

# **EXPLORING COOPERATIVE LEARNING IN AN INITIAL COMPUTER PROGRAMMING COURSE USING VISUAL BASIC**

**Researcher: Christopher Duane Brown**

**Thesis Advisor: Dr. Bih-Ru Lea ([leabi@mst.edu](mailto:leabi@mst.edu))**

**Thesis Committee: Dr. Raymond Kluczny and Dr. Richard Hall**

Information Science & Technology Department  
University Of Missouri-Rolla, Rolla, MO 65409

## **ABSTRACT**

The main purpose of this research was to examine the impact that cooperative techniques and demographics had in a computer programming class. Two instructional styles were compared: a traditional lecture style and a cooperative lecture style. The influence of demographic factors, such as mathematics background, academic experience, gender, grade point average (GPA), and course attendance, was also considered in conjunction with the two lecture styles to gain insight into cooperative learning. The course selected for the experiment was IS&T 051, Introduction to Algorithms and Programming, the first required core programming course in the School of Management and Information Systems at the University of Missouri - Rolla.

Through the experiment and statistical analysis, this study found that cooperation did not improve learning and performance, and might deter students from positive learning experiences. This may have been due to the time constraints that students faced when doing group work, within this lecture environment, or from the confusion added when two students with limited knowledge worked toward an unknown goal.

The results in this study suggested that students' class attendance provided predictability of performance, while their academic experience negatively influenced group effectiveness. Though the other factors showed positive correlations in an initial review, they did not significantly impact performance.