

Educational gaming is catching on, especially in science class

By Milwaukee Journal Sentinel, adapted by Newsela staff on 09.04.15

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Leanasha Jones (right) and Bobby Kennedy, fourth graders at Southside K-8 School in War, West Virginia, play video games after school, May 7, 2013. Photo: AP Photo/Randy Snyder



MILWAUKEE, Wis. — The goal of the game "Citizen Science" is to save Lake Mendota in Wisconsin from pollution. To save the day, players must do all of the usual video game stunts, like travel through time or talk to animals.

"Citizen Science" is just one of many video games developed by Games + Learning + Society (GLS). GLS is a company that calls itself one of the longest standing games-for-learning research centers in the world.

It is a key player in a growing field that brings scientists, educators and game designers together. The goal of GLS is to change traditional science education methods using video games. Their games promote learning about biological systems, civic activism, empathy and even literacy.

The creators of these video games do not want to replace teachers and traditional education methods. However, their hope is that these games can be used by teachers to work alongside their lesson plans.

"Citizen Science" To The Rescue

Kurt Squire grew up playing and learning from video games. As co-director of GLS, Squire tries to create games that make learning science a more active process.

"I was personally struck by the fact that we have these lakes right in downtown Madison that you can't really swim in," he said. That curiosity caused him to make "Citizen Science."

In the game, players look for the causes of pollution at Lake Mendota. They must travel through time, collect evidence and eventually clean up the lake. Students can learn how interconnected ecosystems are and witness the long-term effects of pollution. These are lessons that can be difficult to observe and measure during a single semester, which makes the video game a very helpful format for teaching.

Robert Bohanan truly believes that video games are an effective tool for teaching science. He worked closely with GLS on "Citizen Science." Bohanan also works with high school students as an outreach program manager. "Citizen Science" allows him to imitate lake ecosystems and to reach more students than he can with typical teaching materials.

Changing Viewpoints In Education

Several years ago, teachers were unsure about the role video games could play in education. Now, however, it seems that teachers are starting to embrace the idea. The question is no longer whether video games should be used, but, rather, how they should be used.

Mike Lawton is a science teacher at Milwaukee's Rufus King International School-High School Campus. He gave feedback to GLS on "Citizen Science" and uses the game in his lessons.

Part of the shift toward educational games is due to the increasing familiarity of gaming in society. The rise in smartphone and tablet use is making gaming more available to everyone.

Gathering Proof For Support

This new field remains young. Experts are still gathering proof about how effective educational video games can be. There are several studies that hint at the potential for these games being able to help students actually learn scientific concepts and not just memorize facts.

Everyone in the field seems to agree: This new wave of scientific video games depends on effective teachers and lesson plans to bring out the best in them.

"I really see them as being a complementary piece to what's already going on in classrooms," Lawton said.

Quiz

1 What are the main ideas of this article?

1. *Kurt Squire grew up where the lakes were too polluted for swimming.*
2. *More people are now playing games on tablets and smartphones.*
3. *"Citizen Science" shows players the long-term effects of pollution.*
4. *Video games can be effective teaching tools.*

- (A) 1 and 2
- (B) 2 and 3
- (C) 3 and 4
- (D) 1 and 4

2 Read this paragraph from the section "Citizen Science To The Rescue."

In the game, players look for the causes of pollution at Lake Mendota. They must travel through time, collect evidence and eventually clean up the lake. Students can learn how interconnected ecosystems are and witness the long-term effects of pollution. These are lessons that can be difficult to observe and measure during a single semester, which makes the video game a very helpful format for teaching.

Which answer choice BEST summarizes the contents of the paragraph?

- (A) The paragraph shows how students play a game and learn about ecosystems, making observations that would have been hard to fit into a semester of school.
- (B) The paragraph reveals which lakes are polluted and what students should do about it before describing a new tool for learning.
- (C) The paragraph explains what happened in Lake Mendota, how to clean it up, and which types of lessons are most difficult to learn.
- (D) The paragraph explains what players are looking for in the game, how ecosystems work, and how teachers can cover the topic in a semester.

3 According to the section "Citizen Science to the Rescue," why does Robert Bohanan think video games are good for teaching science?

1. *more people are able to play games on smartphones and tablets*
2. *games can reach more students than books can*
3. *several studies suggest that games can help teach scientific concepts*

- (A) 1 only
- (B) 2 only
- (C) 3 only
- (D) 1, 2 and 3

4 Which answer choice BEST describes the role of the game "Citizen Science"?

- (A) A personal observation became part of a game, which now reaches many people.
- (B) Pollution in a lake led people to study how to fix it, then a game was made about it.
- (C) The game "Citizen Scientist" taught students about ecosystems, and they cleaned up a lake.
- (D) A game that taught about science made gaming on smartphones and tablets more popular.

Answer Key

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