

## Action Research

### Contact Information

Name: Joy V. Mullings-Levy  
General Education Teacher  
TNLI MetLife Fellow  
School: Oak Grove Elementary  
15640 N.E. 8<sup>th</sup> Ave.  
N. Miami Bch. FL.33162  
Mail Code: 4021  
(305) 945-1511  
Principal: Mrs. Rhonda McKinney

Question – What happens to mathematical achievement scores when fifth grade students and their parents interact in an after school web enhanced tutorial program?

### Rationale for Study

There is no denying that computer technology is here to stay. It is one of the innovations that creates interactive learning activities and gives educators some additional help in reaching individual students. Accessing the appropriate websites for the purpose of practicing specific skills and strategies can be beneficial to both student and teacher. Several fifth grade, low achieving math students only become engaged in learning mathematical skills and strategies while using computer based tutorial programs with limited adult guidance. As educators we constantly seek new ideas to empower and encourage children's educational process, and with many of these targeted students having computers at home it is likely that parents and child can also utilize the tutorial program to practice important mathematical skills. Furthermore, while the students interact with the web enhanced subject area in an entertaining mode, the educator has the capabilities of peering into the students achievement file. The program is designed to keep accurate records of students' scores as they continuously move from one activity to another.

### Background/Context

Our elementary school is located in a low-medium income community, where many parents are working professionals. Some of these parents have expressed their desire to become more involved in helping their children, but do not know where to begin. Our school administrators, and the media specialist have addressed this problem through written communication, informing parents about various, approved learning websites that can be accessed from a home computer.

### Background Research

According to Dade County Schools' Department of Instructional Technology, it is

mandated that students in K- 6 be given a prescribed amount of computer learning time. The time allotted can be anywhere from, ten to ninety minutes, with some teacher interaction. In reference to the use of computer technology in the classroom, there is a mindset that commitment is a critical component for the process to be beneficial. In an article for *Childhood Education*, Lilia C. Dibello (2005) mentioned that: “ All of the parties involved in the process must make a commitment to provide better technology access to all populations. Administrators must emphasize the benefits of employing technology. Teachers must understand the need for incorporating technology into their daily experiences in meaningful ways. Students must commit to learning and employing technology in appropriate ways. Parents must be willing to support the changes and the need for access to technology at home as well.” My action research really went into full force when the parents returned their surveys and permission slips for their children’s participation in the after school tutorial. Some parents showed commitment when they took their children to the local public library or family member’s home (to use the computer) on days when their home computer malfunctioned.

### Research Tools

It was imperative that the educator monitors the students to prevent them from wandering into inappropriate cyberspace areas. The parents were also advised to monitor the students at home, and to interact by asking how each math skill can be used to enhance their home learning and classroom assignments. The program used in this study, required the teacher to show the students how to access the site with their names and password. The students are guided to the mathematical challenge segment of the program; they complete this segment, and then utilize the mathematical tutorial where they practice special skills and strategies.

Parent survey revealed that about 60% of the parents do not like math. This could offer some indications about their children’s lack of success in mathematics and would warrant further studies. Even though the parents responded that they do not like math, 100% of them responded favorably to a question about willingness to learn a computer enhanced math program. Their responses strengthen the belief that parents have an innate desire to help their children in their educational endeavors. This researcher will definitely take this into consideration as the program progresses.

Since the student’s mathematical achievement is the basis of this research project it was important to review the students’ various math scores. This was done by analyzing their Quarterly grade level math test, and their FCAT (Florida Comprehensive Achievement Test) scores in mathematics. The Quarterly grade level math test is administered at the beginning of every nine weeks to give the district and the classroom teacher an indicator of students’ improvement in math skills and the use of math strategies. The FCAT is a test used to assess the achievement of the students within each school district and across the state of Florida. The web-based tutorial began for only a brief period before the FCAT, but it will be interested to note any increase in the math scores for the targeted students.

Student math attitude survey revealed that many of the students like math and realize that it is very important. They are also very conscious of the fact that they are not very good

in the subject and are very receptive to the idea of participating in the after school web enhanced tutorial program.

#### Data

Data collection was based on the students' scores achieved on their quarterly math grades. (See Graph and Table). The graph shows the improvement of each student's math scores. Student A was transferred to my classroom from another school district and student F was transferred from another fifth grade class within my school. Therefore, there were no second grading period grades for these two students. Overall there was an average gain of about 9.2% for the students' fourth grading period math scores.

#### Analysis

In this analysis it is very important to stress how similar the web-based tutorials were to the exercises that are used in the classroom. They provided the tools that are needed to help the students achieve academically. The programs were both student and teacher friendly, easily accessible and provided skills that meet state educational standards. The program did not require 100% parental involvement, but their input was vital, as they sent information on how the student performed on their math home learning assignments. All students involved showed great interest in learning and practicing new math skills and strategies.

#### Policy Implications

There was one very important set back during the progression of the program, and that was the limited amount of computers in the classroom. Each student was required to do individual work requiring approximately forty-five minutes of uninterrupted computer time. It is very important that administrators and classroom teachers continue the dialogue with the district officials to increase the number of computers in the classroom, and also database for student tutorial. The web-based tutorial can be very beneficial to the educator, who needs extra help in reaching the students that are failing mathematics.