

Mojeed K. Akinsola and Adeneye O.A. Awofala (2009) investigated the Effect of personalization of instruction on students' achievement and self-efficacy in mathematics word problems. This study investigated the effect of personalized print-based instruction on the achievement and self-efficacy regarding mathematics word problems of 320 senior secondary students in Nigeria. The moderator effect of gender was also examined on the independent variable (personalization) and dependent variables (mathematics word problem achievement and self-efficacy). The t-test statistic was used to analyse the data collected for the study.

Martha Abele Mac Iver and Douglas J. Mac Iver (2009) investigated Urban Middle-Grade Student Mathematics Achievement Growth Under Comprehensive School Reform. The authors report on the relation between mathematics achievement growth for middle-grade students on the Pennsylvania System of School Assessments and the number of years schools implemented with National Science Foundation-supported mathematics curriculum from 1997 to 2000. As the authors hypothesized, mathematics achievement gains (Grades 5-8) were positively related to the number of years those schools were implementing a specific mathematics curricular reform. Additional analyses indicated that the relation held for both computation skills and ability to apply mathematics concepts.

Ismail (2009), understanding the Gap in Mathematics Achievement of Malaysian Students. Of 46 countries that participated in the Trends in International Mathematics and Science Study in 2003 (I. V. S. Mullis, M. O. Martin, E. J. Gonzalez, & S. J. Chrostowski, 2004), Malaysia was ranked 10th in international scores of mathematics achievement for Class VIII students. The present author aimed to examine the importance of students' home backgrounds, resources for learning, activities, and attitudes toward learning mathematics in accounting for high student achievement in mathematics. Using multiple logistic regression analysis, the author found that having self-confidence in learning mathematics, having a large number of books at home, regularly using computers, and being non-Malay have a high positive association with mathematics achievement among Malaysian students.

Wang and Lin (2008) an Alternative Interpretation of the Relationship between Self-Concept and Mathematics Achievement: Comparison of Chinese and US Students as a Context. The paradoxical findings about students' mathematics self-concept and academic achievement shown in international and comparative studies prompt this exploration of the function and development of mathematics self-concept. That is, when examining data within individual countries, a positive relationship exists between students' self-concept and achievement in mathematics while a negative relationship emerges in cross country comparisons. This challenges the popular and commonly held assumption among North American teachers who

generally believe that self-concept predicts student achievement and thus, the improvement of students' self-concept in mathematics leads to higher mathematics achievement. Using comparative studies of Chinese and US student mathematics learning, this study further analyses the inadequacy of existing theories and then seeks to explain the relationship between self-concept and achievement in mathematics using an alternative interpretation.

Grimm (2008) had explored the Longitudinal Associations between Reading and Mathematics Achievement. The association between early reading skills and changes in mathematics was examined in a large, low-income sample to determine whether students who have a greater level of reading skills in early elementary school exhibit more rapid gains in tests of mathematics. The longitudinal associations between third grade reading comprehension and changes in three components of mathematics achievement from third through eighth grade were examined. The results showed males and African-American students tended to have shallower rates of change than females and non-African-American/non Hispanic students. early reading comprehension was shown to be related to a conceptual understanding of mathematics and the application of mathematics knowledge. These findings lend support for the notion that early reading skills are important for success in mathematics.

Telle Hailikari, Anne Nevgi, and Erkki Komulainen (2007) had revealed that the Academic self-beliefs and prior knowledge as predictors of student achievement in Mathematics: a structural model. The aim of this study was to explore the relationships between prior knowledge, academic self-beliefs, and previous study success in predicting the achievement of 139 students on a university mathematics course. Structural equation modeling was used to explore the interplay of these variables in predicting student achievement. Academic self-beliefs strongly correlated with previous study success and had a strong direct influence on prior knowledge test performance. However, self-beliefs predicted student achievement only indirectly via prior knowledge.

Keith Zvoch and Joseph J. Stevens (2006) had explored that the Longitudinal Effects of School Context and Practice on Middle School Mathematics Achievement. The authors analyzed mathematics achievement data from a longitudinally matched student cohort from a large southwestern U.S. school district to investigate school context and practice effects on the academic performance and growth of middle school students. Teacher educational attainment and the mathematics curricula delivered to students were not related to student performance levels but were moderately associated with mathematics growth rates. The investigation of school impacts on student achievement may be facilitated when an analytic strategy that takes into account the timedependent and cumulative nature of schooling is adopted.

Elin K. L. Reikeras (2006) investigated the Performance in solving arithmetic problems: a comparison of children with different levels of achievement in mathematics and reading. The aim of the present study was to investigate the performance in arithmetic related to achievement levels in reading and mathematics. At the two highest age levels the relations between the groups, in multi-step calculation, were in accordance with the results regarding basic facts. The findings indicate, for both normal and low general mathematical ability, that low achievement in reading to a small extent interferes with the pupils' development of arithmetic performance.

J. Daniel House (2006) examined that the Mathematics Beliefs and Achievement of Elementary School Students in Japan and the United States: Examined relationships between mathematics beliefs and achievement of elementary schoolaged students in the United States and Japan. The students had participated in the Third International Mathematics and Science Study (TIMSS; A. E. Beaton et al., 1996). The author examined several selfbeliefs and used variance estimation techniques for complex sampling designs. The author identified a number of significant relationships between selfbeliefs and mathematics achievement. Students who attributed success in mathematics to controllable factors (e.g., hard work, studying at home) showed higher test scores whereas students who attributed success in mathematics at school to external factors (e.g., good luck) tended to earn lower mathematics test scores.

Craig, Jim and Cairo, III, Leslie (2005) explored the Assessing the Relationship Between Questioning and Understanding to Improve Learning and Thinking (QUILT) and Student Achievement in Mathematics: A pilot study of the effects of QUILT on student achievement was conducted to explore the feasibility of an efficacy study of QUILT and to identify the methodological issues that would have to be addressed in its conduct. Twenty-eight fifth and sixth-grade elementary school teachers in a rural school district in Kentucky were trained to implement QUILT as a teaching/learning strategy. During the spring of 2005, the teachers videotaped three different mathematics instructional sessions in which they used QUILT questioning techniques. Each tape was viewed by researchers from the Appalachia Educational Laboratory at Edvantia, Inc., and summarized using a special coding sheet. The QUILT behaviors were examined in relation to gains in mathematics achievement. This was accomplished using the mathematics section of the Measures of Academic Progress (Northwest Evaluation Association, 2005). The findings indicate that teachers implemented some QUILT questioning behaviors but not others in some of their mathematics instructional lessons and that a well controlled, randomized control trial is needed to examine the efficacy of QUILT as an effective instructional technique, being sure to address teacher training, fidelity of implementation, and assessment of student achievement issues.