

IMPROVING STUDENT'S ACTIVITY IN LEARNING CHEMISTRY THROUGH HOMEWORK OF MAKING QUESTIONS

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Abstract. This study aims to improve student's activity in learning chemistry at SMAN XI-MIPA1 semester odd SMAN 2 Singaraja in the school year 2015/2016. This study included a type of classroom action research with a research cycle model adopted from the Kemmis & Taggart model. As the subject of this class action research is all students of class XI-MIPA 1 odd semester SMA Negeri 2 Singaraja Academic Year 2015/2016. The data was collected through observation and student questionnaires. Analyze data using descriptive-qualitative, ie by describing the average number of students who ask at each cycle. The results showed that giving the task of making inquiries at home can increase students' activity in the classroom. This student activity can be seen from the number of students who ask questions in the class. The number of students who asked at the time of observation before the action was about 16.67%. After the action, the number of students who ask in cycle I is 41.67% while in cycle II is 53.13%. Thus the method of providing home duties in the form of making the questionable to increase the activity of learning in the classroom.

Keywords: student's activity, learning chemistry, homework, making questions.

Classroom learning activities always involve learners and students. Learners act as teachers, mentors, facilitators, create a conducive atmosphere and the most important thing is to strive for the purpose of learning can be achieved. While students are tasked to learn, pay attention to the lesson, and follow all learning activities created by the learner so that the learning objectives can be achieved.

Based on the task of the learner and student, the success of a learning goal will be achieved not only from the role of the learner, but the students also play an important role in the achievement of learning success. Any clever learner who teaches if students do not pay attention then the goal of learning will never be achieved. This proves that the cooperation between learners and students or two-way communication in learning activities must be well established for the achievement of learning objectives.

Based on observations that made for approximately two months in the class XI-MIPA 1 SMA Negeri 2 Singaraja there are some problems faced by students when following the

subjects of chemistry. These problems include the lack of readiness of students to follow chemistry lessons, students' assumption that chemistry lessons are difficult, lack of interest in chemistry in class, difficulty solving chemical problems related to calculation, and low student activeness in the classroom.

Lack of readiness of students in the class can be seen from the questions and answers submitted by students. Students seem to have difficulty in asking questions about the unintelligible material. Questions and answers are often not related to the material being studied. Students also appear busy opening the book when the learner asks questions or the learner asks the students to ask questions.

The readiness of the students to receive the subject matter in the classroom will result in the smoothness of the learning activities. Most students do not learn the material first before going to class so the students look not ready to receive the subject matter. New students read the material to be learned during classroom learning activities.

Chemical materials partly contain problems to be solved by mathematical calculations. In the class XI MIPA material of odd semester, almost all materials require basic mathematical calculation ability that is the calculation of octane number in Petroleum material, calculation of reaction enthalpy change on thermochemistry material of calculation of reaction rate, and equilibrium calculation on equilibrium system material. Students still seem to have difficulties solving mathematical calculations containing multiplication and fractional divisions and still having difficulty solving mathematical calculations containing the rank.

The low basic ability of mathematics often becomes a barrier to students in completing chemical calculations. Conceptually, students generally have understood the content of the chemistry they have learned. The lack of interest in students to learn chemistry in the classroom is evident from the number of students who seem passive in the classroom and not fully involved in the learning activities. Students who look passive in the classroom are not always students who have less ability. Some students tend to be passive in the class because the students already understand the material that is learned because the students have been studying in the place of tutoring they follow. This can be seen when appointed to answer the question the student can answer well.

Students who ask and answer at every chemistry lesson are quite low. Only certain students play an active role, and this behavior will recur at subsequent meetings. Other students tend to follow passively in class lessons. Facts like this are a reflection of the low activity of students following classroom learning.

The learning outcomes achieved by active students in the classroom are not always superior to passive students in the classroom. Most of the students who were actively involved in the classroom during daily tests and midterms were getting an average grade. Students who get the highest score are students who in the classroom look passive.

Based on the problems faced by students of XI-MIAP1 grade year 2015/2016 odd semester, researchers argue that an action needs

to be done to overcome the problems faced by students. The problem chosen to be given an action is the lack of asking in the class. Selection of this problem because the researcher views the problem of student activeness in the class is a problem that must be resolved first and solving this problem will affect the readiness of students in the class, students' responses to chemistry, and student interest in the classroom. The action taken to resolve the issue is to give the home task a question. Questions that students have arranged at home will be delivered in the classroom during the learning activities.

Based on the problems that have been selected then prepared a problem formulation, namely: Does the assignment of home duties make the question can increase the activity of students of class XI-MIPA1 Semester odd SMA Negeri 2 Singaraja 2015/2016 school year?

This study aims to describe and explain the increased activity of students in the classroom by giving the task of making questions as homework.

METHODS

Research Design

The research approach used is the qualitative descriptive approach. Researchers describe the results of research in the form of narration. This type of research is Classroom Action Research (PTK) done to improve the quality of learning through appropriate learning techniques in accordance with the problem and the level of student development. Classroom Action Research Design follows the model design of Kemmis & Taggart. The research was conducted on the students of XI-MIPA1 semester odd semester of SMA Negeri 2 Singaraja in the academic year 2015/2016 with a total of 24 students consisting of 12 male students and 12 female students.

This study was conducted for 2 months, starting from October to November 2015. Data collection techniques used in this study are observation and student questionnaires. The research instrument used is student activation observation sheets in the class which is only seen from the number of students who ask questions in the classroom.

The data analysis used to measure students' activity in the classroom is the average

number of students who ask each cycle. In each cycle there are two meetings with each meeting there are two questioning sessions. The first session is at the beginning of the learning phase and the second session is at the end of the learning at the time of reinforcement.

RESULTS AND DISCUSSION

Before conducting classroom action research, the researcher has observed the problems in the class for 2 months, ie August and September. Problems gained during the observations are then searched for the root of each problem to facilitate the process of identifying the problem to be given the action. Problems raised are given the lack of a number of students who are willing and able to ask questions in the classroom.

Implementation of Action

a. Cycle I consists of 2 meetings. Researchers conduct teaching and learning process in accordance with the pre-made RPP. Question sessions are divided into 2 sections, namely session I at the beginning of the learning phase during the question and the second session at the end of the learning at the moment of reinforcement.

b. The first meeting was held on Thursday, the second week of October 2015 at 08.30-10.00 WITA. Learners are present as many as 24 people. At the beginning of the study, the researcher gave apperception to students about the previous learning materials and materials related to the material to be studied so that the students focus to receive the chemistry lesson.

Table 1. Number of Students Submitting Question Cycle I

Sessions Asking Students	Number of Asking Questions		Average
	Meeting I	Meeting II	
1	9	12	10.5
2	10	9	9.5
Average	9.5	10.5	10

c. At the end of the cycle I the researchers looked at the number of students who asked at the time of the questioning session. The results of the number of students who asked

the first and second meeting were then averaged as the first cycle data. Table 1 showed the number of students who asked in cycle I.

1. Observation

A stage of observation is done to observe the implementation of learning in accordance with the RPP and the students who ask questions at each session.

Reflection of Cycle I

Based on the overall action done in cycle I the researchers do reflection. The results of these reflections include:

- In addition to the students being notified of the material to be learned at the next meeting, students are also notified of the prerequisite materials at the next meeting so that students before they meet face to face.
- Students are asked to make inquiries according to what they want to know rather than the results of copying the LKS question.
- Emphasize students that all questions are not wrong and all students are entitled to ask questions.

A. Results of Action Cycle II

1. Action Planning

In general, learning in cycle II is the same as that done in cycle I. Researchers only make improvements in accordance with the reflection on cycle I. learning cycle II consists of two meetings, namely on November 4 and 5 November 2015. At the first meeting of the given material is a factor -factors that affect the equilibrium shift whereas at the second meeting the material given is an equilibrium in the chemical industry.

2. Implementation of Action

- Cycle II consists of 2 meetings. Researchers conduct teaching and learning process in accordance with the pre-made RPP. Question sessions are divided into 2 sections, namely session I at the beginning of the learning phase during the question and the second session at the end of the learning at the moment of reinforcement.
- The first meeting was held on Wednesday, November 4, 2015, at 10.15-11.45 WITA. Learners are present

- as many as 24 people. The researcher recorded the students who asked, and the second meeting was held on Thursday, November 5, 2015, at 08.30-10.00. Learners are present as many as 24 people. During the learning process, the students are divided into 6 groups and each group consists of 4 students.
- c. At the beginning of the study, the researcher gave apperception to students about the previous learning materials and materials related to the material to be studied so that the students focus to receive the chemistry lesson. After giving apperception the researchers convey the chemical facts related to the material to be studied. After presenting the facts, the researcher asks the students to ask questions that have been done at home according to the material learned at that time.
 - d. Questions that have been made at home are first written down on a piece of paper so that if they do not get a chance to ask their questions, students can collect the questions they make. The limited time available in each lesson makes the researcher confine only the student who will present the question. At that time the researchers recorded the number of students who raised their hands to ask questions.
 - e. Questions submitted by students will be written on the board then the researcher will choose some questions that will be used as problem formulation for learning at that time. After obtaining the formulation of the problem students will conduct a group discussion to gather information, associate, and make conclusions related to the work done and the formulation of the selected problem.
 - f. At the end of the study, the researchers provide reinforcement of the material that has been studied. After providing reinforcement the researcher gives the students the opportunity to ask if there is still material that has not been understood.

- g. At the end of cycle II, the researcher looks at the number of students who ask at the time of the questioning session. The results of the number of students who ask at first and second meeting are then averaged as data cycle II. Table 2 showed the number of students who ask on cycle I.

Table 2. Number of Students Submitting Question Cycle II

Sessions Asking Students	Number of Asking Questions		Average
	Meeting I	Meeting II	
1	14	13	13.5
2	11	13	12
Average	12.5	13	12.75

3. Observation

A stage of observation is done to observe the implementation of learning in accordance with the RPP and the students who ask questions at each session. During the learning activities took place the observer observed the overall learning activities. Overall learning activities are in accordance with the RPP that has been prepared.

Some obstacles during the learning activities in cycle I, among others:

There are students who have forgotten the X-class chemicals that are prerequisite materials at the meeting. There are still students who are reluctant to ask questions even after making inquiries at home. The student is afraid that the question made will be laughed at by the other students.

Cycle Reflection II

Based on the overall action done in cycle I the researchers do reflection. The results of these reflections include:

- a. Asking students to study material is a prerequisite and provides an opportunity to ask researchers if they do not understand.
- b. Provide motivation to never be embarrassed to ask questions. All questions are good and will make students better understand what money will be learned.

Discussion

Based on the description of the results of research on the cycle I and cycle II that have been described can be seen that the assignment of home tasks make the question can be known that the assignment of home duties to make inquiries can increase the number of students who ask questions in the classroom. This

increase is seen from the number of students who ask at every meeting both in cycle I and cycle II. At the time of observation activities of students who ask at each meeting only about 4 people, while in the first cycle of the average who asked to 9.5 and on the second cycle to 12.75 (Table 3).

Table 3. The number of students asking both in cycle I and cycle II.

No	Students Condition			Total Student
	Early	Cycle I	Cycle II	
Average of students attendance	24	24	24	24
Average of students ask questions	4	10	12.75	24
Percentage	16.67	41.67	53.13	24

In general, students' activeness in the classroom has increased. This can be seen from the number of students who want to ask questions in the classroom. Students have already dared to ask questions, but there are still some obstacles that exist for some students. These problems have not been seen at the time of the observer's observation. The problems that exist in cycle I are directly given the action as an improvement material in cycle II. There are problems that arise in cycle I and still appear also in cycle II. The problem is the lack of students understanding the prerequisite material and there are still students who are reluctant to ask questions because of embarrassment the question will be laughed at by another friend.

Prerequisite materials that must be mastered by students have been true students have learned in the previous material but some students have forgotten the material so that to start the material to be learned to be a little hampered. The researcher should repeat the re-explain the prerequisite material before entering on the core material. Provision of action so that students learn the prerequisite materials at home a little hampered because there are some students who have a fairly out of school schedule, both extracurricular activities and other student activities that happen to class XI-MIPA 1 is almost 50% is the board of OSIS.

The existence of students who are reluctant to convey the question for fear of being laughed at by other friends, this fact appears to students whose ability is at the lower middle level. These students lack confidence in what they make. They are afraid that their questions are something that many other friends have understood so that later other friends will laugh. In cycle II this incident has begun to decrease and only happened to students who are really passive in class. The passive student is not only passive in chemistry but also passive on other subjects.

CONCLUSION

Based on classroom action research that has been done in XI-MIPA class 1 odd semester of SMA Negeri 2 Singaraja in the academic year 2015/2016 it can be concluded that giving the task of making inquiries at home can improve students' activity in the classroom. This student activity can be seen from the number of students who ask questions in the class. The number of students who asked at the time of observation before the action was about 16.67%. After the action, the number of students who ask in cycle I is 41.67% while in cycle II is 53.13%. Students who still do not want to ask are students who are still reluctant to convey questions that have been made at home. The student is afraid the question will be made laughed at by another friend. In

addition, there are students who are passive in the class either on the subject of chemistry or other lessons.

Based on the research that has been done, researchers can provide suggestions as follows:

1. Giving home tasks make the question can be used as an alternative method to improve student activeness in the classroom and at the same time increase the two-way interaction in the classroom
2. Material that becomes a prerequisite on the material to be studied so that students understand well so that learning can run smoothly.
3. Students are encouraged to dare to convey the questions they have.
4. Passive-looking students are given motivation to be actively involved in learning activities in the classroom because the assessment of learning is not only in terms of knowledge assessment but also attitude and skills.

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