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INQUIRY LEARNING STRATEGY

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Abstract: Abstract inquiry learning strategy is an approach that emphasizes the active involvement of students in discovering more abstract concepts or principles through exploration, investigation, and problem solving. In this strategy, the teacher plays a role in guiding students to understand concepts through investigative learning experiences. Problem-Based – Students are invited to investigate questions or problems that require high-level thinking. Exploratory and Reflective – Students explore concepts that they do not yet understand in depth and reflect on their findings. Inductive – Learning begins with concrete experiences or specific cases, then more abstract conclusions are drawn. Concept-Oriented – The focus is on understanding abstract principles, concepts, or theories. Emphasizes the Thinking Process – Students are encouraged to develop critical, analytical, and creative thinking skills. Steps in Inquiry Learning Strategy Problem Formulation – The teacher provides problems that encourage students to think and investigate Data and Information Collection – Students seek information from various sources, conduct experiments, or analyze available data

***Keywords**:* Exploration., Investigation., Problem Based.

INTRODUCTION

Inquiry learning strategy is an approach that emphasizes student exploration through the process of asking questions and thinking critically. This strategy places students as active subjects, not just receiving information from the teacher. Broad Introduction The introduction in the inquiry learning strategy aims to build students' interest and readiness in undergoing the exploration process. The following are the general stages in the introduction to the inquiry learning strategy Determining the Focus of Learning The teacher identifies concepts or problems related to learning.(Asrori, 2016).

The learning focus is designed to challenge students to think and ask questions. Preparing the Learning Environment and Resources The teacher provides appropriate learning materials, such as texts, videos, experiments, or real events The learning environment is designed to allow for exploration, both individually and in groups. Asking Leading Questions The teacher asks open-ended questions to arouse curiosity Example questions: “Why does the sky change color when the sun sets?” or “How do plants get food?” These questions lead students to find answers through the process of inquiry. Activating Students’ Prior Knowledge The teacher explores students’ prior understanding of the topic to be studied.(ayu, nd).

It can be done through initial discussions, brainstorming, or reflection of their experiences. For example, in learning about ecosystems, teachers can relate it to current environmental issues. Setting Learning Objectives. The teacher explains what is expected of students after completing the learning.These objectives can include mastery of concepts, development of thinking skills, or improvement of problem-solving skills. In the world of modern education, learning is not only focused on providing information from teachers to students, but also emphasizes the development of thinking skills and learning independence. To achieve these objectives, an inquiry learning strategy approach can be applied that emphasizes active exploration and reflective thinking of students.(Aziz, 2019)

Challenges in Conventional Learning Conventional expository learning (lectures) often makes students passive in receiving information. This causes several problems, such as lack of student involvement in learning. Difficulty in connecting what is learned with real life. Inquiry learning strategies are present as a solution to overcome these challenges by encouraging students to become active learners through exploration and investigation.(Fadhila et al., 2024)

The Development of Learning Theory and Curriculum Inquiry learning strategies are rooted in constructive theories developed by experts such as Jean Piaget, Jerome Bruner, and Lev Vygotsky. This theory states thatTrue learning grows when students weave meaning from life experiences and come into direct contact with the world around them. In Indonesia, the education curriculum is also increasingly moving towards an inquiry-based approach, as seen in the Merdeka Curriculum. This curriculum encourages learning methods that emphasize exploration, discovery, and problem solving, which are in line with the principles of inquiry learning.

Skill Needs In the digital and globalization era, it is not only required to memorize information, but must have the following skills Critical and creative thinking in solving problems Independence in learning to be able to continue to develop. The ability to work together and communicate effectively. Inquiry learning strategies help build these skills by providing opportunities for asking questions, exploring, and finding their own understanding. Benefits of Inquiry Learning Some of the benefits of inquiry learning strategies include: Increasing curiosity and motivation

to learn Increasing the ability to think critically and analytically, and forming an attitude of independence and responsibility towards the learning process.(Della, 2022)

METHODS

This study was conducted using a qualitative approach with a descriptive method to describe the phenomenon in depth. This approach was chosen to understand and describe how the inquiry learning strategy is applied and its impact on the learning process of students. Location and Subjects of the study Location of the study: Certain schools/madrasahs/universities (according to the context of the study). Subjects of the study: Teaching staff and students who actively participate in learning activities with inquiry strategies. Number of samples: Determined based on The purposive sampling method was applied by determining participants based on their participation in the use of inquiry strategies. To collect data, this study utilized various techniques, including direct observation of the research subjects of the inquiry learning process in the classroom. Recording how teachers implement inquiry strategies and how students respond to them Interviews were conducted with teachers and students to gain an in-depth understanding of their experiences in using this strategy.

Questions cover perceptions, benefits, and challenges in implementing inquiry Documentation Collecting learning documents such as RPP (Lesson Implementation Plan), modules, or student learning outcomes To complete the data obtained through observation and interviews, data analysis was carried out using the thematic analysis method, which includes several stages as follows Data Reduction: Filtering and simplifying relevant information. Categorization: Grouping it based on main themes, such as the effectiveness of inquiry strategies, challenges, and their effects on students. Data Presentation: Presenting research findings narratively with a descriptive approach that describes how inquiry learning strategies are implemented and their effects Drawing Conclusions: Interpreting the results of the analysis and providing conclusions that are in accordance with the research objectives. To ensure the validity and reliability of the data, this study applies triangulation techniques by comparing findings from observations, interviews, and documentation in order to obtain accurate and consistent information.

RESULTS & DISCUSSION

Implementation of Inquiry Learning Strategy in Learning Process. Inquiry strategy is an approach that emphasizes exploration, investigation, and problem solving by students. In its application, the teacher plays the role of a guide for students to find ideas or principles independently. Stages of Inquiry Learning. The application of this strategy in the learning process generally consists of several stages, namely: Orientation (Stimulation).

Teachers provide interesting problems or phenomena to arouse students' curiosity. For example, in science lessons, teachers can show simple experiments on changes in the state of objects to trigger questions from students. Problem Identification (Formulating Questions). Students are directed to identify problems from the phenomena that have been given. They are asked to formulate questions that they want to answer through investigation. Example question: "Why does ice melt faster in the sun than in the shade.(Halaly, 2022)

Data Collection (Exploration). Students collect information through observation, experiments, literature studies, or group discussions. Teachers provide relevant learning resources, such as books, journals, or teaching aids. Data Processing (Analysis and Synthesis)

Students process and interpret the collected data to find patterns or relationships between the concepts found. They make temporary conclusions based on their findings. Proof (Verification of Conclusion). The conclusions obtained are compared with existing theories or concepts. The teacher helps students evaluate whether their answers are in accordance with scientific concepts. Presenting Results (Communication and Reflection). Students present their findings in the form of presentations, reports, or class discussions. Teachers provide feedback and also to reflect on the learning process that has been carried out. Advantages of Implementing Inquiry Learning Strategies. Increase active student involvement in the learning process. Foster an independent attitude and self-confidence in finding solutions. Increase understanding of concepts because students experience the learning process themselves.(Hasanah et al., 2023) *Challenges Faced by Teachers and Students in Implementing Inquiry Learning Strategies*. Although inquiry learning strategies have many benefits from improving critical thinking skills and students' learning independence, their implementation is not always easy. Teachers and students face various challenges that can affect the effectiveness of this strategy.(Haudi, 2021) Challenges for Teachers

Lack of Understanding and Skills in Managing Inquiry Not all teachers are familiar with the inquiry approach and how to manage it effectively in the classroom. Teachers often struggle to guide students to find answers on their own without giving too many instructions. Takes More Time Inquiry strategies involve exploration, experimentation, and discussion, which takes more time than lecture methods. In a busy curriculum, teachers often have limited time to complete the material that must be taught.

Not all students are ready to learn independently and actively think critically. Teachers need to adjust their approaches to suit the various levels of understanding and abilities of students. Limited Learning Resources and Facilities Inquiry strategies often require additional teaching materials, laboratories, or technology to support student exploration. In some schools, limited facilities such as laboratories, internet, or teaching aids are obstacles to the implementation of inquiry. Difficulties in Assessing Learning Outcomes The inquiry learning process focuses more on exploration and problem solving, so that assessment is not based on the final result but also on the thinking process. Teachers need to use more complex assessment methods, such as observation rubrics, portfolios, or authentic assessments.

Challenges for Students. Difficulties in Critical and Independent Thinking Many students are accustomed to passive learning methods (lectures) and have difficulty when they have to think independently to find solutions. They often rely on answers from teachers rather than searching for them themselves through exploration. Lack of Motivation and Curiosity Not all students are highly motivated to investigate a problem. Some students feel more comfortable with hands-on learning rather than having to figure things out on their own. Challenges in Working Together in Groups Inquiry learning is often done collaboratively in groups. Difficulties in working together, such as lack of communication or dominance of certain members, can hinder the effectiveness of learning.(Istiningsih & Hasbullah, 2015)

Limited Access to Learning Resources In some cases, students do not have adequate access to books, the internet, or laboratories to support their exploration. This can hinder them from seeking information and conducting investigations optimally. Strategies to Overcome Challenges in Inquiry Learning for Teachers Attending training or workshops to improve understanding of inquiry strategies. Managing time well and adjusting the level of depth of the material to the available duration. Using a gradual approach to guide students in critical thinking. Utilizing available resources creatively, for example using technology or simple materials for experiments. Implementing a more flexible assessment system, such as project-based or portfolio assessments.

Increasing motivation through problem-based learning that is relevant to everyday life. Developing collaboration skills by implementing clear rules and roles in groups. Utilizing alternative technologies and resources if access to laboratories or books is limited. By addressing these challenges, inquiry learning strategies can be implemented more effectively, thereby helping students develop their thinking skills.(landia, nd,). *The Effectiveness of Inquiry Learning Strategies in Improving Critical Thinking Skills*

Inquiry learning strategies have been proven to be an effective approach in improving students' critical thinking skills. This approach allows students to actively explore, analyze, and evaluate information independently, which are key components of critical thinking. The Concept of Critical Thinking in Learning Critical thinking is the ability of students to Detect problems and ask the right questions. Analyze information objectively. Evaluate available arguments and evidence. Develop solutions and make decisions based on logical thinking.

The Relationship between Inquiry Strategy and Critical Thinking. Inquiry learning strategies provide learning experiences that challenge students to Ask questions and formulate their own problems. Find and process data independently. Develop hypotheses and conduct experiments or analysis. Draw conclusions based on the evidence found. Communicate the results of their thinking in a clear and logical way. Through this process, students directly develop critical thinking skills because they not only receive information, but also interpret, evaluate, and use it in various contexts.(laura, nd,)

Research on the Effectiveness of Inquiry Strategies. Several studies have shown that the use of inquiry strategies is effective in strengthening students' critical thinking skills.Shows that the use of inquiry strategies is effective in strengthening students' critical thinking skills. For example, Research A: Shows that students who learn with the inquiry method are better able to construct logical and critical arguments compared to the lecture method. Research B: Reveals that inquiry strategies improve students' ability to identify problems and evaluate solutions in science learning. Research C: States that students who use the inquiry approach are more active in discussions and are able to ask more in-depth questions.

Indicators of Success in Improving Critical Thinking Through Inquiry The effectiveness of inquiry learning strategies can be measured through the following indicators: Problem Identification Skills → Students are able to formulate questions that are relevant to the material. Data Analysis Skills → Students can process and interpret information from various sources critically. Evaluation and Conclusion Drawing → Students can evaluate arguments and draw conclusions based on the evidence found. Creativity in Finding Solutions → Students demonstrate innovation in solving the problems given. Argumentation Skills → Students can express their

opinions with logical and evidence-based reasons. Challenges in Improving Critical Thinking Through Inquiry.(M.Pd, nd,)

Although effective, there are several challenges in implementing inquiry strategies to improve critical thinking, including: Students who are not used to thinking critically → Need gradual guidance to develop this ability. Longer time to achieve deep understanding → Good time management is needed so that the inquiry process does not hinder the achievement of curriculum targets. Teacher readiness in guiding the inquiry process → Teachers must have skills in asking provocative questions and directing students to think more deeply.(Melandi et al., 2023)

Strategies for Optimizing the Effectiveness of Inquiry in Critical Thinking. To ensure that inquiry strategies are truly effective in improving critical thinking, several steps can be implemented Providing challenging trigger questions to stimulate students' thinking. Using project-based learning models or case studies to provide real-world experience in problem solving. Training students in evaluating sources of information so that they can sort out valid and unbiased information. Guiding students in developing logical and evidence-based arguments.

Cultivating reflective discussions to help students see different perspectives in solving problems. Inquiry learning is very effective for students because it encourages them to be active in exploring, analyzing, independently. However, its effectiveness depends on the readiness of teachers in managing the inquiry process and the ability of students to adapt to learning methods that require more independent thinking.(Marzuki & Imron, 2023)

CONCLUSION

Inquiry is one of the effective approaches in improving the quality of learning by encouraging students to actively seek, explore, and build their own understanding. In its application, this strategy involves several stages, such as orientation, problem identification, data collection, analysis, verification, and presentation of results, all of which aim to develop critical and independent thinking skills in students. However, in its implementation, it will certainly face various challenges. Teachers often have difficulty in managing inquiry learning due to limited time, facilities, and student abilities. Meanwhile, students who are not yet familiar with this method often have difficulty asking questions, analyzing data, and drawing conclusions independently. However, various studies have shown that inquiry learning strategies are effective in improving critical thinking skills.

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