The Relationship between Grade Ten Students' Logical Thinking and Mathematics Achievement

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Abstract

The main purpose of the study is to find out the relationship between Grade Ten students' logical thinking and achievement in mathematics. The research design was a descriptive survey research design. The participants were selected from Grade Ten students in Taungoo township, Bago Region. A stratified random sampling method was used to select 325 subjects in this study. The instruments were a logical thinking test with 24 items and an achievement test with 25 items. Descriptive statistics: mean, standard deviation, and frequency, and inferential statistics: independent samples t test and Pearson correlation were employed for data analysis of this study. According to the results, there was no significant difference in logical thinking between males and females Grade Ten students, but there was a significant difference in mathematics achievement between them. Moreover. The findings revealed that there was a positively moderate correlation between logical thinking and students' achievement in Grade Ten mathematics. Therefore, students need to develop their ability to reason and think logically in order to perform more in mathematics. Mathematics education should show in favor more on logical thinking than the acquisition of the solution.

Key words: Thinking, Logical thinking, Enumerative Induction, Eliminative Induction, Transitive Deduction, Conditional Deduction

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