

The Effectiveness of Know-Want-Learn (KWL) Strategy on Students' Achievement and Attitudes Towards Mathematics at the Middle School Level

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Abstract

The purpose of this study is to investigate the effectiveness of Know-Want-Learn (KWL) strategy on students' achievement and attitudes towards mathematics at the middle school level. Quantitative study was mainly used to compare students' mathematics achievement between two groups: control group and experimental group. For qualitative study, an attitude questionnaire was used to study the attitude of students on learning of mathematics with KWL strategy. The design adopted in this study was one of the true experimental designs, viz., the posttest only control group design. The instruments used in this study were a pretest, a posttest and a questionnaire. Two sample schools were selected by using simple random sampling method. To obtain the required data, (120) Grade Eight students were randomly selected. All participants assigned randomly into two groups: the experimental group was given the treatment by teaching mathematics with KWL strategy and control group which was given formal instruction. A posttest and a questionnaire were administered at the end of the treatment period. For the posttest, independent samples *t*-test was used to analyze whether there were significant differences between the two groups. The results showed that the students who received the treatment by KWL strategy were significantly better than those who received formal instruction ($t = 5.46, p < .001$). The result of the attitude questionnaire showed that students have positive attitude towards the learning of mathematics with KWL strategy. Research findings proved that KWL strategy has a positive effect on the improvement of mathematics teaching and learning at the middle school level.

Key words: Know-Want-Learn (KWL)strategy, attitude, mathematics, mathematics achievement

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