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Virtual environment boosts reading skills

North Carolina students make gains with multi-user gaming scenarios

By Maya T. Prabhu, Assistant Editor, eSchool News

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For the past year and a half, students at Broad Creek Middle School in Newport, N.C., have used virtual reality technology to enhance their reading skills across the board--and the evidence suggests these efforts are paying off.

Quest Atlantis, created by Indiana University professor Sasha Barab, uses a three-dimensional multi-user virtual environment and games with storylines to help children advance academically and learn about life.

Since students began using Quest Atlantis, their reading scores have improved, especially for some of the weaker readers, Broad Creek Principal Cathy Tomon said.

"We had students who were reading at a first-grade level and were in the sixth grade," Tomon said. "One student went from a 2.5 to a 6.1 [reading score] from August to June. We've seen tremendous growth in his reading. [His teacher] believes the program has given him the incentive to do well in school."

Disadvantaged and poor-performing students in North Carolina have been the ones to see the most positive results from the program, said Frances Bradburn, the former director of instructional technology for the North Carolina Department of Public Instruction, in a press release. She initially approved Quest Atlantis for use in the state's schools.

"These hard-to-reach children have been so excited and motivated by the program. Children who normally do not enjoy school have a newfound drive to be there," she said.

Tomon said the game-style approach of Quest Atlantis appeals to students.

"In today's society, our children are gamers, and they're so involved in technology," she said. "So [Quest Atlantis] really gets their interest."

She also said that students with poor reading abilities are seeing the most growth.

Barab said Quest Atlantis was developed to give teachers a way to instruct students in an interesting way and in instances when field trips might be out of the question.

"We use the power of games to help kids understand why they're learning what they're learning in school," he said. The program "makes school content more meaningful and engaging for the students."

In Quest Atlantis, students learn a variety of subjects by assuming the roles of junior scientists, political advisors,

business managers, or national park rangers.

"It positions students as active agents trying to solve problems," Barab said.

In the spring of 2007, Quest Atlantis was tested with fourth- through eighth-graders in 11 North Carolina schools and expanded to schools in more than 26 counties for the 2007-2008 school year, with emphasis being given to areas that hadn't performed well in the past, said George Newman with the One Planet Education Network (OPEN). OPEN is the exclusive licensee of Quest Atlantis for North Carolina, as well as Massachusetts, New Jersey, New York, Florida, and California.

"The whole idea is all about putting students in a real-world environment and challenging the kids on different subject matters," he said. "It gives the students a chance to use the content they learn and see how math, science, language arts, and reading have an impact on the world."

Schools are asked to apply for participation through the Quest Atlantis web site, and if they are selected, Indiana University professors then train the schools' teachers to use the program. Teachers can choose for their students to participate in games or scenarios from 15 main worlds, Barab said, with some of the larger scenarios lasting eight or nine days.

One of the popular worlds, the Taiga world, was designed specifically to host a curricular unit on water quality, according to the Quest Atlantis web site.

View a simulation of the Taiga world.

"Students come in and are asked immediately to solve a problem. For example, they're told that the fish are dying, so they have to find a way to improve the water quality," Barab said. The choices a student makes determine the outcome, giving the students a sense of consequences and allowing them to become an agent for change, he said, adding: "It allows them to connect to things that matter, [such as] environmental awareness."

The program helps teachers find interesting ways to teach content and gives students a storyline that makes that content interesting, Barab said.

And that's something Tomon said teachers are happy about.

"The teachers are so excited about it--and when you get the teachers excited, you know you're doing a good thing," she said.

Quest Atlantis has been mainly a research project for the past four years, Barab said, but he hopes to expand the initiative and make the program available more widely.

"We're shooting to add 30,000 more kids," he said.

Links:

[Quest Atlantis](#)

[One Planet Education Network](#)

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