Scientific based learning assisted by integration E-modules biochemical in Al-Quran

R Risnita*, F Fadlilah and L Muliawati
Faculty of Tarbiyah and Teaching, UIN Sulthan Thaha Saifuddin, Jambi, Indonesia

*risnita@uinjambi.ac.id

Abstract. The introduction of this research that learning need learning activities. The learning process will be done if there were a good learning activity. Process of learning activities must involve all aspects such as students, teachers, and the environment. Learning activities were physical and mental activities. In the learning process, the both of the activities must be combined. Based on observation, student biology education learning prosed lowed learning activity. The aim of this research to increased students learning activity Biology Education Studi Program Faculty of Tarbiyah UIN STS Jambi. Collaborative learning based on lesson study has been done in the Biology Education Studi Program Faculty of Tarbiyah UIN STS Jambi in biochemistry courses. Open Lesson done for 2 cycles namely cycle one and cycle two. The stages of the study lesson were plan (goal-setting and planning), do (research Design), see (lesson Discussion) and redesign (consolidation of Learning). Each cycle donet using a scientific approach in implementation with the approaches in the e-module. At the beginning of the lecture, student done the pre-test and the end of the lecture they done post-test. The results of this study indicated that an increased student learning activities in the process of lecturing biochemical.

1. Introduction
Lesson study was program to improve the quality of lecturing in all of level education from kindergarten, middle school and higher education [1-3]. For example, collaborative Learning based on lesson study had done by lecturer and teacher in Madrasah Ibtidayyah (Middle School) Al-Ihksan Kota Jambi to increased students activity [4]. Process of learning activities must involve all aspects such as students, teachers, and the environment. Learning activities were physical and mental activities. In the learning process, the both of the activities must be combined. Lesson study done first time Japan [5]. Stages of lesson study activities, explained as in Figure 1 below.
Management of lecturing must be managed properly by lecturer. This certainly becomes a competence possessed of lecturers. A professional lecturer must have made syllabus, learning activity plan (RPS), and teaching topic that it must be done by a lecturer before entering the class. The choice of models and learning methods or approach of learning affected the quality of learning. Some learning models can be done in the lecturing process such as cooperative models, direct learning models, class discussion models and problem-based learning models. Direct instruction models known as active teaching. The mention refers to a teaching style where the teacher actively involved in carrying out the contents of the lesson. The lecture teaches it directly to the whole class. Concept of cooperative learning models include all types of group work that it directed by the teacher. In general, cooperative learning is considered to directed by the teacher, where the teacher seen tasks and questions. The teacher provided topic and information to help students solve the problem in question. The problem based learning model was developed based on the concepts by Jerome Bruner. The concept was discovery learning. While model learning classroom discussion, teacher with a student or students with student mutual exchange of opinions orally, mutual sharing of ideas [7,8].

The ability to increase student learning activity need varied learning problems. Issue of learning was a problem that actual done by teacher. It needed lot of experts to discuss and produced a variety of theories about learning activity. Based on 2017 curriculum were used in the Tadris biology department Faculty of tarbiyah and Teaching University of Islam Negeri Sulthan Taha Saefudin Jambi, biochemistry was subject skills which shall be followed by Students with 3 credits. This course discusses about the various phenomena of nature that is associated with being alive of our body. In addition, the important activity was the activity learning in the process of the lecture [7].

Activity offered value added for the students, such as student consciousness as a manifestation of their internal motivation to learn the true. Students looking for experience and direct experience itself. Students learn according to their interests and abilities. An attitude of discipline and democratic learning environment among students. Learning done concrete as to develop ever safer and critical thinking as well as [7,9]. In addition, the activity of students not only listen or record lecture topic, the lecture activities also include visual, oral, listening, writing, drawing, mental and emotional activities. If this activity done in the lecture process, students will more easily understand the lecture topic. Thus to create the activity of lectures in individuals, it was necessary to create an effective and efficient
learning process in order to achieve the competencies expected in the lecture process. To support learning process, lecture need varied learning media. It can have made increased learning student motivation [9].

2. Research methods
This study done in a student in fifth semester Tadris biology department Faculty of tarbiyah and Teaching University of Islam Negeri Sulthan Taha Saefudin Jambi years odd semester 2019/2020 which amounted to 30 students.

2.1. Lesson study implementation plan
This Research done with two cycles, which consisted of cycle one and cycle two. At each cycle having stages plan (goal- setting and planning), do (research resign), see (lesson discussion) and redesign (consolidation of learning)

2.1.1. Plan (Goal-setting and planning). Lecturer planned learning in class to conduct discussions with the team of lesson study Tadris biology department Faculty of tarbiyah and Teaching University of Islam Negeri Sulthan Taha Saefudin Jambi This plan was implemented at the beginning of November 20 19, talked about

- Biochemistry topic done the cycle of crebs (carbohydrates metabolism and glycolysis).
- Make the syllabus, RPS and topic teaching and observation sheet used at do stage (research design).
- Discussing with observers the activities of students that will be observed in learning such as student activities observe explanations of topic from the lecturer, activity to ask students about the topic presented, student activity in doing the exercises in e- modules, individually or in groups, and activity feedback the lecturer asked the students to measure the level of student understanding of the topic presented

2.1.2. Do (Research design). Do (Research Design) activity where a lecturers done the process of learning while the lecturer other as an observer who observes the activities of the students in leering. To see student’s activity learning, there were two lecturers from Tadris biology department Faculty of tarbiyah and Teaching University of Islam Negeri Sulthan Taha Saefudin Jambi as an observer. Open lesson done for 2 cycles on 4th and 11 November 2019.

2.1.3. See (Lesson discussion). With friendship principal, on the activities of discussion reflection which was by observer. the opportunity first given to lecturer’s models for herself reflection that includes expression of a feeling, a review of the process / work flow lectures, and a review of the achievement of the purpose of the lecture. The second, see both observer express the results of observation about fact, not just theory or opinion to repair plan lectures or next open lessons.

2.2. Data collection techniques and instruments
The type of data in a study of this was the data qualitatively that the data on the activity of all- student the implementation of the open lesson 2 cycles. Retrieval of data is done by using a sheet observation activity of students and video recordings during lectures for 2 cycles.

3. Results and discussion

3.1. Cycle one learning process
Open lesson in cycle I was done by discussing topic about Al-Quran integrated carbohydrate metabolism. Lecturer explain topic with approach scientific e- module biochemistry Al-Quran integration were already prepared.
Once the topic is completed, the lecturer gives discuss examples of problems and provide practice problems that already on e-module. After that, students are asked to work on exercises in groups. The results of observations made by observers and video recordings for student activities, such as table 1.

Table 1. Results of observation activities students in cycle one.

| Activities                           | Number of performers (%) | Number of not doing (%) |
|--------------------------------------|--------------------------|-------------------------|
| Attention to the explanation from the lecturer | 53.33                    | 46.67                   |
| Inquire about the materials were delivered | 14.33                    | 86.67                   |
| Done questions to front of the class | -                        | 100                     |
| Work things out correctly            | 14.28                    | 85.71                   |
| Understand about the topic           | 14.28                    | 85.71                   |

From the results of observations in table 1 looks that learning still considered very less active. Many students did not listen at the time of learning and did not want to ask question to the lecture when lecture given the opportunity to ask. In addition, the results of the answers to the exercise questions that were done both at the pre-test and at the post-test on carbohydrate metabolism, there were no students or groups of students who understood the topic being taught. Likewise, with the skills to ask questions, do the questions correctly, and do the questions in front of the class at all.

Figure 2. Module biochemistry Al-Quran integration [10].

Figure 3. Lecturer model were explained about the example about the topic metabolism of carbohydrates.
In addition, students were still busy with other activities during lecturing such as being busy with handphone and chatting with the others. If this condition is left constantly then it was most students will experience difficulty in understanding the concept of metabolism of carbohydrate that has been given. Suggestions from some observers to continue given motivation students for learn and give more attention to students who were still lacking in absorbing lecture material.

3.2. Cycle one learning process
In cycle two was learned is still about photosynthesis integrated Al-Quran. Same with cycle one, lecture explain topic with approach scientific support with e-module biochemistry were already prepared. Once the topic is completed, the lecturer gives discuss examples of problems and provide practice problems that already exist on the e-module. After that, students are asked to do the exercise questions in groups. The results of observations made by observers and video recordings for student activities, such as table 2.

| Activities Students who observed | Number of performers (%) | Number of not doing (%) |
|----------------------------------|--------------------------|-------------------------|
| Attention to the explanation from the lecturer | 86.67 | 13.33 |
| Inquire about the materials were delivered | 6.67 | 93.33 |
| Done exercise in the front of the class | 10 | 90 |
| Working problems with correctly | 66.67 | 33.33 |
| Understand about the topic | 66.67 | 33.33 |

From Table 2 can be seen that the existence of an increase in the activity of all students in cycle two is compared with the cycle one. Some items were observed an increase. Suggestion observer in cycle one to attention to students is done well. Before starting the lecture performed a pre-test in advance of the concept of the metabolism of carbohydrates and photosynthesis integrated Al-Quran. The result there were 14.28% of students who answer perfectly. This indicates that 85.71% of the students do not understand the concept of metabolism of carbohydrates integration Al-Quran. However, at cycle two students were already preparing themselves well so the result was 66.67% students can have answered both questions were given. While the remaining 33.33% of students answered less than perfect. on reflex observer advised to attention more of students.

4. Conclusion
From the results of the study indicated that the lesson study in tadiris biology department faculty of tarbiyah and teaching University of Islam Negeri Sulthan Taha Saefudin Jambi on biochemistry course can increase the activity of students in the lecturing although not maximum. The open lesson already noticeable activity of students in honing the ability to ask and answer practice questions.

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