

Arcademics Pilot Study

Olathe Schools, USD 233



Fairview Elementary School, Olathe USD 233

Advancing Math Knowledge

As the fourth largest city in the state of Kansas, Olathe is located just 20 miles southwest of downtown Kansas City. Not only has the Olathe community been named one of the most desirable places to live in the United States by Money Magazine, but its school system has also been ranked as one of the best in the nation with student test scores falling in the nation's top 10 percentile.

With each new school year, all Olathe schools focus on teaching multiplication tables to their third and fourth grade students. In January 2011, the district decided to participate in a corresponding study conducted by Arcademic Skill Builders, a provider of educational video games, funded by the National Science Foundation to study the impact of multiplayer gaming on multiplication achievement. The teachers hoped to uncover a means that would result in the district's third and fourth grade students performing better than ever while having fun doing so.

"Teaching multiplication with flash cards can be mundane," said John Schulte, third grade teacher at Forest View Elementary School. "Allowing our students to play educational video games that help them practice and retain math lessons definitely enhances students' performance, while also instilling the much needed "fun" component."

Utilizing Familiar Technology

John Schulte has been a teacher with the Olathe district for four years at Forest View Elementary, which serves approximately 300 students. Four math teachers implemented the games: two third grade and two fourth grade teachers. Soon after, the participating educators realized that educational technology was a meaningful approach to learning since their students already showed a liking for technology. To begin the study, Arcademic Skill Builders' games were instantly incorporated into computer lab lessons and encouraged for extra practice at home.

Among the first in the education technology industry to incorporate multiplayer capabilities in educational gaming, Arcademic Skill Builders is an online resource offering educational video games that present a powerful, twenty-first century approach to education. The web-based learning games are tailored to assist K-8 students with basic math, language arts, vocabulary and thinking skills while in the classroom or at home. Showcasing a variety of games, each is developed to align with state standards and the Common Core Standards, a state-led effort coordinated by the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief

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Olathe KS
www.olatheschools.com

Student Population

73% Caucasian
 13% Hispanic
 7% African-American
 7% Asian

Description

The study covered two weeks with third and fourth graders in four elementary schools. Students began by taking a pre-test on a teacher-chosen multiplication set, then played the Arcademic multiplayer multiplication games totaling 3 hours over the two weeks, then completed a post-test on the same set. Below are the differences between the pre and post tests.

Findings

- 9.5%** Increase in percent correct
- 35%** Improvement in rate
- 21%** Improvement in students who scored below 75% in the pre-test
- 18%** Increase in time spent practicing math facts outside of class.
- 6%** Increase students' confidence of their math abilities.

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State School Officers (CCSSO) that helps prepare children for college and the workforce.

“So many of my students have handheld video game devices,” said Schulte. “Arcademic Skill Builders’ games have very similar aspects to all of the gaming technology my students already use and play, therefore it works so well with the students.”

To begin, Arcademic Skill Builders reached out to the Olathe district schools to conduct a study consisting of four elementary schools in the Olathe school district, including 11 teachers and 216 students for a two-week duration. The study focused on a set of multiplication facts chosen by each teacher. Students began by taking a pre-test on the given multiplication table, and then transitioned into the Arcademic multiplayer multiplication games. Once complete, students had spent at least three hours practicing over a span of two weeks. Finally, they were given a post-test on the table they had been practicing. In addition, Schulte even had his 25 students play the games during computer lab instruction for a total of two hours each week, while also having them practice math facts at home through game play. To Schulte’s excitement, Arcademic Skill Builders motivated his students and proved to be an impactful teaching strategy that presented a new take on learning.

“One of the biggest successes in relation to the games is that they allow students to play online with their classmates and friends,” said Schulte. “I am an Xbox enthusiast myself and think it’s a great idea to use an educational gaming system that allows kids to connect with other kids. The game play really motivates students to use the multiplayer aspect when playing with one another versus a computerized system to better only themselves.”

Expectations When Incorporating Educational Video Games

Since integrating Arcademic Skill Builders into computer lab lesson plans and game play at home, Schulte and his students have experienced sheer success. Upon implementation, Schulte hoped the games would show student improvement. He also expected students’ interest in the games to drive game play after school hours while at home, seeing that all they needed was internet access and an available computer. Looking back, all of these expectations have and continue to be met and brought to life each time over with the use of Arcademic Skill Builders.

An initial fear in the mind of Schulte was that incorporating the games was just another “thing” teachers were going to try to use. Today, he is delighted to find this has not been the case whatsoever. Instead, he continues to witness students who are excited to see one another succeed and work together to beat the games.

“Arcademic Skill Builders’ games created a level of excitement for learning,” said Schulte. “I still encourage parents to have their children play the games at home.”

Educational games were undoubtedly an appropriate way in stimulating the students of Forest View Elementary and the entire Olathe district with their math studies due to the interactive nature of the video games. Because a fun learning environment was provided, students felt comfortable and willing to learn in this new atmosphere. Schulte’s 25 students were amongst the 216 to see dramatic results for achievement using Arcademics’ multiplayer games.

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- Mr. Schultz

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Those from the district participating in the study saw a 9.5 increase in percent correct, 35 percent improvement rate (how quickly student answers problem), 18 percent increase in how much students practiced math tables outside of class, 6 percent increase in student confidence in their math abilities, and 21 percent improvement of percent correct in students who scored below a 75 percent on the pre-test.

Keeping a Twenty-First Century Classroom

Educational technology initiatives play a major role in transforming classrooms into twenty-first century learning environments. Educators adopting new technologies in the classroom are able to address learning needs and facilitate unique connections between students and teachers. Drawing on a twenty-first century approach to learning offers students a chance to challenge themselves and become more well-rounded individuals who will have so much to offer the future. Students appreciate the new approaches to learning, which can increase time on task and motivation.

Schulte intends to use Arcademic Skill Builders' online games on into the future with his students because they give his students the motivation they need.

Contact Arcademics for more info:

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Mr. Schultz, Forest View Elementary

