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SPED727

Evidence-Based Assignment #2

Rosen, Y. & Beck-Hill, D. (2012). Intertwining Digital Content and a One-To-One

Laptop Environment in Teaching and Learning: Lessons from the Time To Know Program. *Journal of Research on Technology in Education*, 44(3), 225-241.

Background

 *Time to Know* is a computer based learning program that has student learn subject matter through inquiry and discovery based approaches. Teachers have the ability to alter the difficulty of material based on individual students’ ability and understanding. Since students are engaged in individual or small group learning, teachers have more time to facilitate and work one-on-one with students. They can also monitor progress through data.

Research Questions

 This study discussed how the implementation of *Time To Know,* a constructivist one-on-one technology laced program, affected 4th and 5th grade classrooms in a Dallas, Texas, area school district. The study addressed four research questions, all which look at the implementation of the program versus traditional teaching methods. The first focused on the effect of student performance in math and reading. The second focused on changes in student attendance and discipline. The third focused on how the program impacted instructional and learning practices. The fourth looked student motivation and attitudes toward computer use in a learning environment.

Methods

 The study was done over the course of two consecutive school years, using both qualitative and quantitative data from both the beginning and end of the school years, including standardized test scores, attendance and discipline records, student questionnaires, and 55 one-hour observation sessions. The participants of the study were fourth and fifth grade students from four different elementary schools, all in the Grand Prairie Independent School District, which is located outside of Dallas, TX. A total of 476 students, who come from diverse backgrounds (though most are Hispanic), participated. The four schools were split in two groups (two per group), experimental and control. The experimental schools implemented the Time To Know program into math and language arts class, while the control schools used their traditional methods of instruction and learning.

Results

 Students from the schools that implemented the program showed an increase of learning achievement in both math and reading, which was exemplified in state testing, outperforming students from the two control schools. There was also a positive effect on student attendance and discipline in the experimental schools. The decrease in unexcused absences was estimated to save the schools thousands of dollars. In terms of teaching and learning practices, experimental schools showed significant increases in one-to-one teacher-student interaction, individual learning, and teacher feedback. All of the experimental classrooms grouped students based on performance level, allowing for more differentiated and better-paced instruction. Teachers in the experimental schools adjusted learning more frequently based on student achievement than did the teachers in the control schools. There was also a significant increase in student motivation towards both math and reading, as well as a more positive outlook on computers being used for learning.

Discussion

 Based on the data, this program seems to have a major positive impact on student achievement and attitude towards school, particularly in math and reading. By giving the student more ownership of their learning, as well as allowing teachers to appropriately pace and individualize instruction, students are allowed to have a more meaningful, personal relationship with the subject material. The program is also not using the computer as a means to teach, but instead using it as a tool, allowing the teacher to still have control over the class, and thus over student learning. However, there is still the question of whether the material is being presented in a way that brings it into a real-world environment. The study does not discuss examples of the program, and thus it is unknown how the material is being presented. Still, the *Time To Know* program seems to be a major step in the right direction, especially with the nation being focused on math and reading scores, as well as individualized learning, and the positive results would incline one to think that this is definitely a program that should be implemented and/or modeled in schools around the country.