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UTILIZATION OF SCIENCE LEARNING VIDEOS THROUGH THE PROBLEM BASED LEARNING (PBL) MODEL IN CRITICAL THINKING SKILLS OF GRADE V STUDENTS OF STATE ELEMENTARY SCHOOL 7 LINGE BANDA ACEH

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ABSTRACT
Problem Based Learning (PBL) has been identified as an effective learning model in integrating theoretical and practical learning through a student-centered approach. This study aims to determine the benefits of science learning videos through problem-based learning models to improve students' critical thinking skills. using descriptive qualitative research methods can explain in depth about the understanding of the use of learning videos through the PBL model. The results of the study showed that science learning videos shown by teachers through the PBL model improved students' critical thinking skills. It was proven that when the teacher asked about the learning videos shown, students were very enthusiastic about asking and giving positive responses and the teacher welcomed the students' responses well and provided supplies to see the improvement in students' critical thinking skills with assignments done at home. This study revealed based on the results of interviews with the principal and teachers that students were interested in learning using videos used by teachers as a learning tool, especially in science material and students responded very well with various constructive and critical questions.

Keywords : *Problem Based Learning, Critical Thinking Skills, Elementry School*

ABSTRAK
Pembelajaran Berbasis Masalah (PBL) telah diidentifikasi sebagai model pembelajaran yang efektif dalam mengintegrasikan pembelajaran teoritis dan praktis melalui pendekatan yang berpusat pada siswa. Penelitian ini bertujuan untuk mengetahui manfaat video pembelajaran IPA melalui model pembelajaran berbasis masalah untuk meningkatkan kemampuan berpikir kritis siswa. dengan menggunakan metode penelitian deskriptif kualitatif dapat menjelaskan secara mendalam tentang pengertian pemanfaatan video pembelajaran melalui model PBL. Hasil penelitian menunjukkan bahwa video pembelajaran IPA yang ditayangkan guru melalui model PBL meningkatkan kemampuan berpikir kritis siswa. Terbukti ketika guru menanyakan video pembelajaran yang ditayangkan siswa sangat antusias bertanya dan memberikan respon yang positif dan guru menyambut baik tanggapan siswa serta memberikan pembekalan untuk melihat peningkatan kemampuan berpikir kritis siswa dengan tugas yang dikerjakan di rumah. Penelitian ini terungkap berdasarkan hasil wawancara dengan kepala sekolah dan guru bahwa siswa tertarik untuk belajar menggunakan video yang digunakan guru sebagai alat pembelajaran khususnya pada materi IPA dan siswa merespon dengan sangat baik dengan berbagai pertanyaan yang konstruktif dan kritis.

Kata kunci: Problem Based Learning, Keterampilan Berfikir Kritis, Sekolah Dasar

INTRODUCTION

Basic education is the main foundation in the formation of students' character and skills. At this stage, students not only learn basic knowledge but are also taught skills that are important for their future development, such as critical thinking skills, creativity, and problem-solving skills. One of the main goals of basic education is to develop critical thinking skills in students (Asri & Ratnaya, 2024). These skills are very important because they help students face various challenges and solve problems in everyday life, as well as prepare them for higher education and future professional life (Turahmah et al., 2022). In Indonesia, the education system often still relies on conventional teacher-centered learning methods, where the teacher is the center of the learning process and students act as passive recipients of information. This method is often less effective in encouraging students to think critically and creatively. As a result, students tend to memorize information without really understanding it and are less able to apply the knowledge in real-life contexts (Karistiawati et al., 2024).

The era of globalization is facing increasingly complex and rapid world developments. In teacher education, it is necessary to have skills that are geared towards the 21st century, namely critical thinking skills (Salsabilla et al., 2022). Education not only provides knowledge but is also able to form students' skills in developing. Teachers provide a new step by changing the learning pattern from teacher-centered to student-centered (Hayati & Nuriyah, 2023). Every lesson applied in elementary school is pedagogical knowledge that prioritizes students' interests and thinking abilities (Mardhatillah et al., 2023).

Science learning is a process to gain knowledge that contains facts, concepts, principles to be learned. Furthermore, science learning is able to improve students' logical, critical and innovative skills (Sari et al., 2023). Science learning requires students to be equipped with high-level thinking skills, including critical thinking (Sukmasari & Rosana, 2017); (Murti, W., Maya, S., & Lestari, P. I. 2022). Innovation in learning methods that can improve students' critical thinking skills (Habibah et al., 2022). Critical thinking is the process of deciding what one should believe and do (Ennis, 2013). Critical thinking is defined as interpretation, analysis, evaluation, explanation, and self-regulation (Facione, 2011). Critical thinking is a clear and directed process in activities that involve mental, such as problem solving to provide solutions that will later be developed through learning activities.

Problem-Based Learning (PBL) is a learning model that is considered effective in improving critical thinking skills (Azura & Selaras, 2023). PBL is a student-centered learning approach, where they are faced with real problems and asked to find solutions

through critical and collaborative thinking processes (Fiorintina et al., 2023). Through PBL students not only learn concepts and theories, but also develop analytical, evaluative, and synthetic skills, which are essential in critical thinking (Hayati & Nuriyah, 2023). The human respiratory system material is one of the topics taught in grade V of elementary school. This material includes knowledge about the respiratory organs, the respiratory process, and the importance of maintaining a healthy respiratory system. A good understanding of the respiratory system is not only important for students' biological knowledge but also for their daily health (Supriana et al., 2023). Students' understanding of this material is often limited to memorizing facts without in-depth understanding (Nurmalawati et al., 2023). By implementing the PBL learning model, it is hoped that students can better understand the concept of the respiratory system in depth and improve their critical thinking skills (Budiati et al., 2023).

The purpose of this study is to determine the problem based learning model to improve students' critical thinking skills on the human respiratory system material in grade V. In addition, this study also aims to identify the challenges and obstacles faced in the implementation of PBL and strategies to overcome them. The results of this study are expected to contribute to the method more effective learning and improve the quality of basic education. In addition, the findings of this study are also expected to be a reference for teachers and education practitioners in implementing the PBL learning model for other materials. Thus, it is hoped that basic education in Indonesia can be more adaptive to changes in the times and better able to prepare students to face challenges in the future.

RESEARCH METHODS

1. Types of Research and Approaches

This study uses a qualitative approach. Sugiyono (2020:361) said "Qualitative research is the umbrella for all types of research approach methods used to research natural social life". Based on the opinion above, it can be interpreted that qualitative research is an approach used to research social life in its natural context. This research focuses on an in-depth understanding of the phenomena that occur, analyzing the meaning contained therein, and exploring the understanding, perceptions, and perspectives of individuals or groups involved in the phenomenon.

The type of this research is descriptive. According to I Made Sudarma Adiputra (2021:44) descriptive research is research that aims to describe existing phenomena, namely natural phenomena or man-made phenomena, or which is used to analyze or describe the results of the subject but is not intended to provide broader implications. Based on the opinion above, it can be interpreted that descriptive research is a research approach that aims to provide an in-depth and detailed picture of the phenomena being

observed. This research focuses on the description or explanation of the characteristics, properties, or conditions of the phenomenon being studied, be it a natural phenomenon or a man-made phenomenon. However, descriptive research does not aim to draw conclusions or provide broader implications from the findings obtained.

2. RESEARCH SUBJECTS

Research Subject is an attribute or trait, or value of a person, object or activity that has certain variables that are determined to be studied and drawn conclusions (Sugiyono, 2018:19). The subjects of this study were all fifth grade students and fifth grade teachers.

3. RESEARCH INSTRUMENTS

According to Sugiyono (2020:148) "A research instrument is a tool used to measure natural or social phenomena that are observed. Specifically, all of these phenomena are called research variables. This instrument is used as a tool to measure and collect data on a variable". In this study, the researcher used several instruments, including:

a. Observation Instruments

According to Sanafiah Faisal in Sugiyono (2020:310-313) "Classifying observations into participant observations, overt and covert observations and unstructured observations. In this case, the researcher uses overt or covert observations. According to Sugiyono (2020) direct or disguised observation is an observation where the researcher in collecting the data states openly to the data source that he is conducting research. But at one time the researcher is also not direct or disguised in the observation, to avoid the data being sought being data that is still confidential.

b. Interview Instrument

According to Esterberg in Sugiyono (2020:317) "An interview is a meeting of two people to exchange information and ideas through questions and answers, so that meaning can be constructed in a particular topic". In this interview technique, it is a way of collecting data for researchers who want to conduct preliminary studies to produce what problems should be studied, and want to get more accurate and in-depth respondents. In this study, the researcher used structured interviews.

According to Sugiyono (2020), this structured interview is used as a data collection technique, if the researcher or data collector already knows for sure what information has been obtained. With this structured interview, data collection can use several interviewers as collectors data.

4. Data Analysis Techniques

Sugiyono (2020: 335) states that "Data analysis is the process of systematically searching for and compiling data obtained from interviews, field notes, and documentation by grouping them into categories, describing them into units, synthesizing them, arranging them into patterns, choosing what is important and what will be studied, and making conclusions so that they are easy to understand by yourself and others". Data analysis is carried out by compiling data, connecting data, reducing data, presenting data, and drawing conclusions. According to Sugiyono (2020: 338-341).

a. Data reduction

Data reduction is defined as the process of selecting, focusing on simplifying, abstracting, and transforming raw data that emerges from personal documents. Data reduction activities are ongoing, especially during qualitative-oriented projects or during data collection. Reducing data means summarizing, selecting the main points, focusing on the important points, looking for themes and patterns, and discarding the unnecessary. Researchers reduce data by taking the main points according to the focus of the research, and discarding data that is considered unnecessary.

b. Data presentation

Data presentation is the most important activity in qualitative research. Data presentation is a collection of structured information that allows for drawing conclusions and taking action.

c. Drawing conclusions

The third analysis activity is drawing conclusions or verification. When data collection activities are carried out, researchers begin to look for the meaning of objects, note regularities, patterns, explanations, possible configurations, causal flows, and propositions. Thus, conclusions in qualitative research may be able to answer the formulation of the problem formulated from the beginning, but may not, because as has been stated that the problems and formulation of problems in qualitative research are still temporary and will develop after the research is in the field. Drawing conclusions is often also called the verification stage. This stage is the last stage in data analysis.

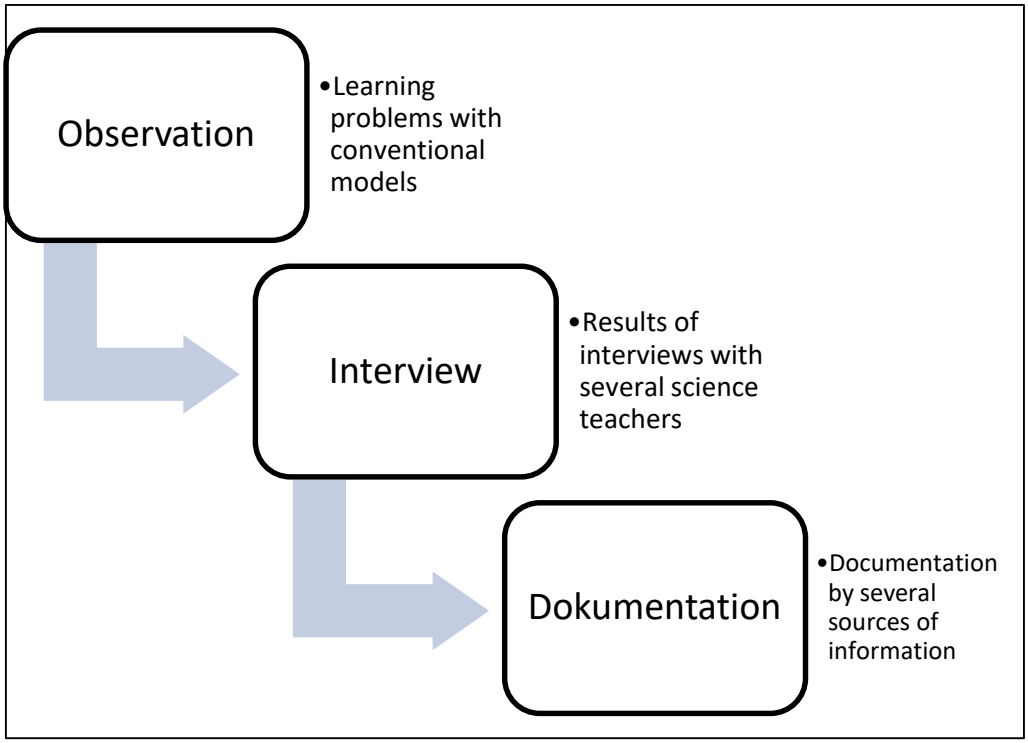

Figure 1. Research Maps

RESULT AND DISCUSSION

Result

The implementation of the Problem Based Learning (PBL) Learning Model on the respiratory system material in class V of SD Negeri 7 Linge Aceh Besar showed positive results in improving students' critical thinking skills. Through the display of YouTube videos showing learning about the respiratory system material, students were better able to explain and understand the material presented by the teacher. Based on the results of the interview, the teacher stated that the PBL model was effective in improving students' ability to think critically in depth and creatively about the material being studied. They stated that students were more actively involved in solving problems faced in the context of case studies that were relevant to everyday life through the display of videos related to the material. video link site used by teachers as a learning facility for respiratory system material.

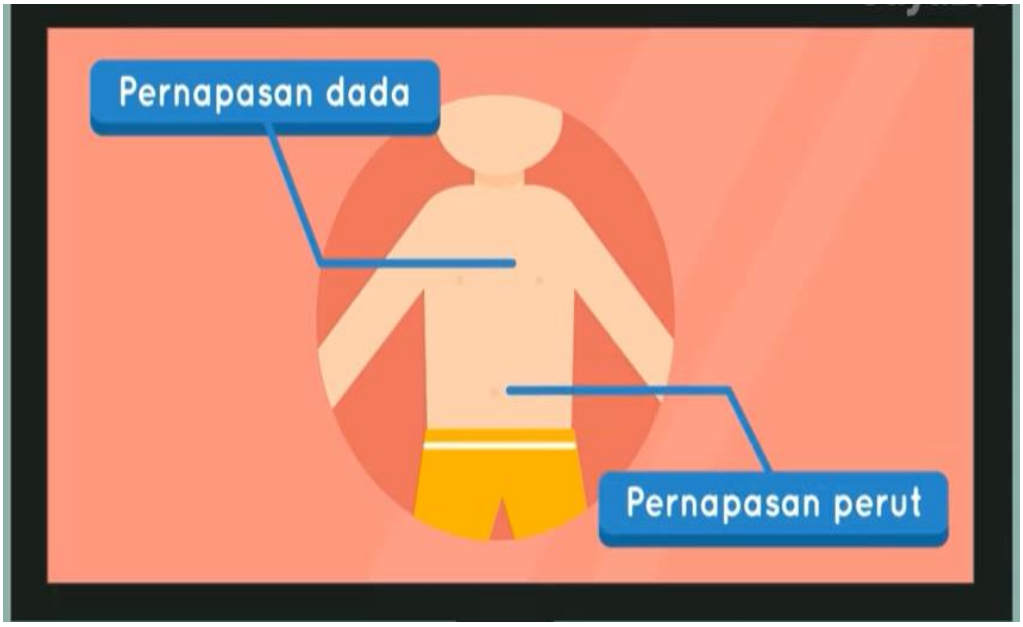

Figure: 2. Human Respiratory System
(https://www.youtube.com/watch?v=oQPfpHYmkew.)

Figure: 3 Explanation of the Human respiratory system

Figure: 4 PBL Model on Human Respiratory System Material

This helped students not only understand theoretical concepts about the respiratory system, but also were able to relate that knowledge to practical applications in real life. The preparation process before implementing PBL was also key to the success of the implementation. Teachers reported that they spent time designing challenging case studies that were appropriate to students' level of understanding. They also prepared additional resources and ensured that the curriculum was well integrated into the PBL approach.

The implementation of PBL is inseparable from the main challenges faced, namely adjusting the curriculum to a more collaborative and student-centered PBL approach. Teachers overcome this by adopting collaborative strategies between teachers, sharing experiences, and getting support from the school in providing the necessary time and resources. Students' responses to the PBL approach were generally positive. They showed increased motivation in learning, were more confident in expressing ideas, and were actively involved in group discussions. This shows that PBL not only improves their understanding of the respiratory system material, but also improves social skills such as cooperation and communication which are important in their future lives.

Figure: 5 Respiratory Diseases

Evaluatively, teachers use various indicators of success to assess the effectiveness of PBL, including student test results, projects, and presentations, as well as feedback from students and parents in everyday life. They observe changes in students' critical thinking skills and their ability to apply knowledge in real contexts as a measure of the success of the PBL approach. To improve the quality of learning, teachers provide reflection and self-evaluation after each PBL session by guiding students to understand the causes and effects of respiratory diseases. Through learning through videos on the respiratory system material, students are better able to contribute and participate in learning so that students' understanding of their critical thinking increases.

Overall, it shows that PBL has great potential to improve the quality of learning in class V of SD Negeri 7 Linge Aceh Tengah, especially in developing critical thinking skills and preparing students to face future challenges. The implementation of PBL not only provides a deeper understanding of the respiratory system material, but also changes the dynamics of learning to be more collaborative and relevant to students' current learning needs.

Discussion

Higher order thinking skills are a deliberate and deliberate process done consciously to interpret and evaluate information from existing experiences, beliefs and abilities with the aim of testing an opinion or ideas, including making considerations or thinking based on opinion put forward. Critical thinking skills can be improved through PBL because of the approach learning on authentic problems, and students are not only asked to understand something only problems but must also be able to work together to solve these problems, so that it can stimulate students' abilities and skills, especially skills critical thinking (Fiorintina et al., 2023).

Each learning model has advantages and disadvantages. The advantages of the PBL deep learning model (Wulandari, B, 2013: 182) namely: a) Problem solving in PBL is sufficient good for mastering the material. b) Problem solving is ongoing as long as the learning is operational as well challenge students' abilities as well provide satisfaction to students. c) PBL can develop activities teaching and learning to students. d) Make it easier for students in the transfer process to master internal problems life every day. e) Helping students improve understanding and help students to responsible his own learning. f) Helping students master the essence learning as a method of thinking, no only understand the teacher's learning present in the book. g) PBL produces a teaching and learning area which is fun and liked by students. h) Possible application in real life i) Stimulate students in studying continuously.

Applying the PBL model can help creating learning conditions that were originally only transfer of information from lecturers to students to a learning process that emphasizes constructing knowledge based on understanding and experience gained both individually and in groups. Problem proposed in the PBL is a problem reality in the field. According to Hmelo-Silver & Barrows (2006) stated that the problems that arise in PBL learning does not have a single answer, meaning students must engage in exploration with multiple solution paths. Student involvement in PBL can help in develop critical thinking skills, because in PBL learning students are involved full in the learning process through problem solving activities. In this problem solving activity students are required to can develop critical thinking skills as a step to solving problems discussed and conclusions can be drawn based on their understanding.

CONCLUSION

Based on the discussion, the implementation of the Problem Based Learning (PBL) Learning Model on the respiratory system material in grade V of SD Negeri 7 Linge Aceh Tengah showed very positive results. PBL succeeded in improving students' critical thinking skills, integrating theoretical learning with practical applications in real situations, and increasing students' motivation and involvement in the learning process. Despite facing challenges in adjusting the curriculum and teaching strategies, teachers managed to overcome them with effective collaboration between teachers and full support from the school. A comprehensive evaluation of the effectiveness of PBL showed a significant increase in students' understanding of the material, as well as improving social and critical thinking skills that are important for their development.

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