

Cultivating Characteristic Critical Thinking: Exploring Critical Thinking Abilities through the CBL Learning Model

Besse Harnanengsi Har¹, Nurdin Arsyad², Rusli³

^{1,2,3}State University of Makassar, South Sulawesi, Indonesia

Abstract:

This research aims to explore students' critical thinking abilities through the CBL (Character-Based Learning) learning model which focuses on character development. This research uses a qualitative descriptive method with a case study design. The research subjects were class XI students at SMA Negeri 11 Wajo who took CBL lessons in Mathematics. Data was collected through tests, observations, interviews and document analysis. The research results show that the CBL learning model is able to improve students' critical thinking skills in the aspects of analysis, interpretation and evaluation. Apart from that, the CBL learning model has also proven effective in cultivating student characters such as responsibility, cooperation and independence.

Keywords: Critical Thinking, Character, CBL Learning Model, Mathematics

1. Introduction

Critical thinking ability is one of the important skills that students need to have in the era of globalization. Critical thinking allows students to analyze information, solve problems, and make decisions independently. Apart from that, good character is also important for students to have so that they can become individuals who are responsible, moral and have a national outlook.

The ability to think critically is an important skill for students in the 21st century (Handayani et al., 2021). Critical thinking skills are defined as skills in reviewing and assessing information obtained from observation, implementation, reasoning and communication in order to make decisions about whether the information can be trusted or ignored (Purwati et al., 2016). The indicators of critical thinking abilities are Interpretation, Analysis, Evaluation and Inference (Purwati et al., 2016). Students can be categorized as having critical thinking abilities if they fulfill the four indicators of critical thinking abilities.

The development of students' critical thinking skills needs to be followed up in the mathematics learning process. Teachers must be able to use learning strategies and media that can optimize students' critical thinking abilities. Using appropriate, varied learning models, teaching well, and using good questions are the main supporting factors in classroom learning (Rochmad & Masrukan, 2016). Therefore, it is necessary to have an appropriate learning model to develop students' critical thinking abilities.

One lesson that can be applied is mathematics learning in the Challenge Based Learning (CBL) setting. Challenge Based Learning is defined as a problem-based learning model that uses realistic and natural problems (Johnson & Adam, 2011). The steps of the Challenge Based Learning learning model consist of The Big Idea, Essential Question, The Challenge, and Assessment (Yoosomboon and Wannapiroon, 2015). The findings revealed that the application of Challenge Based Learning had a significant effect on critical thinking skills (Nurlaili et al., 2017). Thus, it is felt that Challenge Based Learning can help improve students' critical thinking abilities

The CBL learning model integrates character development with learning material. In the CBL learning model, students are encouraged to learn actively and reflectively by applying character values in the learning process.

2. Methods

This research uses a qualitative descriptive method with a case study design. The research subjects were class XI students at SMA Negeri 11 Wajo who took CBL lessons in Mathematics. Data was collected through critical thinking ability tests, observation, interviews and document analysis.

3. Results and Discussion

The learning process after using the CBL model is that each student is given the previous questions. This is used to make it easier for researchers to find out the understanding of the concepts that have been studied and find out the critical thinking skills that students have after carrying out the learning process using the Challenge Based Learning (CBL) model. The critical thinking skills test questions contain questions that must be answered by each student. These questions are useful for strengthening students in understanding concepts and developing students' critical thinking skills after learning using the Challenge Based Learning (CBL) model. The questions on understanding the concept are filled in after the learning process has been carried out, the results of which will be categorized as very good with a score of 100-80, good 70-79, fair 60-69, poor 55-59 and very poor 54-0. Each student is grouped based on achievement groups, namely the high group of 10 people, the medium group of 12 people, and the low group of 6 people based on their previous daily mathematics test scores. The overall average of the indicators for the high achievement group was scored in the very good category, namely 89.50, the medium achievement group got a score in the good category, namely 76.28 and the low achievement group got a score of 78.75 in the good category.

The research results show that the application of the character-based CBL Learning Model significantly improves students' critical thinking abilities. Measurement of critical thinking skills before and after CBL implementation revealed consistent positive changes in students' levels of analysis, evaluation and creativity.

This improvement is not only visible in terms of critical thinking test scores, but also in students' active participation in class discussions, challenge-based projects, and complex problem solving. The results of observations and interviews support these findings by showing that students are better able to construct arguments, investigate information in more depth, and face challenges with more confidence.

Character Integration in CBL Learning:The research results indicate that the integration of character values in CBL learning makes a significant contribution to student character development. Teamwork ethics, responsibility and honesty are important aspects in the learning process and support the formation of strong character.

Development of Critical Thinking Skills:The application of the CBL model has been proven to stimulate students' critical thinking abilities. Students not only improve their analytical and evaluation skills but are also able to integrate knowledge from various sources to produce more creative and solution thinking.

Character Growth Through Challenge Based Projects:Challenge-based projects in CBL provide opportunities for students to face real situations, strengthen their sense of responsibility, and build leadership character. In this context, students not only train critical thinking skills but also form characters who are ready to face the complexities of the real world.

Challenges and Opportunities:Despite positive outcomes, several challenges were identified, including effective time management and consistent integration of character values. Opportunities were identified in more in-depth curriculum development and increased collaboration between teachers and students.

4. Conclusion:

In conclusion, the research results show that the character-based CBL Learning Model is successful in fostering critical thinking and forming students' character. By combining challenge-based learning with character values, this approach not only improves academic achievement but also makes a real contribution to the holistic development of individuals. Further implementation of this model can provide a basis for

improving the quality of education and creating a generation that is not only intellectually intelligent but also ethical and thinks critically.

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