

# **An Investigation into the Relationship Between Students' Mathematics Skills and their Problem Solving Ability at the Middle School Level**

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## **Abstract**

The primary purpose of the research is to study the relationship between students' mathematics skills and their problem solving ability at the middle school level. A descriptive research design was used to collect data. In order to investigate students' mathematics skills, their problem solving ability and the relationship of these two variables, a quantitative method was used. A total of (400) Grade Seven students from four high schools and four middle schools participated in the study. A mathematics skills test and a test for students' problem solving ability were used as the research instruments. The mathematics skills test was composed of (40) items. The test for students' problem solving ability involved (10) multiple choice items and (8) problems. To obtain the reliability of these tests, a pilot test was administered. The internal consistencies for these two tests were (.747) and (.686). The data were analyzed by using the descriptive statistics and Pearson product-moment correlation coefficient. The results revealed that most Grade Seven students possessed a moderate level of mathematics skills. Among the five types of mathematics skills (number fact skill, arithmetic skill, information skill, language skill, and visual spatial skill), the lowest and highest means were observed in information skill and number fact skill. Moreover, (85%) of the students were found in a moderate level of problem solving ability. According to Pearson product-moment correlation results, each type of mathematics skills was moderately and positively related with problem solving ability at (0.01) level. In addition, there was a high positive correlation of (.685) between students' mathematics skills and their problem solving ability. Thus, the study could be concluded that Grade Seven students who were good at mathematics skills were also good at problem solving ability or students who were weak in mathematics skills were also weak in problem solving ability.

**Key Words:** Mathematics Skill, Problem Solving, Problem Solving Ability

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