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# Student's Collaborative Problem-Solving Process in Mathematics: An Explorative Study on Square Function Materials

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## Abstract

Collaboration is an essential skill in the 21st century. Collaboration is vital to success in various fields, including problem-solving. In mathematics, problem-solving can be seen in a collaborative context. This research describes how students' collaborative problem-solving process works in solving mathematical problems. Participants in this study consisted of two groups, each consisting of two 10th-grade students-the successful and unsuccessful group in problem-solving. Data about the collaborative problem-solving process was obtained by giving quadratic function problems to each group. Student activities during problem-solving were recorded using an audio-video recorder to ensure that no student activity was missed to be observed. The research results show that the characteristics of the problem-solving stages of both groups are relatively the same. Namely, they have a repeating cycle when determining the solution. What is different is that in the successful group, when the solution found was incorrect, they checked the agreed-upon use. Meanwhile, when the solution was not appropriate in the unsuccessful group, they re-identified the problem. While solving the problem, both groups evaluated the answers produced. The unsuccessful group found doubts about the answer they produced but had no alternative solution other than the answer that had been produced. In this way, the group determines the answer based on the meaning of the sentence in the question alone without connecting it to the correct concept.

**Keywords:** collaborative, mathematics, problem-solving, teamwork