Making The Cut:
The Impact of Merit Reading and Writing Software on Low-Achieving Middle School Students

Overview and Summary

The following is an overview and summary of the Marshall University Graduate College research study conducted at the Calhoun County Middle/High School in Mount Zion, West Virginia from the winter and spring of 2003 through the winter and spring of 2004, and at Grandview Elementary School in Charleston, West Virginia during the spring of 2004, at the request of Merit Software.

Research Study Genesis

Merit Software, a leading provider of educational software, commissioned consultants at the Marshall University Graduate College in South Charleston, West Virginia to conduct a quantitative research study utilizing their educational software programs in classrooms at Calhoun County Middle/High School and Grandview Elementary School in West Virginia. The purpose was to follow-up and to extend a previous study, which evaluated the effects of Merit reading and writing software on students in grades 6-8.

Results of the first study, published in the *Journal of Research in Technology in Education* (a peer-reviewed academic journal), showed that students using Merit reading software made significant gains in their standardized test scores, as shown on the Stanford Achievement Test, Ninth Edition (SAT-9). Reading Vocabulary scores increased by an average of 13.1% and Reading Comprehension scores increased by an average of 10.5%.

In this second study, Marshall University researchers were to evaluate the long-term effects of Merit reading and writing software on students in grades 5-8.

About Calhoun County Middle School and Grandview Elementary School

Calhoun County, West Virginia was chosen as a test site primarily as it is a rural district where residents face economic, social, and educational challenges. It also has a stable population base. Approximately 37% of children under age 18 are below the poverty level. A June 2003 report from *The Parkersburg News* cited the county unemployment rates of 23% as being the highest in the state. 68% of students qualify for free or reduced-rice lunch, as compared with a statewide average of 48%. Nevertheless, school-district administrators have evinced strong interest and initiative in adopting innovative ideas, including technology, to improve instruction. Grandview Elementary School is 3.8 miles from Charleston, the major city and state capital. Grandview was selected, as it is an urban school with a high percentage of Title 1 students.

How the Research Study was Implemented

Students at Calhoun Middle School were assigned to their classes by the school districts' classroom management software during the summer of 2003. The Calhoun experimental group consisted of 172 students: 72 sixth-graders; 50 seventh-graders, and 50 eighth graders. The control group consisted of 66 students: 19 sixth graders; 22 seventh graders, and 26 eighth graders. All students were either in the experimental or control group. The extension of the Merit intervention began during the winter 2004 semester. Teachers at Calhoun Middle School voluntarily selected which classes would be in the experimental group and use the Merit Software programs. Students in the Merit treatment group at Calhoun received intervention time, on average of two 45-minute sessions for 9 weeks.

The principal at Grandview Elementary School randomly assigned students to two fifth grade classes in the summer prior to the beginning of school. The Merit intervention began during the spring 2004 semester. There were 36 fifth-grade participants in the Grandview group: 18 in the treatment group and 18 in the comparison group. Teachers voluntarily chose which class would receive the treatment, and which class would be the comparison group. The Merit treatment group at Grandview received intervention time, on average of three 30-minute sessions for 6 weeks.

Merit Software Programs Used in the Study

- *Accu-Reading*
- *Vocabulary Fitness*
- *Vocabulary Stretch*
- *Grammar Fitness*
- *Developing Critical Thinking Skills for Effective Reading* (8th grade only)
- *Essay Punch*
- *Paragraph Punch*
- *Writing Fitness*

All Merit Software programs (grades 3 through 12) encourage students to proceed at their own pace, while providing them with understandable and interesting content, and opportunities to conceptualize material in different ways. All include straightforward instructions, and clear and specific steps for working within a program's content. Scores are tracked by a record management system that allows teachers to follow student progress, and also allows administrators to export class data for analysis. Skill areas include reading comprehension, vocabulary, grammar, math, problem solving, writing and critical thinking.
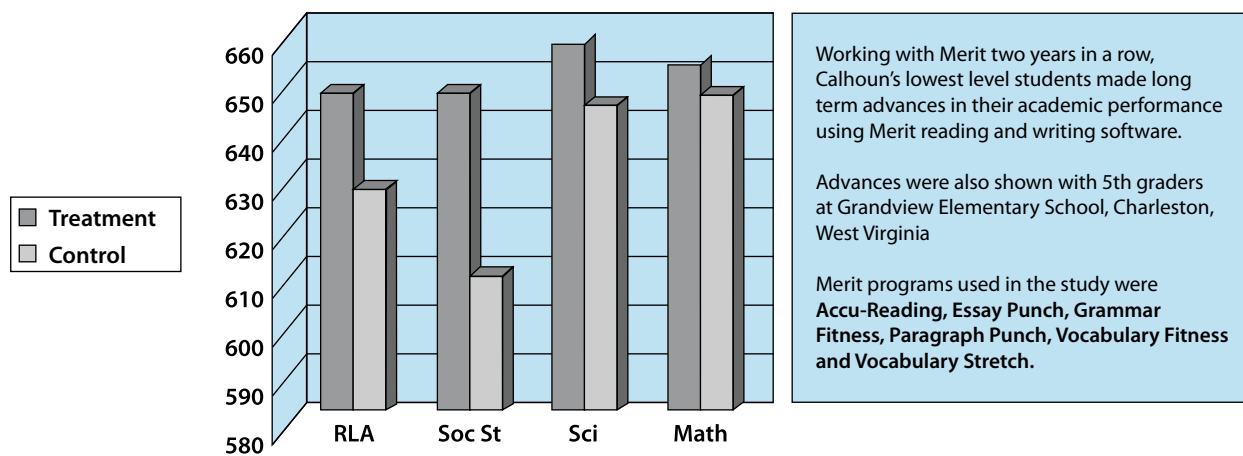
Questions Used to Guide the Study

The first study showed that students using Merit Software made significant gains in their standardized test scores. In this second study, researchers considered the following:

- Did Merit reading and writing software continue to have a positive impact on middle school students' achievement, as measured by results from Virginia's statewide criterion-referenced test, the WESTEST?
- What impact did Merit reading and writing software have on the performance of lower-achieving students?
- Did Merit reading and writing software make a difference in the performance of a rural-school population compared to that of an urban-school population?

Results of the Study

- Using Merit reading and writing software as a supplement to everyday instruction produced significant educational gains for 6-8th grade students at Calhoun Middle School. Test scores for those receiving the Merit treatment were higher than test scores for students in the control group.
- Low-achieving students made continuous advances in Reading/Language Arts; WESTEST scores for low-achieving students in the treatment group were an average of 4.38 points higher compared to scores for low-achieving students the control group.
- Long-term gains for the lowest-level students transferred over to other areas of academic performance. WESTEST Science scores were an average of 2.14 points higher; WESTEST Social Studies scores were an average of 8.23 points higher.
- Achievement was made with nine weeks of use**.**
- Advances were also shown with the 5th grade class control group at Grandview Elementary School.

Working with Merit two years in a row, Calhoun's lowest level students made long term advances in their academic performance using Merit reading and writing software.

Advances were also shown with 5th graders at Grandview Elementary School, Charleston, West Virginia

Merit programs used in the study were **Accu-Reading, Essay Punch, Grammar Fitness, Paragraph Punch, Vocabulary Fitness and Vocabulary Stretch.**

Summation

The Merit Software research study was relatively short-term and non-intensive. Yet it yielded statistically significant positive results. Merit treatment had the greatest impact on low-achieving middle school students. These students were in the lowest class quartile—below the reading and language arts competency level expected by state guidelines. They were considered struggling readers and "at-risk." However, they demonstrated clear educational gains on three reading parts of the WESTEST after nine weeks of the Merit software treatment. These results confirm the outcome of the first study: that Merit Software is a remarkably useful educational tool for teachers and administrators faced with meeting the demands of high-stakes testing, despite having limited resources. The second study also confirmed that improved learning among students in reading and language arts correlated with educational gains in social studies and science.

About Merit Software

Located in New York, Merit Software (www.meritsoftware.com) is a leading publisher of educational software. For over fifteen years, Merit Software has put an emphasis on providing the core competencies for students of grades 3-12 and up. Merit Software is a favorite of educators, students and parents nationwide and is currently being used in thousands of educational facilities. Designed with an emphasis on ease of use plus maximum instructional content, Merit Software offers a comprehensive suite of products targeted for educational excellence.