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Literature Study: The Effectiveness of Inquiry Learning Models with Visual Media in the Material of Healthy, Nutritious and Balanced Diets on Students' Cognitive Learning Outcomes in Junior High Schools

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Abstract: The purpose of this study is to know the effectiveness of inquiry learning models with visual media on PJOK subject. One of the materials in PJOK subject is on healthy, nutritious and balanced diets. The method that is used in this research is Qualitative Research which is a literature study, in which the data are collected from various related literatures. The data collecting technique in this research uses literature study technique. The stages of the research are conducted from collecting the articles, article reduction, discussion and conclusion. The data sources of the research are articles of national and international journals. The obtained data are analyzed and centralized efficiently and basically further will be described. Based on some researches that have been analyzed, it can be concluded that the inquiry learning models can improve the student learning development on PJOK subject on the material of healthy, nutritious and balanced diets. The result of literature study shows that the inquiry learning models can support the learning activeness, improve the scientific thinking of the students, and also can improve the learning outcomes.

Keywords: Cognitive, Learning Outcomes, Visual Media

A. Introduction

Education is a human activity that involves educational and teaching actions aimed at generations that are growing and developing (Engestorm, 2015). Through education, each individual can develop his abilities and form an individual who is more valuable and able to respect others. The learning process must involve interactions that are both educational and developmental in nature so that they can run in an enthusiastic, meaningful and run optimally. It is important for teachers to understand about a learning model in order to make learning better and make students more involved. So that the teacher is a crucial factor that supports the

achievement of maximum learning goals. This is because teachers interact directly with students. This allows for effective learning to occur.

Effectiveness reflects the extent to which an activity achieves the desired quality and quantity. To realize the achievement of an effective learning process, the teacher must apply a learning model that is adapted to the context in which it will be carried out. An effective learning process can be seen if the atmosphere can be fun, according to the needs of students, and learning objectives can be implemented optimally (Shernoff, 2013).

In the Merdeka Curriculum, the focus of learning is placed on students who emphasize developing the skills, knowledge, and character of Pancasila students. When studying, it is better if students are actively involved and can also understand the material presented. So that the role of the teacher is as a party that provides facilities for students to be more active in finding solutions to the problems they face. Learning that is carried out at this time certainly requires solving problems in it. This also includes Physical Education subjects, especially on healthy, nutritious and balanced diet material for junior high school students.

Finding and determining appropriate learning methods to be conveyed to students in order to create more interesting learning is not an easy task. Implementation of an effective learning process will help students to get a more positive learning development. This is because the effectiveness of learning can help students have a uniform approach and time in finding solutions to problems. Through the teacher, students can use various methods and various ideas in solving problems in learning.

Learning using the lecture method is still widely used by teachers, even though this method can cause students to become passive. Passive learners when learning, making them less involved in the learning process. Therefore, the right learning model is needed to support students to be more active in solving the problems they face. In Physical Education subjects, it is important for students to play an active role in the learning process. So that one of the learning models that can be used is to use the inquiry learning mode.

According to Sandoval (2005) inquiry is an effort to seek truth, information or knowledge through questions. Sandoval (2005) also explained that knowing how to learn is more important than knowing all the answers, so it's important to realize that the right questions are better than the quantity of right answers. Among the positive impacts of the inquiry learning model is that it increases student activity,

knowledge becomes more developed, and can find solutions to problems encountered compared to only passively receiving knowledge.

The guided inquiry learning model, as explained by Balim, (2009) is a learning approach that prioritizes discovery activities in the process. This model helps students to make observations to find solutions to existing problems. The inquiry model also prioritizes the discovery process so that it can help students have a scientific attitude. The importance of the inquiry learning model so that the learning atmosphere can be freer and students have good abilities in solving problems and are free in exploring thoughts (Kuhlthau et al., 2015). The guided inquiry approach involves students actively in the process of independent observation, planning, discovery, experimentation and communication. This allows learning material to be easier for students to remember and understand because they independently repeat the material (Sweller & Chandler, 1994).

Gulo in Maria explained that the inquiry strategy refers to a series of learning efforts that support the coordination of students' abilities optimally, in order to be able to deepen the problem critically, systematically, and logically. Through the application of the inquiry learning model, it is hoped that teachers can implement teaching and learning activities that emphasize the active involvement of students in finding their own answers related to problems related to mathematics to the fullest. Based on the background that has been described, it is deemed necessary to conduct research studies literature that discusses the effectiveness of inquiry learning models with visual media in the material of healthy, nutritious and balanced diets on cognitive learning outcomes of students in junior high schools. The results of the studies that have been carried out can add to the treasures of educational development, especially in PJOK subjects through the application of an inclusive learning model.

B. Methods

The research method applied to this research is qualitative research through literature reviews or literature studies. Kwan et al., (2012) explains that a literature study is a study conducted through various sources of literature and references to the results of previous studies related to the research conducted. Literature review is generally also called literature review. The study of the various literatures is the basis for alternative solutions to solving problems from the topics that are carried out in research.

The method developed by Miles and Huberman which explains that data is collected then reduction and presentation of data is carried out, which can then be drawn conclusions from the analysis that has been carried out (Hammersley, 2016). Qualitative research with literature study is carried out only through a review of various literature without conducting direct research in the field. So that the data used as a review of this research comes from various scientific literature such as articles from national and international journals, books, theses, and various proceedings articles. The data is then analyzed, then a critical and systematic assessment is carried out, and explained in narrative form.

C. Results and Discussion

The effectiveness of the inquiry learning model on student learning activeness

Rafiq et al., (2023) conducts learning research which aims to examine the impact of using inquiry learning methods on student participation and learning outcomes. This study used an experimental approach involving two groups of students, namely the control group and the experimental group. To measure student learning participation before and after the application of learning methods, questionnaire sheets were used in both groups, both the experimental group and the control group.

The results of the study show that the use of the inquiry model in learning with media images can support increased student activity in learning. This is compared to other classes that do not apply the inquiry learning model and do not experience significant developments. The guided inquiry learning model with the help of media images has been applied seven times in the experimental class. Prior to the application of this method, both the experimental class and the control class had taken part in a pretest in the form of a questionnaire regarding study participation.

The results showed that there was a significant effect of the guided inquiry learning model with the help of media images on students' active learning in science subjects. This can be seen from the results of hypothesis testing using the t-test for Equality of Means, where a significance value (Sig. (2-tailed)) is obtained of 0.000. Then, the significance value is compared with the commonly used significance value of 0.05. In this case, the significance value is 0.000 <0.05. This shows that it has been proven that the inclusive learning model can have a positive effect on student learning engagement.

The learning process with the inquiry model requires students to be able to develop their abilities independently through the guidance of the teacher. For example, the

teacher can provide pictures of muscle force to students, and then students are asked to relate it to examples of muscle force in everyday life with the help of the teacher. This kind of learning approach supports students to be more active in developing their knowledge gained through direct experience. Not only that, the inquiry learning model also increases their active learning in terms of problem solving, collaboration, expressing ideas, and attention levels. Thus, the use of inquiry learning models does not only focus on developing students' activeness while learning, but also plays a role in increasing their curiosity. This learning approach makes the learning process more positive and makes students happier so that learning is considered more meaningful. Focus on problem solving is one of the four components of active learning disclosed in this study.

Thus, in the context of the guided inquiry learning model, the exploration stage and the application stage are expected to encourage students to be active in investigating and solving existing problems. This approach pays attention to the physical and non-physical aspects of students in creating a conducive and interesting learning atmosphere (Rafiq et al., 2023). When implementing the inquiry learning model, there are several important learning stages that support the development of student knowledge. These stages include when data collection is carried out, explaining the material, and students' attitudes during the learning process. These stages support students to increase sensitivity and attention to their environment during the learning process.

With the guided inquiry learning model, students become more serious in participating in learning in the classroom. This is caused by the direct involvement of students in the learning process. Students are actively engaged and involved in learning activities, so they show a higher desire to learn. These results indicate that the guided inquiry learning model can significantly assist students in improving their learning outcomes.

The effectiveness of the inquiry learning model on students' scientific thinking skill

Table 1. Increase in Cycle I, Cycle II and Cycle III Scores

Observation Component	Cycle I Score	Cycle II score	Cycle III score
Preparation of hypotheses	85	80	85
The design of a series of	85	80	90
Observational data Accuracy	70	80	90
Conclusion	40	60	70
Average	70	75	83.75

The research conducted resulted in the conclusion that students' thinking skills consisting of the ability to formulate hypotheses, design circuits, observe data, and draw conclusions have increased. In the classroom action research conducted, it showed an increase from cycle I to cycle III. The class average results obtained in cycle 1 were 70%, then up 75% in cycle 2, and in cycle 3 it became 83.75%. So, it can be seen that inquiry learning helps teachers to improve students' ability to think scientifically through experiments conducted (Gormally et al., 2009).

The effectiveness of the inquiry learning model on student learning outcomes

Learning using the inquiry learning model has been proven to improve student learning outcomes. The research conducted focuses on student learning outcomes, which according to Rozal et al., (2021), if the learning outcomes are in the range of 66-79, it means that the results are categorized as good (Rozal et al., 2021). The results of data retrieval found that there were 10 students who had completed, while 13 other students had not completed. The highest score obtained is 100, and the lowest is 26. Based on the analysis of students' answers, it was found that most students still did not understand the questions given well, so they tended not to give the right answers in the learning outcomes test. In addition, the low learning outcomes of some students can be attributed to the level of ability that is still lacking, as has been observed previously. Class VII C, in particular, has a low level of ability compared to other classes.

The low learning process of some students in class VII C is caused by the fact that some students who have low grades come from areas with unequal education. Related to this, adjustments are needed for schools, and teachers for teachers to provide teaching according to their respective learning styles. This is in accordance with what was explained by Hirschy & Wilson (2002), that there are factors that influence the learning process, one of which is the psychological, sociological, and environmental conditions that differ from one student to another. Based on interviews with several students, it was found that the application of the inquiry learning model provided significant assistance in their understanding of the rectangular material. However, there are still some students who still rely on memorizing formulas, so they experience difficulties and lose understanding when working on questions. Nevertheless, based on this explanation, it can be concluded that the learning outcomes of students in class VII C in learning mathematics through the application of the inquiry learning model are quite good.

Based on the results of a literature review that has been conducted through various sources, it yields information that the inquiry learning model plays an important role

in supporting the effectiveness of the learning carried out, especially in Physical Education subjects. Inquiry learning models support learning by prioritizing discovery activities in the process. This model helps students to make observations to find solutions to existing problems. The inquiry model also prioritizes the discovery process so that it can help students have a scientific attitude. The importance of the inquiry learning model so that the learning atmosphere can be freer and students have good abilities in solving problems and are free in exploring thoughts.

This learning model emphasizes the active involvement of students in the learning process, collaboration, problem solving, and the development of practical skills. With this approach, students are encouraged to play an active role in constructing their own knowledge, not just receiving information from the teacher. These learning models focus on developing student skills that can be applied in real life. As a teacher, it is important to continue to adapt to the times and adopt more modern learning models in order to increase the effectiveness and attractiveness of the learning process. Inquiry learning is a learning model that emphasizes the process of searching and discovery, where the subject matter is not given directly. In this strategy, the role of learners is to search and find subject matter independently.

In the first study, inquiry learning could not only increase students' activeness in learning, but also support the development of students' curiosity. Through curiosity, students develop their knowledge, especially in the physical education subject matter of healthy and balanced nutrition. Maximum support for student learning activity will have an impact on various student developments directly or indirectly.

The teacher acts as a facilitator and mentor, working together with students in the learning process. Inquiry learning involves a series of activities that emphasize critical and analytical thinking to seek and find answers to questions or problems posed (Asmara et al, 2023). Inquiry learning involves a critical thinking process which is usually carried out through a question-and-answer interaction between the teacher and students (Rahmi et al., 2019). From these various opinions, it can be concluded that the inquiry learning model emphasizes the thought process to find answers to questions based on existing theories and conclude. However, there are several problems that cause low student learning activity, including factors such as limited mastery of pedagogical skills by teachers, limitations in using various learning models, and a lack of motivation and interest in student learning.

In the second study, students' scientific thinking skills at the junior high school level were developed to support them in adapting to various problems in the current era.

In Physical Education learning that applies the inquiry learning model, students are required to be critical and able to think scientifically in the learning process. The development of an increasingly developing era requires students to be able to solve problems independently. Through the inquiry learning model, students' curiosity becomes more developed and triggers critical thinking skills and problem solving.

In the third study, it showed that the development of student learning outcomes was better than their previous abilities. However, there are some students who do not experience learning development. This is due to various factors outside the learning process in the classroom. The low learning process of some students in class VII C is due to the fact that some students who have low grades come from areas with unequal education. Related to this, adjustments are needed for schools, and teachers for teachers to provide teaching according to their respective learning styles. This is in accordance with what was explained by Rozal et al., (2021), that there are factors that influence the learning process, one of which is psychological, sociological.

The inquiry learning model is a learning approach in which the teacher encourages students to think critically, solve problems independently, and develop self-confidence and a strong interest in the learning process. There are 3 positive impacts obtained from the implementation of the inquiry learning model based on the studies that have been carried out. These positive impacts, among others, can increase student learning activeness, can improve critical thinking skills, and support a significant increase in learning outcomes. The increase that occurred in students was due to the Inquiry Learning Model students were given opportunities for students to find solutions to the problems they faced in the environment. Of course, this is also done with the guidance of the teacher. The inquiry learning model is also in accordance with the objectives of the Independent Curriculum which is currently being intensified to provide learning to students according to their abilities, and support students to be more active when learning.

D. Conclusion

Based on the description of the data and discussion of the results of the research, it can be concluded that the inquiry learning models can support the learning activeness, improve the scientific thinking of the students, and also can improve the learning outcomes.

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