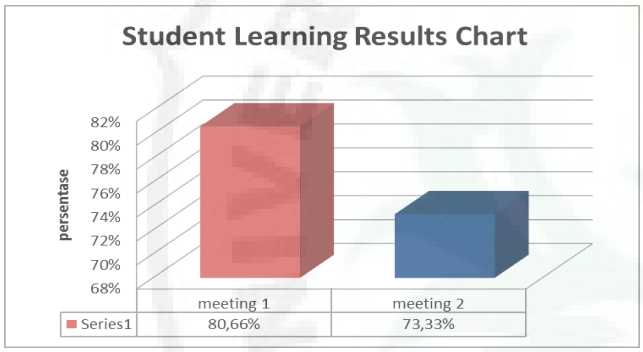

Fig. 2. Student learning results chart

Based on the student result among first meeting and second meeting occur the average value is obtain namely 80.00% and 73.33%. It can be seen the truth that the learning uses ETH model is adequate effective to increase the result of student learning.

The high percentage of student mastering shows the successful implementation of ETH strategies in learning. Students are able to remember and answer test questions very well. Some students who score below KKM or not complete because the students tend to be passive when applied ETH strategy, although already given reading material by the teacher. The likelihood that the student does not like the learning material or does not use the reading material provided.

This appreciate with previous research. Increasing the result of student learning with application on the active learning model type ETH is not just occur on cognitive area or only knowledge, however on affective area and psychomotor with completeness into 90.91% [12]. Next the application of ETH student able to more responsible on preparing a question and explain to his friend until the skill of concept understanding will be better is compared the learning conventionally [13]. The learning application of ETH could be used as new innovation to the learning on develop the social skill and also increase the study result, being completeness until 86.44% is compared the study result with the conventional learning as many as 71.94% [6].

IV. CONCLUSION

Innovation of effort in improving student activity and learning outcome in chemistry on salt hydrolysis have been done in this study. This research is conducted by applying active learning strategy type *Everyone Is A Teacher Here*. The effort obtained from the instrument used by researchers were collected become data to be analyzed in order give desired aspect. After treatment done for both of the classes, ETH can increase student activity and learning outcome. There is increasing of student activity during the learning process with the application of strategy ETH on chemistry of salt hydrolysis, acquiring the percentage which is obtained on the first meeting as 94.22 % included on well category and on second meeting as 87.80 % include on good category.

The result of student learning with application of strategy ETH into learning on hydrolysis salt of subject on the first meeting reach of completeness about 80 % and on second meeting around 73.33%. Both of categories are good and effective could increase the result of student learning.

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