

Active Learning Models in Indonesia

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Abstract—This research aims to see the effectiveness of combination of two learning models in helping students to understand learning process. The learning model is a conceptual framework that encompasses the stages of activities, materials, and guidance procedures in obtaining learning experiences that are arranged systematically and serve as guidelines for learning designers and instructors. Qualitative paradigm with analysis description research model is used in this study. The data were collected from the strengths and weaknesses of the active learning model and some research results from three researchers. This article will discuss about a combination of three active learning models, inquiry model, discovery and discovery inquiry. The model is expected to facilitate students to understand learning well in Indonesia. The results of this article proves that the inquiry discovery learning model is considered very effective in understanding learning in the classroom.

Keywords—*learning models; discovery inquiry; discovery; inquiry*

I. INTRODUCTION

The obvious teaching problems in schools are the difficulty of determining the learning model and the lack of development of it during the learning process. So the scholar stick to the same model from generation to generation. In learning process, the students are not only expected to understand the material, but also memorize it. Moreover, a learning model also hoped increase students activeness in classroom. In terms, model can be interpreted as a conceptual framework which is used as a guideline in carrying out an activity as “argued that the learning process often occurs with a person carrying out a particular action and seeing or discovering the action in a situation” [1].

Learning model is a conceptual framework that describes a systematic procedure in organizing learning experiences to achieve certain learning goals, and serves as a guide for teaching designers and teachers in planning and carrying out teaching and learning activities [2], while for model selection, for certain teaching teachers may choose the appropriate and efficient learning models to achieve the objectives [3], the learning model is a conceptual / operative framework that describes systematic procedures in organizing learning experiences to achieve certain objectives and serves as a guide for instructors in planning, carrying out learning activities [4].

This article will show the pros and cons of discovery inquiry model study results that have been done by three

researcher to see the effectiveness of this model in helping students to understand the learning material.

II. LITERATURE REVIEW

In term, model is interpreted as a conceptual framework which is used as a guideline in carrying out an activity. The teaching and learning model is a conceptual framework that describes a systematic procedure in organizing learning experiences to achieve certain learning objectives, and serves as a guide for teaching designers and teachers in planning and carrying out teaching and learning activities [2], while for model selection, in addition, for certain subjects, teachers may choose the appropriate and efficient learning model to achieve the educational objectives [3]. Hosnan, adding a learning model is a conceptual / operative framework that describes systematic procedures in organizing learning experiences to accomplish certain learning goals and serves as a guide for instructors in planning, carrying out activities [4].

Sugiyono giving an outline of the learning model as follows [5]: 1) development of learning ways essentially put in form of models. so it will be easier to communicate the models to the future user, 2) the main tasks also can be seen clearly due to management purposes, 3) learning objectives and strategies can be shown and adjusted through a matrix structure.

Finally, it can be concluded that a learning model is a conceptual framework. This framework consists of learning materials— stages of activities, materials, and guidance. The function of the framework itself as a guideline for instructional designers so the learning objectives can be achieved. The purpose of learning instruction is a conceptual framework that showing a systematic procedure in organizing learning experience to attain learning objectives [6]. It also function as a guidance for the learning instruction in designing learning activities.

III. RESEARCH METHODOLOGY

This research was a descriptive analysis by using qualitative approach. A descriptive research is a study that confirmed the object by analyzing them [7]. In other words, a descriptive analysis focused on problems as it is. Then, the result is proceed and analyzed to get the conclusion. Furthermore, Bogdan and Taylor state that qualitative research is a set of research procedure that generate a descriptive data [8]. The data can be verbal or written including official documents, pictures, images, quotes, and

result of interviews. Additionally, the function of qualitative approach in this research is to get data, analyze and understanding a learning models.

IV. RESEARCH FINDINGS

Below is the data of two researchers who have been study about discovery and inquiry learning models:

- Rachmayanti gustiani. 2013. The use of discovery learning models in group to improve students understanding in floor pattern design in grade 7th in SMP Negeri Bandung [9].
- Henni Wulan Sar. 2015. The comparison of understanding physics concepts through inquiry-based learning through laboratory activities based on problem solving [10].

A. Discovery

According to Anita discovery learning is a learning process that involve students to find problems solution for developing knowledge and creativity [11]. Discovery is a learning model that more focused on unknown principle and concept. The purpose of discovery learning is making students more active and giving chance to them. In its use, this model changes learning process. In conventional learning model, teacher usually becomes the information center. However, by using this model, students should be accustomed to look for information in learning process. By using this model, the hand out does not given in fix form. Students are hoped for doing a set of information task, comparing, categorizing, and drawing conclusion.

1) *The Pros of Discovery Learning Model:* The pros and cons of discovery learning are as listed below [12]:

- Students will be more active in learning process, as they think and use the ability to find the final result.
- Student understands the material well because they explore the finding process by themselves. This process make the material last longer in their brain.
- Finding by yourself creates satisfaction. This inner satisfaction encourages students to make more discoveries so that learning interest increases.
- Students who gain knowledge with the discovery model will be able to transfer their knowledge to various contexts better.

2) *The Cons of Discovery Learning Model:* The cons of Discovery Learning Model are as listed below:

- This model raises the assumption that there is readiness of the brain to learn. Students who are less intelligent will experience difficulties in thinking or expressing the relationship between concepts (written or oral) which will turn to frustration.
- This model is not efficient for teaching huge numbers of students as it takes a long time to help them to find theory or other problem solving.

- Teaching Discovery is more suitable for developing understanding, while developing aspects of concepts, skills and emotions as a whole lacks attention.
- The model does not provide opportunities for thinking that will be found by students because they have been chosen first by the teacher.

B. Inquiry

According to Sanjaya, the inquiry learning model is a series of learning activities that emphasizes the critical thinking process and analysis to find out the answers of a questioned problem by themselves [13,14].

Inquiry is a technique or method used by teachers where the teacher gives the research task about a problem. Students are divided into several groups, and each group gets a specific job to do, after that, they will study the case, research, or discuss in group. After the result has been discussed, a report is made. Finally, the report will be brought to the plenary session for further discussion. At the end, a conclusion must be taken; a follow-up discussion or a noted [12].

An inquiry learning model prepares students for situations to conduct extensive experiments by themselves. Seeing what is happening, doing something, asking questions, looking for answers themselves, and relating one's finding to another, comparing his founding with what other students [15].

The inquiry learning model is widely recommended and used in schools, especially elementary schools [16]. There are several advantages of this model including:

- It emphasizes the development of cognitive, affective, and psychomotor aspects. Furthermore, learning through this model is considered more meaningful.
- Providing students a space to learn according to their learning styles.
- The inquiry learning model is considered to be in accordance with the development of modern psychology that fascinates learning is the process of changing behavior by dint of experience.
- This model can fit every stages of students. High average students will not be hampered by low average students.

Weakness:

- If the inquiry model is used as a learning model, it will be difficult to control the activities and success of students
- This model is difficult in planning. Therefore, it collides with students' habits in learning.
- Sometimes, this model requires a long time in implementing. So, the teacher face difficulties to adjust the learning plan with a predetermined time
- As the criteria of students success are determined by their ability to master the subject, the inquiry learning model will be difficult to implement.

Some of the advantages of teaching using the discovery-inquiry model include [17]: 1) Bruner, a psychology professor from Harvard University in the United States, states that the benefits of the discovery-inquiry model are: a) more students will understand basic concepts and ideas, b) helping them in using memory and transferring in new learning process situations, c) encouraging students to think and work hard on their own initiative, d) encouraging students to think and formulate their own hypotheses, e) providing interstice satisfaction, f) learning situation is more aroused, 2) teaching in classroom becomes student-centered, 3) teaching and learning process through activities can form and develop self-concept in students, 4) expectation level increases.

From the two discovery and inquiry learning models that have seen from two different researchers, we could find several advantages and disadvantages. The researchers also showed that the two models were very influential with students' understanding in learning process. Combining the two models— as they have the similar goals, is expected to make the students have a better understanding about a subject.

The application of combination of discovery inquiry learning in school can be seen from a study below:

1) *Abdul Rumasyah. 2015. Madihin learning model through Inquiry Discovery approach in SMP Negeri 1 Tembilahan Riau* [15]: Based on some descriptions above, it can be concluded that discovery-inquiry learning is a series of learning activities which emphasize the process of critical and analytical thinking to find out answers of a questioned problem. This thinking process, usually carried out by doing question and answer activities or two-way dialogu. In addition, the learning material is not given directly, but students find their own learning material. However, the teacher acts as a facilitator and guide the students during the learning process.

A teaching model that is arranged to make students discover themselves and obtain knowledge unconsciously [18]. A learning model that involves students in solving problems to develop their knowledge and skills [19]. Learning becomes more meaningful when students explore their learning environments rather than passively listening to the teacher.

Inquiry is an approach that supports students discovering and using varied ideas and sources of information to improve their understanding of a problem, topic, and trending issues [20]. Inquiry is more than just answering questions or getting correct answers from a matter. More than that, inquiry supports investigation, exploration, search, effort, research, pursuit, and learning process.

Discovery learning principles are the same as inquiry learning method [4]. The difference is in discovery models, problems which faced by students is something that has been engineered by the teacher. Meanwhile, in inquiry models, the problem is real. Students must exert all their thoughts and skills to get findings through the research process,

The inquiry discovery approach is actually the combination and development of two different approaches (the inquiry approach and discovery approach) as both approaches

almost has the same goal. Discovery learning model try to make students find for by themselves. Students are given opportunity to find out the solution through research [21].

Experts have developed several syntax about inquiry and discovery learning. In contrast, implementation an adaptation is needed so the objectives of learning process could be achieved. The following syntax of inquiry discovery approach is the result of adaptation [22]:

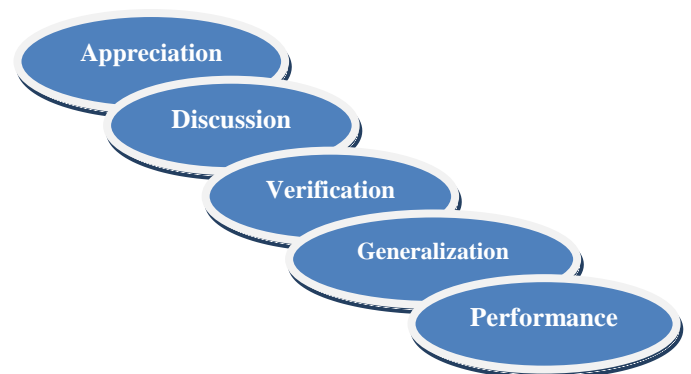


Fig. 1. Syntax of inquiry discovery approach.

The description of the syntax above is:

- **Appreciation:** an observation activity reviewing the existence of an object object that might be done in the classroom or outside the class, depending on the situation and conditions during the learning process.
- **Discussion:** students discuss and explore the contextual aspects of the kean, such as definition, significance, musical elements, cultural values, and social functions contained in Kean.
- **Verification:** checking students work, whether they are appropriate, suitable, proven, and making improvements by reducing the opinions of fellow group members if needed.
- **Generalization:** presenting the the report and drawing conclusions based on the discussion and verification that has been done before.
- **Peformance:** students show the results of the activity as a culmination of learning activities.

The advantages and disadvantages of the discovery-inquiry model seen from the previous year as follows [23]:

The advantages of the discovery-inquiry models:

- The teaching strategy changes from the presentation by teacher to the students (getting good information with the low level mental process), becomes emphasizing the information where students actively process information by themselves (get a higher level mental process).
- Students are better in understanding ideas and concepts.

- Helping students in using their memories to transfer a new learning situation.
- Encouraging students to work on their own initiative.
- Allows students to learn by utilizing various types of learning resources and not making the teacher being the only source of learning.
- This model can enrich and deepen the material learned so that the retention (long-lasting memory) becomes better.

The disadvantages of discovery-inquiry models:

- Requires changes in students learning habit which usually receiving information from teacher to independent learning and groups by searching for and processing information by themselves. Changing a learning habit is difficult. Moreover, it has been done for many years.
- Teachers are required to change their teaching habits, which generally provide information as facilitators, motivators, and student guides in learning. This is also not an easy job because generally the teacher feels unsatisfied if he does not provide much information (lectures).
- This model gives freedom to students in learning, but does not mean guaranteeing that students learn diligently, full of activity, and directed.
- The way students learn in this model requires better teacher guidance. In many students (large classes) and limited teachers' conditionn, it seems that this model is difficult to implement properly.

And the most recent study shows that discovery-inquiry learning models have some pros and cons, such as [12]:

- Students are able to boost their creativity by using their own potency.
- Giving learning motivation, strengthen it, and increase students' confidence through the process of finding themselves.

The disadvantages of the discovery-inquiry learning model are:

- Students must have readiness, ability, and courage to know their surroundings better;
- If the class is too large, this form will be less successful.

The function of discovery-inquiry learning model. There are several functions of discovery-inquiry learning model, such as [22]: first, building commitment between students in studying through involvement, sincerity and loyalty for finding something in the learning process. Second, Build an active, creative, and innovative attitude in the learning process in order to achieve learning goals. Third, Building a confident and open attitude towards the findings.

Discovery and inquiry learning strategies has a number of principles that must be considered, namely:

- The principle that oriented to intellectual experience, this learning strategy is not only oriented to the learning result but also learning process. Therefore, the success criteria is based on the extent to which students engage in finding something that is definite, so that any ideas which will be developed are those that can be measured in truth.
- Principles of Interaction, where the teacher is not a source of learning, but as a facilitator or environmental regulator of interaction itself —between students, between teachers and students or between students and the environment. Teachers need to direct students to be able to develop their thinking skills through their interactions.
- Principles of Questioning, teachers have an effort to make students become more critical, through giving deep question. Teacher should to attract student to be a good answerer. As the result, students question will be answered by another students.
- Principles of study to think, a process to maximize of entire brain rather left or right hemisphere, limbic and neocortical brain. Discovery and inquiry learning is the utilization of the brain.
- Principles of Openness, where students should be given chance to try according to their logical abilities. Teacher is expected providing space space for students to develop hypotheses and prove the truth of the hypothesis proposed.

V. CONCLUSION

Learning models are needed in achieving learning objectives where understanding is very important for the learning success itself. From the analysis above, it can be seen from the advantages and disadvantages of the inquiry-discovery model and some results of the research conducted by three different researcher. Therefore, it can be concluded that the model has a process and strong purposes so the students have a proper understanding about learning material. The use of discovery-inquiry model is recommended as one of model which can be implemented in teaching and learning process. The aim of this model is to improve students understanding, ability to solve their own problem. Not only improving students understanding but also increasing their challenging feeling, and giving students a satisfaction to find new knowledge. In learning process, both understanding and practicing skills should be mastered by students.

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