

Literacy in Mathematics: Developing the Skills of Ninth Grade Students

Diana Porter, Eastern Kentucky University
Jimmy Jackson, Anderson County High School
Patricia Kannapel

Overview

This study examined the implementation and impact of a pilot class required for all freshmen at Anderson County High School. The goal of this course was to prepare students to navigate the complex texts they will encounter in the four main content areas: English, mathematics, science, and social studies. To narrow the scope, this research focused only upon the mathematics component of the class.

The rationale for this program came from national and state-level data showing that, while reading performance for young children has improved in recent years, those gains have not carried over to adolescence. From 2006 through 2010, Kentucky's Adolescent Literacy Coaching Project (ALCP) prepared literacy coaches to help content area teachers integrate literacy instruction into their curriculum. Jimmy Jackson is a graduate of this program. Evaluations found that adolescent literacy coaches did not deeply explore literacy challenges *specific* to content areas and that mathematics was a particularly difficult area to penetrate.

Participants

Approximately 150 students participated in the 12 days that the content literacy course focused upon math. The research examined pre/post tests, observations, and a daily log to analyze the courses' impact on targeted mathematics literacy skills and the instructional strategies and materials used to build these skills.

Findings and Implications

Results documented a shift from math viewed as algorithms to seeing the "big ideas" behind mathematics. On the pre/post tests, 94% improved, 6% had declining scores, and one student showed no change, with the greatest gains in math as a story and multiple representations. The results of study could impact student literacy skills and teachers' methodology within this particular math classroom and any other math classroom to which the findings can be transferred.