

Increasing Math Engagement with Technology

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Introduction

Mathematics is a subject taught in every school, and in every grade. From preschool to being a graduate student at University, math is used every day, whether we realize it or not. At an early age, children begin to learn simple mathematics concepts through counting 1 to 10, sorting by color, learning shapes, matching, and measuring, just to name a few. Not all students are happy to learn math, because they'd rather be off in the 'Dramatic Play' section of their preschool, or painting a picture for their parents, but math is a basic concept that everyone needs to know, and learn.

Are children and students more likely to engage in mathematics if technology is incorporated? This is the question I plan to address through my Action Research Project. Many of us, myself included, love technology. Technology ranges from desktop computers and cell phones, to iPad/tablets and hand-held gaming devices such as a DS or a GameBoy. We all engage in the use of some form of technology every day, whether it's simply by pressing the power button to our laptop, DS, or iPad, or by pressing a button on the elevator. Since we're all easily excited by new technology that is being developed every day, if we incorporate learning into a game played on one of these technology advancements, are we more likely to enjoy learning?

Since my future lies in Early Childhood Education, this AR topic is of extreme importance to me. Parents want there to be some focus on academics in the curriculum of the preschool their child attends, but as teachers we know that play is the best way for children to learn, simply because they're learning without knowing it. Parents want to see their children progress academically and be ready for the next step after preschool, which for most children is

kindergarten. Through this Action Research Project, I want to be able to have solid evidence that children learn basic math such as counting, matching, and shape recognition, if technology is incorporated into their daily learning.

I plan to implement my project in the Pierpont Community & Technical College Laboratory Preschool, under the direction and supervision of Amber Myers. The laboratory preschool has a wide variety of students from varying socioeconomic backgrounds, as well as ethnic backgrounds. The laboratory preschool is currently part of Marion County Universal Pre-K program, where most children who attend this lab school will go into kindergarten in a Marion County School. While the curriculum the preschool uses is mainly a Creative Curriculum, they incorporate activities into the classroom to test the child's readiness for school. One of the main areas in which a child is evaluated in is math.

If I can find a particular way in which children learn, whether it's by incorporating technology into the classroom to heighten their interest in math, then I can better prepare myself as a future teacher to have ideas ready for when I enter the classroom that will help my students learn mathematics. I plan to use a survey to find out whether children have technology in their home, and whether they know basic math functions, such as counting, shape recognition, and matching, before incorporating technology. After the survey is given, I will present the children (individually) with a math-related app on my iPad to see if the knowledge they hold presently is reflected in the game in which I choose, or to see if technology helps the child with basic math functions. Post-technology implementation, I will use another survey, similar, if not exactly like the first one, to see if children's answers are the same, or if using technology has helped them learn basic math concepts.

