

Computational Thinking Ability as the Foundation for Solving Contextual Mathematical Problems among Informatics Students

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ABSTRACT

This study examines the role of computational thinking (CT) ability as a foundational skill for solving contextual mathematical problems among informatics students. Contextual mathematical problems require students to translate real-world situations into mathematical representations, apply appropriate strategies, and interpret solutions meaningfully. Such processes align closely with core components of computational thinking, including decomposition, pattern recognition, abstraction, and algorithmic thinking. This study employed a quantitative correlational design involving undergraduate informatics students. Data were collected using a computational thinking test and a contextual mathematical problem-solving assessment. Statistical analysis was conducted using correlation and regression techniques to determine the contribution of CT ability to students' problem-solving performance. The findings indicate that computational thinking ability has a significant and positive effect on students' ability to solve contextual mathematical problems. These results suggest that strengthening computational thinking skills is essential for enhancing mathematical problem-solving competence, particularly in informatics education. The study provides empirical support for integrating computational thinking explicitly into mathematics-related courses for informatics students.

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