Improving lecture activity through discovery learning method to the students of Guidance and Counseling Program in Faculty of Teacher Training and Education,
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Abstract

Quite a lot of Guidance and Counseling students in the Faculty of Teacher Training and Education were not actively involved in the learning activities. It was seen that during the lecture some students did not dare to ask and rarely wanted to answer the questions from the lecturer. In the preliminary study, students who were active in the lecture were about 53% in each class. In general, the passive students depended on the opinions of others rather than dared to express their own opinions. This condition ensued resulted in the test result in which they got 50 in average. Based on this issue, this classroom action research aims to improve the students learning activities in the Students Development course through the application of Discovery Learning method.

The subjects were the students who took the Students Development course in class A, 32 students (1 class). The lecture materials discussed were about the characteristic factors that influence the children development, either elementary, junior, or senior high school, and also social, moral and emotional development. This research variables were about (a) observation to observe the activities of the students activity in the lecture (during the presentation and discussion in the class and during the observation at school), and (b) test. The research performance indicator was 80% of the active students during the lecture discussing, information seeking and processing, summarizing, and presenting the results. Research analysis techniques used were the quantitative and qualitative descriptive analysis.

The research was conducted for two cycles. Subjects were grouped into 6 groups in conducting discovery learning, which were discussion of hypothesis formulation, hypothesis verification through observation in school, and presentation to report the results of the verification. Based on the observation during the lecture, the active students were 25 students (78.1%) in the cycle 1, and 28 students (87.5%) in cycle 2. Thus, a lecture using discovery learning has increased the activity of students who took Students Development course.

Key words: Lecture Activity, Discovery Learning, Classroom Action Research

Introduction

A. Background of Study

Educational and psychological experts agree that the aim of education will be achieved when students actively involved in the learning activities. Learning is an activity process which belongs to a fundamental element in education. According to Gagne, learning is a process in which an organism changes its behavior due to an experience. Hintzman states that
learning is a change that occurs in organisms caused by the experience that can affect the behavior (Syah, 2003).

The learning process occurs internally and individualistic for learners. So, the teacher must plan the variety of learning experiences carefully and systematically that enable the students to learn optimally and attain the goal achievement of the curriculum.

In fact, based on the observation and interview results with several teachers, it turned out that some students of Guidance and Counseling Program were not active in the learning activities. The lower activity of learning can be seen from the students’ passivity in lecture in which they do not dare to ask, want to answer the questions, and dare to express their opinions when they are given a chance.

That condition also occurred in Students Development course. This lecture usually used lecture method, and discussion method, but there were only 53% active students in the class. Many students depended on others’ opinions rather than dared to express their own opinions. The students’ passiveness in that course also affected on the comprehension they achieved. Based on the small test (quiz) from the Students Development course, there were only 30% from 32 students who received the highest score (above 80). Instead, there were 35% who received the lowest score (fewer than 55), and the others (35%) got 56 to 79. Thus, the mean value of this small test was only 50. Indeed, this condition will give the effect on the graduates’ quality of Guidance and Counseling students.

Based on that problem, active learning should be emphasized. Discovery Learning method is one form of learning applications that makes students become active which emphasizes on searching the information, discussing, and formulating the conclusion by themselves. Students are expected to be active through this method. This method aims to increase the students’ activeness, train students to use the environment (including the school) as a learning resource, and direct students for lifelong learning.

Discovery method is a form of learning that provides an opportunity for students to find information or facts by themselves. The advantage of this method is motivating the students to learn according to their own abilities (Syah, 2003).

 Furthermore, Syah (2003) states that the Enquiry - Discovery Learning is learning to seek and discover by themselves. In this learning system, the teachers do not set and present the lesson material in the final form, but the students are given the opportunity to seek and find the answer by using the problem solving approach. Through this approach, the students are encouraged to use their own cognitive ability to attend the learning activity. Thus, the student can place the information and learning experience into their long term memory.

Based on that fact, the research team devised a Discovery Learning method to bridge the students’ understanding and activity lacking, especially in the Students Development course.

B. Research Objective
The research study aims to improve the student learning activity through applying the Discovery Learning method in the Students Development course.

C. Benefits of Research
1. For students
   a. They get more vary learning experiences that help them to think critically.
   b. They accustom to give their opinions, work together, and respect each other.
2. For teachers
   a. They gain new experience and skills to apply the Discovery learning method.
   b. They accustom to consider and solve the problems they face during the learning.
3. For researchers
   a. They accustom to work with other fellow researchers to conduct the research
   b. They can implement a learning innovation in their daily learning.
4. For institutions
   This research report can be used as one important element in the interest of Guidance and Counseling Program accreditation, Faculty of Teacher Training and Education, Satya Wacana Christian University.

LITERATURE REVIEW

A. Discovery Learning

Several methods can encourage students to learn actively in the class by using discussion, assignment and inquiry method. According to Jerome Bruner (Syah, 2003) that the Discovery Learning is the theory of inquiry learning based on constructive that happens to solve the problem in which the student learn to draw their knowledge and experience to discover the fact, relationship and new truth. Students interact with the world through exploration and object manipulation that grapple with questions and controversies, or performing experiments. It can be more likely to improve the concepts and knowledge that is found on their own. The discovery learning models are including: guided discovery, problem-based learning, simulation-based learning, case-based learning, and incidental learning.

Bruner (Syah, 2003) stated that intellectual growth and learning development of children are organized by the environment through the process of giving meaning to something called a conceptualization. The concept is built through experience and a procedure known as coding, which refers to the relationship between the general and particular categories. The education can help children to encode their experiences from the specific to the general. This procedure requires theoretical and practical ways. The learning process can work well when the learning materials are appropriate with the stages of child development. It means that the children have to experience (enactive stage), then they give the reaction (iconic stage) and finally they give the symbol to them (symbolic stage).

a. Advantages and disadvantages of discovery learning

Some of the advantages gained in applying discovery learning, such as:
1. It can save the knowledge in the long term memory and more memorable than the other ways.
2. It can improve the students’ ability to think and explore because they have to analyze and manipulate information to solve problem.
3. It can arouse the students’ curiosity and motivation to work on until they find the answer.
4. It can encourage the students’ involvement actively.
5. It can promote the students’ autonomy, responsibility, and independence.
6. It can customize learning experience.

While, the disadvantages gained in applying discovery learning, such as:
1. The learning process is longer than other methods, so it cannot resolve the materials quickly.
2. The passive students who are able to follow this learning will find difficulties in their group.

b. The Measurement of learning discovery learning
There are some the steps of discovery learning method according to Walter Klinger, SEQIP (1997):
1. **Motivation** aims to guide students toward the educational materials to arouse curiosity, enthusiasm and willingness to learn.
2. **Formulation of the problem** aims to focus the students’ attention to identify issues to be addressed.
3. **Preparation of opinion** based on experience or interpretation so it can give the hypothesis of the problem given.
4. Planning and construction of the tool aims to plan and construct an experimental device that allows the verification or rejection of hypotheses and determination of the relationship of the relevant parameters.
5. **Implementation of the experiment** is the point of attention in learning process. Answers to scientific questions will be found through experience of trial by using tools developed specifically for this purpose
6. **The conclusion** is a generalization of the experiment result that will bring new scientific knowledge
7. **Abstraction** is a specific formulation of detail knowledge which gained through the special case in order to conduct research to achieve the general conditions. Abstraction is an idealization and generalization of statements that use the technical terms in detail with the right concepts.
8. **Knowledge consolidation** aims to allow students to acquire the knowledge which enable to integrate and internalize the knowledge into the structure.

B. Relevant research findings

The importance of inquiry discovery learning method is reinforced from several studies such as Irma Rusdiani (2006) that implement the inquiry approach to enhance critical thinking skill of students in social sciences course which has the following results: (1) It gives the meaningful learning process which the students are very active in the learning process and have a good impression for the subjects, (2) It can improve the critical thinking skill of students, and (3) It can improve the student learning outcomes.

Besides, the research findings of Astikah Ari (2006) who obtained the data that the average value of the students critical thinking skills test has increased significantly after using the discovery learning. The critical attitude of students is also changing. Another, the majority of students is not only asking but also expressing their opinion and daring to argue. Students are also willing to cooperate with another friend.

C. Research hypothesis
Based on that description, the hypothesis in this research study is the student activity in the lecture of Students Development course is increased through Discovery Learning.

RESEARCH METHOD

A. Type of research
This study was a Classroom Action Research (CAR) by using the collaborative traditional model. According to Danny S (2005) CAR was a cyclic study with various alternative measures which aims to address the learning problem in the classroom and improve the students learning outcomes

B. Research subjects
The subjects were 32 students of the Students Development course in Semester II 2010/2011. The research subjects were selected based on the average of pre-test results and the activity during the learning process.

C. Research variables
The research variables consisted of independent variable that was in form of discovery learning method implementation. While the dependent variable that was in form of student activity during the lecture, both in the formulation of hypothetical discussion, the proof of the hypothesis through the school data collection, as well as the presentation in class.

D. Data, Source and Technique to Collect Data
Data and source in this study were the activity of students during the lecture, including the students’ attitude and behavior. The data were taken from the subjects when they did the activity in the class, such as to formulate and prove the hypothesis and also presentation in class.

The technique of research data collection technique was an observation to the student activity during the lecture by using the instrument of observation guide. Observation was taken since the formulation of hypothetical discussion by each group, the implementation of hypothesis evidence in the school, and the presentation of evidence in the lecture.

E. Performance Indicator
Performance indicator in the study includes 80% of students who have been active in the learning (in discussing hypothetical formulation, proving the hypothesis, and presenting the results in class).

F. Technique of Analysis
The analysis used in this study was the qualitative and quantitative descriptive methods which emphasize on the success of research as defined by the indicator. Quantitative descriptive used to analyze the student activity during the learning implementation.

G. Research Design
The design of this study used the process model, which consists of problem identification stage to the stage of reflection and evaluation. In this study, students were grouped into 6 groups; each group was consisting of about 5 students. First of all, the subjects were given a brief explanation about the material, and then they were given the task about problem solving. The problem solving task was done by formulating the hypothesis based on references
(literature and experience). The students searched or proved the hypothesis by doing observation at the school. Furthermore, the result of the observations during the school was presented in class.

ANALYSIS AND DISCUSSION

A. Pre-cycle Condition
Subjects were students who took Students Development course in semester II 2010/20122 of the Guidance and Counseling program. The subjects were 32 students that consist of 20 male and 12 female.
Activity in the lecture
Based on the observation in the pre-cycle during the course, there were 15 passive students (46.9%) among 32 students. While the students who are categorized as active enough and very active were 17 students (53.1%).

B. Analysis of Research Result
Based on the finding during the pre-cycle, the researchers designed the discovery learning with classroom action research procedure to improve the students’ activity and understanding to the material. Throughout the study, there were two data that must be observed such as the activity of students during the lecture and the test results.

1. Cycle I
The action in this cycle I was an implementation of Discovery Learning by giving the task description about problem solving.

The action was divided into several stapes. The first step gave a brief description about material content and task. The material was the characteristic factors that influence child development in elementary, junior and senior high school, and also influence their social and moral development. The students did the task in group by doing a literature review based on the reference used. Each student was expected to have learned reference books before they discussed the task. The second step was the distribution of random groups which were 5 to 6 students in each group. The third step was an implementation of group discussions in class. The researchers made the observation and the lecture of Students Development course became facilitator during the discussion. The fourth step was an evidence of discussion result. Each group must be proving the group discussion about the social and moral students’ development through school observation. The researchers also conducted observation of activity of the group members during the evidence. The fifth step was the presentation about the observation in each school by the group. The presentation conducted by two groups who made the observation on the same level of education. The researchers also conducted observation of student activities and the Lecturer became the facilitator during the presentation and discussion. The sixth step was the implementation of appropriate material which already discussed.

Activity in the lecture
The researchers were collecting the data since the discussion and evidence of hypothesis by the group in the school and also the presentation and discussion of classified reports in the class. The result of such activity was recapitulated and categorized into 4 groups, which were not active, less active, quite active and very active group.

Very active students were more dominant, 25 students (78.1%), while the quite active students were 3 students (9.4%), and the passive students were 4 students (12.5%)
from the total students, 32 students. Based on the success indicators in this study, the
distribution of student activity during the lecture has been shown target achievement, but
there were still 4 students who seem not to follow the lecture seriously, especially in the
proof of the hypothesis. The 4 students were absent during the school observation to
prove the hypothesis of their group.

Based on the evaluation and reflection step on the cycle I, there were 7 students
who need to be increased the activeness. This was presumably because some students felt
still did not understand the role of individual participation in the learning stages of
discovery learning in both to formulate and proof the hypothesis. Therefore, this research
still needs to be continued in the cycle II.

2. **Cycle II**

Level of learning performance in cycle II was still the same as the level of
implementation in cycle I. Research subjects were divided into 6 groups that according to
the grouping in the implementation cycle I. Material was learned in the form of social,
moral, and emotional development of child at elementary, junior, or high school level.

The Discovery Learning in the cycle 2 was focus action on the explanation of the
task group in the form of questions (problem solving). The distinguish thing between the
cycle 1 and cycle 2 was emphasis on an explanation of how to implement the learning by
discovery and the role of each group member to complete the task group.

**Activity in the lecture**

The result of using the Discovery Learning course on the cycle 2 was very inspire
because there were change of lecture activity which the students who categorized as very
active becomes very prominent, 28 students (87.5%) of 32 subjects of the study. And the
rest of them, 4 students (12.5%) categorized quite active in the lecture.

**C. Discussion**

The implementation of Discovery Learning method in this study was to improve the
students' activity in the Students Development course. It seen from the cycle I and even it
was very success seem to cycle II. The change or improvement by implementing the
Discovery Learning was very supportive of Jerome Bruner opinion that Discovery Learning
was an inquiry learning theory based constructivism that occurs in problem solving situation
in which the student learn to draw the experience and knowledge to discover the fact,
relationship and new truth were studied.

The students who took the lecture were interacting with things (information) by exploring
the knowledge (literature study), wrestling with questions and making the observation to
check hypothesis. It can be more likely to remember the concept and knowledge that is found
by them.

**CONCLUSION**

Discovery Learning method has been implemented to improve or enhance the activity of students
in Students Development course. Students who classified as very active in the cycle I were 25
students (78.1%) become 28 students (87.5%) in cycle II, from 32 students.
SUGGESTION

A. For students
a. Trying to be active in learning process by analyzing and finding the important concept which appropriate to lecture material.
b. Need to learn together (through small group discussion) to solve the problem were found.

B. For Lecturers
a. Trying to deal with learning problem that occur in class through Classroom Action Research (CAR).
b. Trying to implement a variety of learning methods to enable the students.
c. Need to collaborate with others to have the experience to be able to cooperate and assist the difficulty.

References


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