International Journal of
Students Education

Page 688-691
ISSN 2988-1765
Vol 3 No 1 2024

LEARNING IMPLEMENTATION IMPROVES STUDENTS' THINKING SKILLS

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Abstract

This research examines the application of the Problem Based Learning (PBL) model in improving students' critical thinking skills in the 21st century learning era. Using the systematic literature review (SLR) method with a qualitative approach, this research analyzes various literature from the Google Scholar database to synthesize related findings. effectiveness of PBL in developing critical thinking skills. The research results show that PBL is an effective learning model in improving students' critical thinking skills through real problem-based learning. This model encourages students to be active in finding solutions, gathering relevant information, and developing analytical skills. The teacher's role as a facilitator is very important in guiding students through the stages of PBL learning, from problem orientation to evaluation. This research also identifies challenges in implementing PBL and strategies to overcome them. Effective implementation of PBL can contribute to the development of essential critical thinking skills for students in facing the challenges of the 21st century.

Keywords : Application of learning, students' thinking skills

Introduction

Critical thinking skills are skills that need to be honed in the 21st century. These skills require students to think critically in order to support their learning methods, especially in solving problems in everyday life. Critical thinking skills are very necessary to be developed in students because they can improve students' cognitive learning outcomes. In addition, students will find it easier to find information and can solve a problem by looking for reliable sources to explore information about problems currently facing the real world (Oktaviana et al., 2016). PBL (*Problem Based Learning)* is a learning model that focuses students on learning in class by stimulating them to participate in joint learning activities and solve problems given and utilize real-life problems as something for students to think at a high level and solve problems and understand a concept in the material (Sofyan and Komariah, 2016). One solution to improve students' critical thinking skills can be done by implementing the Problem Based Learning learning model. This can help students when solving problems, learning independently or in groups, and gaining extensive knowledge. According to Nugraha (2018) there is empirical evidence that shows that *problem based learning* has a positive contribution to critical thinking skills which are included in the cognitive sub-dimension. This is also supported by the theory of constructivism which is the basis of PBL learning which requires students to be able to play an active role in learning so that they can build their own knowledge, one of which is being able to capture the meaning of a concept and Problem Based Learning is able to express the meaning of a concept using their own sentences. In addition to the theory constructivism. Students no longer depend on teachers, teachers only provide assistance in the form of instructions, detailing problems into steps or actions that train students to grow independently (Sugrah, 2020).

According to (Imam, 2017) the 2013 Curriculum was designed to be able to answer the needs of the modern era, the 2013 curriculum in its classroom learning, teachers are required to be more creative in delivering material to their students. In addition, teachers are also required to emphasize more on the process, not on the results. The

purpose of this is that students as the main target of this curriculum change are expected to be able to become individuals with character. In addition, teachers as an extension of the government in schools, in their learning schools are required to apply students' critical thinking skills, this is realized quickly not only for the demands on teacher performance in changing teaching methods, but also the role and the responsibility of non-formal educators in getting children used to applying thinking critical in learning. According to (Johnson, 2007:183) critical thinking is a systematic process used in mental activities such as problem solving, decision making, persuading, analyzing assumptions, and conducting scientific research. Meanwhile, according to (Christina & Kristin, 2017) Critical thinking is a person's ability to find information and solve a problem from a problem by asking themselves to dig up information about the problem being faced. So it can be concluded that Critical thinking is the ability of students to think critically in the form of reasoning, expressing, analyzing and solving problems. In the era of reform, critical thinking is also used to ward off and filter radical views that are considered unreasonable. Critical thinking skills usually begin with a person's ability to criticize various phenomena that occur around them, then assess from the perspective they use. Then he positions himself, from an inappropriate situation to a situation that is in his favor. Critical thinking skills are very important for students in learning.

The importance of critical thinking for every student so that students can solve all problems that exist in the real world. Problem Based Learning is a set of teaching models that use problems as a focus to develop problem-solving skills, materials, and self-knowledge.' (Hmelo-Silver, Serafino & Cicchelli in Eggen & Kauchak, 2012, p. 307). Reaffirmed by Tung (2015, p. 228) that "this learning involves students to solve problems through the stages of the scientific method so that they can learn knowledge related to the problem and at the same time have the skills to solve problems. Learning models that use real problems in everyday life and need a lot of relevant and appropriate information to find the problem-solving process in learning. Therefore, the *Problem Based Learning learning model* is ideal when applied in Elementary Schools. The steps for implementing the *Problem Based Learning (PBL) model* consist of five main steps, namely: "1) Orientation of students to the problem; 2) Organizing for learning; 3) Guiding individual and group investigations; 4) Developing and presenting work results; 5) Analyzing. Critical thinking is a systematic process used in mental activities such as problem solving, decision making, persuading, analyzing assumptions, and conducting scientific research (Johnson & B, 2007). Critical thinking is an educated ability but requires useful and ideal learning exercises. It is so important to choose techniques that encourage students to understand and apply them as an effort to develop these abilities (Alsaleh, 2020). Critical thinking as a person's ability to seek knowledge and solve a problem by asking themselves to find information about a problem that is in front of them, to find information and solve a problem by getting some information about a problem that existed before (Christina & Kristin, 2016).

Critical thinking skills are an important aspect in individual development in today's information and knowledge era. Critical thinking skills are a cognitive process to gain insight, understanding and skills to get solutions and make conclusions (Umam, 2018). The majority of Indonesian students fall into poor levels of critical thinking skills. The low level of these skills can be seen from the results of the Program for International Student Assessment (PISA) international study which is not good. Based on the results of PISA in 2018, Indonesia was ranked 74 out of 79 countries (Hewi & Shaleh, 2020). This capacity allows a person to effectively examine, assess, and analyze data and make normal choices. In a complex and ever-impacting world, critical thinking skills are a key factor in facing challenges and solving problems effectively. At 21, critical thinking is a valuable and essential skill. Technological advancements have caused modifications in the hierarchy of life and shifts in existence throughout the world. Lack of critical thinking skills prevents students from taking, processing, and using the knowledge they have to deal with everyday problems (Setiawan, 2022). Firm reasoning allows students to concentrate on problems deliberately, face obstacles in a coordinated manner, form imaginative questions, and design appropriate answers to the problems faced (*John Butterworth, Geoff Thwaites 2013.Pdf* , nd). Education has a vital role in developing critical thinking skills in future generations. Inductive thinking skills such as recognizing relationships and analyzing open-ended problems (with many possible solutions) are part of critical thinking (Rachmantika & Wardono, 2019). The development of education experiences changes every year continuously in line with the demands and challenges in preparing quality human resources who are competitive in the global millennial era (Haerullah & Elihami, 2020), where in the era of the Industrial Revolution 4.0 it brings changes in various sectors of life, one of which is the impact on the education system in Indonesia (Doringin et al., 2020), because, training places As one of the pillars supporting the progress of the country's future, it also needs to be adjusted to the times (Dito & Pujiastuti, 2021) so as not to be left behind by other countries.

Research Methodology

This study uses a systematic literature review (SLR) method with a qualitative approach to analyze and synthesize the results of previous studies on the application of learning to improve students' thinking skills. Literature searches were conducted on scientific databases such as Google Scholar. The final stage of the study includes drawing conclusions and compiling recommendations based on the results of the synthesis. The output of the study includes mapping current research on learning methods to improve thinking skills, synthesizing key findings, identifying research gaps, and practical recommendations for educators and researchers. The entire research process was carried out with attention to research ethics, including proper citation, avoiding plagiarism, objectivity in analysis, and transparency of the review process. Problem Based Learning (PBL) is a problem-based model, in this case students are introduced to a problem and asked to be active in solving it. The problem. In solving the problem, it is requested to collect information that can support the solution of the problem and then develop it so that it can present a work result and be evaluated.

Result & Discussion

PBL learning is a model that aims to encourage students to become the focal point of progress by introducing a problem and then asking them to think and find answers to the problem. (Fahrurrozi et al., 2022). The purpose of PBL is to further develop students' reasoning skills to build students' understanding in interpreting a problem (Kodariyati & Astuti, 2016). Students have different levels of critical thinking skills from one another. Problem-solving-based learning models lead students to be able to think critically in more varied ways. (Pranata et al., 2023). Critical thinking skills in learning activities in students can be seen through student responses by showing, students' ability to reject incorrect or irrelevant information, the ability to identify errors and correct erroneous concepts, the ability to make decisions or conclusions after considering all the facts, and the ability to produce new solutions. In general, in learning activities, students show a level of critical thinking skills in the moderate criteria (Marwah Sholihah & Nurrohmatul Amaliyah, 2022). The purpose of the problem-based learning model is for students to be able to apply the knowledge they have learned and try to find the answers they need. Through that, students can indirectly become independent and freer in the learning process. The role of the teacher in this case is to guide and direct students while students undergo a series of learning activities (Adilah & Rosydah, 2024). Research findings (Sicipta et al., 2023) these findings show that the problem-based learning model has advantages in developing critical thinking skills. However, there are challenges in its implementation, such as students' habits in interaction and the ability to answer questions that require critical thinking, here the teacher plays a role as a facilitator, a motivator for children so that the challenges that exist in children can be overcome. This problem-based learning can be successful in developing students' critical thinking skills, the role of the teacher is needed as a guide for children, to develop students' critical thinking skills, an innovative learning model, strategy, or approach is needed so that students feel interested and motivated during the learning process. Teachers who have implemented models, strategies, or learning approaches that can improve students' critical thinking skills will certainly be more effective in achieving learning goals optimally. Learning that is interesting and able to motivate students is likely to be embedded in their memories until adulthood (Aprina et al., 2024).

The role of teachers in improving children's critical thinking skills through problem-based learning is very important. Teachers act as facilitators, mediators, motivators, consultants, and empathetic listeners in the context of learning. Students begin to acquire relevant knowledge, plan investigations or experiments, conduct observations, collect and analyze data from their research, solve problems that arise in everyday life, and convey the knowledge gained by students (Nurwahidah, 2023). Teachers act as facilitators who guide students in dealing with real-world problems or challenging situations. Teachers help students formulate questions, identify problems, and develop problem-solving strategies. Students are guided by teachers to carry out learning stages starting from problem orientation, organizing, providing guidance, presenting work results, to conducting evaluations (Dermawan & Maulana, 2023). Teachers act as role models in showing students how to think critically in solving problems. Teachers provide examples and demonstrate critical thinking processes, teachers inspire students to develop similar abilities. Teachers are responsible for designing and presenting questions that stimulate students' critical thinking. These questions should encourage students to dig deeper, evaluate information, and find creative solutions. Teachers provide constructive feedback on students' thinking and solutions. Feedback provided appropriately, teachers have helped students improve their understanding, identify errors, and strengthen critical thinking skills. Teachers facilitate class discussions that are oriented towards solving problems. Teachers help students collaborate, exchange ideas, and achieve a deep understanding of the problems faced. Teachers encourage students to reflect on their own thinking processes, by asking reflective questions and providing time for reflective discussions, teachers

help students become aware of their strengths and weaknesses in critical thinking. Teachers can help elementary school children develop important critical thinking skills through problem-based learning by playing this role effectively.

Conclusion

Based on the results of a systematic study of various literature on the application of Problem Based Learning (PBL) in improving students' critical thinking skills, several important things can be concluded:

1. The PBL learning model has proven effective in improving students' critical thinking skills through a contextual and meaningful problem-based learning approach
2. The role of the teacher as a facilitator, mediator, and guide is crucial in the successful implementation of PBL to develop students' critical thinking skills
3. Implementation of PBL requires systematic learning design by paying attention to five main stages: problem orientation, organizing learning, investigation, presentation of results, and evaluation
4. Although there are challenges in implementing PBL, such as students' learning habits and ability to solve problems that require critical thinking, this can be overcome through the active role of teachers in guiding and facilitating learning
5. Developing critical thinking skills through PBL is becoming increasingly important in the 21st century, where analytical and problem-solving skills are essential competencies that students must have.

This study recommends the need for continuous professional development for teachers in implementing PBL effectively, as well as the importance of adequate education system support to create a learning environment conducive to the development of students' critical thinking skills.

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