CHAPTER II

LITERATURE REVIEW

A. Literature Review

a. Learning Model

1. *Discovery Learning*

According to Daryanto and Syaiful (2017: 260) *Discovery Learning* is a teaching method that organizes teaching in such a way that students gain knowledge that they did not previously know not through notification, but by finding it themselves. *Discovery* is a mental process where students are able to assimilate a concept or principle. The mental processes referred to include: observing, digesting, understanding, classifying, making conjectures, explaining, measuring, making conclusions, and so on.

The teacher acts as a guide by providing opportunities for students to learn actively, as the teacher must be able to guide and direct students' learning activities in accordance with the objectives.

In essence, this *discovery learning* model changes passive learning conditions into active and creative ones. Changing *teacher oriented* learning where the teacher becomes the center of information becomes *student oriented* learners become active subjects of learning, by Daryanto and Syaiful (2017: 261).

2. *Problem Based Learning* (PBL)

According to Assegaff, et al (2016) *Problem Based Learning* (PBL) is a learning approach that starts by posing a problem and continues by solving the problem. To solve the problem, learners need new knowledge to find the solution, where the type of problem depends on a particular organization. Usually, problems are based on real-life problems that have been selected and edited to meet educational objectives andcriteria.

3. *Project Based Learning*

Project Based Learning is learning that takes a long time, focuses on the activities of students to be

able to understand a concept or principle by conducting an in-depth investigation of a problem and finding relevant solutions and implemented in project work, so that students experience a meaningful learning process by building their own knowledge, by Nurfirtiyanti (2016).

4. *Inquiry Learning*

According to Daryanto and Syaiful (2017: 263) Inquiry learning is one of the models that can encourage students to be active in learning. Inquiry learning is a series of learning processes that emphasize the critical and analytical thinking process to seek and find answers to questionable problems. In this case the teacher acts as a facilitator and guides students to learn.

b. Inquiry Learning Model

1. Definition and Characteristics of *Inquiry Learning Model*

According to Kunandar (2010: 371) Inquiry comes from the English "Inquiry" which can be interpreted as the process of asking and finding out the answers to the scientific questions it asks. The inquiry learning model is one of the models that can encourage students to be active in learning. Inquiry learning is a learning process where students are encouraged to learn through their own active involvement with concepts and principles, and teachers encourage students to have experiences and conduct experiments that allow students to discover principles for themselves.

Furthermore, Aris (2014: 85) stated that the inquiry learning strategy is a series of learning activities that are emphasizes on the critical and analytical thinking process to seek and find the answer to a questionable problem.

Furthermore, Trianto (2011: 166) states that the inquiry strategy means a series of learning activities

that maximally involve all students' abilities to search and investigate systematically, critically, logically, and analytically so that they can formulate their own findings with confidence.

Based on the expert opinions expressed above, it can be concluded that the inquiry learning model is a series of learning processes that emphasize the activeness of students to have learning experiences in finding material concepts based on the problems posed.

According to Doni Swardarma (2013: 66) the inquiry learning model will be effective if:

1) Teachers prioritize the learning process over students mastering the material

2) The material taught is not in the form of ready-made facts or concepts, but a conclusion that needs to be proven.

3) The average learner has good enough thinking skills.

4) The number of learners is not too large and the teacher has plenty of time.

Based on the description above, it can be concluded that inquiry learning prioritizes the learning process rather than the achievement of learning outcomes. In addition, the teacher is not a source of knowledge but as a facilitator, motivator, and resource person for students, so that they can seek their own knowledge.

2. *Types of Inquiry Learning Models*

According to Mulyasa (2015: 108), suggests three kinds of models *inquiry* as follows:

1) Guided Inquiry

Learners get guidelines as needed. These guidelines are usually in the form of guiding questions. In practice, most of the planning is done by the teacher, learners do not formulate the

problem. Instructions on how to organize and record data are made by the teacher.

2) Free Inquiry

In this case, learners conduct free research as a scientist. The method is that each learner is involved in a certain group, each group has a task as, for example, group coordinator, technical supervisor, data recording, and process evaluator.

3) Modified Free Inquiry

In this inquiry, the teacher provides problems or *problems* and then students are asked to solve these problems through observation, exploration, and research procedures.

3. **Inquiry Learning Syntax**

According to Trianto (2011: 172) the stages of inquiry learning are as follows:

Table 2.1 Stage of Inquiry Learning

Stages	Description	Teacher Behavior
Phase	Presenting a	The teacher guides learners

	1	question or problem	to identifythe problem written on the board. The teacher divides learners into groups.
Phase 2		Creating a hypothesis	The teacher provides opportunities for learners to brainstorm in forming hypotheses. The teacher guides the learners in determining hypotheses thatare relevant to the problem and prioritizing which hypotheses to use. prioritize investigation.
Phase 3		Design experiment	The teacher gives the opportunity tolearners to determine steps that correspond to the hypothesis to be carried

		out. The teacher guides the learners to sequence the steps experiment.
Phase 4	Conduct experiments to obtain information	The teacher guides learners to getinformation through experiments.
Phase 5	Collect and analyzedata	The teacher gives each group the opportunity to present their resultsprocessing of the collected data.
Phase 6	Making conclusions	The teacher guides students in making conclusions.

4. **Advantages and Disadvantages of** *Inquiry Learning* **Model**

Aris (2014: 86) suggests several advantages and disadvantages of the Inquiry Learning model, where the advantages are as follows:

1) It is a learning strategy that emphasizes the development of cognitive, affective, and psychomotor aspects in a balanced manner so that learning with this strategy is considered more meaningful.

2) Can provide space for learners to learn according to their learning style.

3) It is a strategy that is considered in accordance with the development of modern learning psychology which considers learning as a process of changing behavior due to experience.

4) Can cater to the needs of learners with above-average abilities.

In addition to some of the advantages above, the Inquiry Learning model also has several weaknesses including:

1) Inquiry learning requires high learner intelligence. If students are less intelligent, the learning results are less effective.

2) Teachers are required to change their teaching habits which are generally as information providers to become facilitators, motivators, and guides for students in learning.

3) Since it is done as a group, there may be members who are less active.

4) Inquiry learning is not suitable for children who are too young, for example elementary school.

5) The way students learn in this method demands better teacher guidance.

6) For classes with a large number of students, it will be very troublesome for the teacher.

7) It takes a long time and the results are less effective if this learning is applied to unfavorable classroom situations.

8) Learning will be less effective if the teacher does not control the class.

c. **Learning Media**

According to Trianto (2011: 234) media is a human extension that allows it to influence other people who do not have direct contact with it. Learning media is as a messenger from some channel sources to message recipients.

Meanwhile, Isran and Rohani (2018: 93) suggest that educational media is a set of tools or complements used by teachers in order to communicate with students.

Based on the notions put forward by the experts above, it can be concluded that learning media is a tool or means as an intermediary to convey learning materials from teachers to students.

Every teaching activity is characterized by the presence of several elements including objectives, materials, methods, and tools (media), as well as evaluation. The elements of methods and tools (media) are elements that cannot be separated from other elements that function as ways or techniques to deliver learning materials in order to reach the goal. In this achievement, the role of media as a tool or props plays an important role, because with this media the learning material can be easily understood by students. In the teaching and learning process, the media is used with the aim of helping teachers to make the student learning process more effective and efficient.

Furthermore, according to Isran and Rohani (2018: 94) the types of learning media commonly used in teaching and learning activities are as follows:

1) Graphic media such as pictures, photos, graphs, charts or diagrams, cartoon posters, comics and

others. Graphic media is often also called two-dimensional media, which has a length and width.

2) Three-dimensional media is in the form of models such as solid models, sectional models, stacking models, work models, mock ups, and others.

3) Projection models such as slides, film strips, movies, use of OHP and others.

4) Information media, computers, internet, etc.

5) Use of the environment as a teaching medium.

Learning media includes not only complex electronic communication media, but also simple forms, such as slides, photos, teacher-made diagrams, real objects, and allowances outside the classroom. The use of learning media in teaching and learning activities can arouse new desires and interests, arouse motivation and stimulate learning activities.

Furthermore, Isran and Rohani (2018: 95) explain that in general, the benefits of media in the

learning process are to facilitate the interaction between teachers and students so that learning will be more effective and efficient. But more specifically there are several more detailed benefits of the media, among others:

1) Subject matter delivery can be homogenized.

2) The learning process becomes clearer and more interesting.The

3) learning process becomes more interactive.

4) Efficiency in time and effort.

5) Improve the quality of learners' learning outcomes.

6) Media allows the learning process to be done anywhere and anytime.

7) Media can foster a positive attitude of learners towards the materialand the learning process.

8) Change the role of teachers to a more positive and productive direction.

B. Previous Study

Based on the author's search, there are several relevant research works related to the inquiry learning model assisted by learning media, including:

1. Thesis written by Izza Puspa Rinda, majoring in MIPA Education, Faculty of Teacher Training and Education, University of Jember, 2020 with the title "Critical Thinking Skills and Student Learning Interest in the Application of Guided Inquiry Learning Model Assisted by Virtual Laboratory at SMAN 4 Jember". The results of this study indicate that after applying guided inquiry learning assisted by virtual laboratory students' critical thinking skills become better and students' interest in learning increases.

2. Thesis written by Yani Rahmawati Santoso, majoring in Mathematics and Natural Sciences Education, Faculty of Teacher Training and Education, University of Jember, in 2019 with the title "Application of Guided Inquiry Learning Assisted by

PhET Simulation on Critical Thinking Ability of Students of SMAN 4 Jember". The results of this study concluded that students' critical thinking skills after being given learning with the guided inquiry model assisted by PhET simulation showed a high category with an average value of 71.6.

3. Thesis written by Desti Nofalia, majoring in Madrasah Ibtidaiyah Teacher Education (PGMI), Faculty of Tarbiyah and Keguruan, Raden Intan Lampung State Islamic University, 2018 with the title "The Effect of Inquiry Method Assisted by Props Media on Student Learning Outcomes in Science Learning at MIN 4 Bandar Lampung". The results of this study concluded that there was an effect of the inquiry method assisted by props media on the learning outcomes of students in English subject.

The difference between the focus of the studies that have been carried out and the focus of the research to be carried out by the researcher lies in the

focus of the object under study, namely analyzing the content contained in national journals and proceedings for the last 10 years interval regarding the use of learning media used in the inquiry learning model.