

**Reading and Responding to Nonfiction:
iPads in the Classroom**

Today you will read two articles about the use of iPads in classrooms. After you have read the selections and answered some questions, you will plan an essay analyzing the author's purpose for writing each article.

Read the passage titled, "iPads Improve Classroom Learning, Study Finds." This article shows how iPads are used within a science classroom. Then answer questions 1-3.

"iPads Improve Classroom Learning, Study Finds"

by Brian Handwerk

Just how big is the universe, how small is an atom and how long have we humans lived on Earth, compared with dinosaurs? Such answers are better learned with an iPad, according to a new study that shows just how tablets tap neurocognitive abilities that help students understand enormous scale and other difficult concepts.

Students saw learning gains after as little as 20 minutes of study on the iPad, the research found, and if supported with guidance from an instructor their improvement may have been even more pronounced, the scientists suggest. "The bottom line is that these iPads and similar tools actually do make a difference," said physicist Matthew Schneps, a founding member of the Science Education Department at the Harvard-Smithsonian Center for Astrophysics in Massachusetts.

Schneps explained that his virtual solar system study examined iPad use that is a bit different from most classroom applications. "Many educators are looking at the iPad as an inexpensive way to deliver content [and] to save money on textbooks, and a lot of apps are available that try to make learning into a kind of game," he said.

"These uses are good. But what we were testing is, does the iPad actually allow you to simulate things that students couldn't otherwise experience?"

Schneps pointed to a realistic demonstration of the solar system on the tablet as one such example of something that can be difficult to explain in a classroom. Tapping the unique powers of these devices unleashed neurocognitive learning capabilities in the brain that aren't often used during traditional instruction, he added.

Let Your Fingers Do the (Star) Walking

In the study, high school students in Bedford, Massachusetts, used the Solar Walk simulation from Vito technology to explore a 3D, pinch-to-zoom display in two different ways, Schneps explained.

First, the display was set so that the solar system appeared in the unrealistic “orrery display” scale that’s commonly depicted in textbooks. “It’s kind of the way we’re used to seeing it, which is done to make things look more interesting,” he said. It features greatly exaggerated planets, including an Earth with a diameter that is a staggering 38 percent of the sun’s, and an Earth orbit shrunk to just five times the size of the planet’s own diameter.

The second experiment used a true-to-scale mode, showing how tiny planets actually are, compared with the size of their orbits, appearing as mere dots on the screen to show viewers just how vast the solar system really is.

Users showed improved learning when using both modes, the authors reported, but the true-scale experience was particularly effective in promoting learning and clearing up scale misconceptions about our cosmic neighborhood.

Educators have struggled to represent these concepts. Think of blackboard time lines stretching for millions of years, or students scattered across a classroom with basketballs, tennis balls, and golf balls meant to represent planets. “These are all big-scale events, and we’re showing that you can learn a lot more with a realistic simulation that couldn’t possibly fit in the space of a classroom,” said Schneps.

Proof of the iPad’s value was found comparing the results of tests given to thousands of students across the United States. Schneps and colleagues knew exactly how students performed on those tests, and also how different levels of traditional instruction improved student scores on them. “so we were really able to see just how the iPad changed their results,” he said.

Next Steps

The research suggest that tablets could aid the study of many scientific concepts that are difficult to grasp, such as distance, time, and other large-scale subjects, said Schneps. “These occur in the study of geologic time; the size and age of the universe; the timeframe of biological mutation and evolution; the mass, size, and speed of subatomic, atomic, and molecular particles; and so on,” the study noted.

While this type of learning remains in its infancy, tapping the technology may one day become critical career training for young and future generations. “They’re not going to be doing things in their jobs the same way that previous generations did,” Schneps said. “So if kids can learn in schools today using the same tools that they will use in their careers later on, that’s a good thing.”

“iPads Improve Classroom Learning, Study Finds” from <http://news.nationalgeographic.com/news/2013/12/131210-ipad-learning-education-space-science.html>

Multiple Choice Questions

1. What is the meaning of the word “infancy” as used in paragraph #13?

- a. a state or period of early babyhood
- b. having a lack of knowledge
- c. something or someone that is vulnerable
- d. something in its early stages of development

2. Part A

What is the purpose of the article?

- a. to inform people about the positive uses of iPads in education
- b. to entertain people about the use of iPads in education
- c. to explain the process of using iPads in education
- d. to persuade people to use iPads in the classroom

Part B

Choose two quotes that best support the answer in Part A:

- a. “Students saw learning gains after as little as 20 minutes on the iPad, the research found.”
- b. “Many educators are looking at the iPad as an inexpensive way to deliver content.”
- c. “Users showed improved learning with both modes”
- d. “...does the iPad actually allow you to simulate things that students couldn’t experience otherwise?”
- e. “Tapping the unique powers of these devices unleashed neurocognitive learning capabilities in the brain that aren’t often used during traditional instruction.”

3. Part A

What is the main idea of the article?

- a. Students can benefit from using iPads in the classroom.
- b. There is no benefit to using iPads in the classroom.
- c. All schools should use iPads in their classrooms.
- d. iPads are tools that should be used in every area of life.

Part B

Choose the quote that best supports the answer in Part A:

- a. “Tapping the technology may one day become critical career training for young and future generations.”
- b. “Users showed improved learning with both modes.”
- c. “A lot of apps are available that try to make learning into a kind of game.”
- d. Schneps explained that his virtual solar system study examined iPad use that is a bit different from most classroom applications.”

Read the passage titled, “Why We Need to Keep iPads Out of the Classroom.” This article looks at the use of technology in the Los Angeles Unified School District. Then answer questions 4-6.

“Why We Need to Keep iPads Out of the Classroom”

by Jervey Tervalon

It’s still mystifying that in this time of limited educational funding, the people running the Los Angeles Unified School District were such an easy sell when it came to technology.

After LAUSD made an enormous investment in iPads and Pearson educational products developed for those iPads, teachers quickly discovered the iPad program didn’t work as guaranteed and the Pearson applications were useless. Superintendent John Deasy resigned in disgrace, elections changed the school board, and the FBI began an investigation into allegations of bid rigging.

I’m inclined to believe that those in charge saw the iPad as a magic talisman¹ that could just about transplant knowledge into students’ brains directly, bypassing teachers. LAUSD technophiles saw teachers as low-tech and low-value conduits between students and cutting-edge software and hardware; teachers weren’t consulted on the purchase or given a chance to give the machines a trial. I suspect the LAUSD powers hoped to construct a system that would be as efficient as technology can make other aspects of life, like Ubering up an education.

But teaching isn’t always efficient. Often it’s messy, and because it’s messy, the process can produce epiphanies, and sparks of creative thinking.

I taught English for five years at Locke High School in south Los Angeles. One of the highlights of my career was when a student, a kid who dressed like a Crip, asked where I had gotten a short story that I photocopied for the class, Hemingway’s “Hills like White Elephants.”

He said, “It ain’t a real story.”

“Why isn’t it a real story?” I asked.

“Cause it’s interesting,” he replied.

I was confused but flattered, and later, as I mulled over the exchange, it became clear to me that a kid who was unaccustomed to reading had been engaged at a high level because I had found the appropriate material for him, something that wasn’t complex in language, but sophisticated in action, character, and meaning.

¹ talisman - an object that is thought to have magic powers and to bring good luck

An iPad is an amazing device for transmitting information, but what makes a difference in a student's life is the information, not its mode of transmission. Appropriate content, provided at the right time in the student's life, and in the right pedagogical² context, is everything. Technology doesn't guarantee any part of that. An iPad loaded with inane apps is just another boring textbook.

The technology that made this connection with my student possible was the photocopy machine, technology that - when I taught - was rationed, only accessible to administrators, not to teachers, who were condemned to use that ancient but cheap technology of the mimeograph machine. So I paid out of pocket to make sure my students had the material that I thought would engage them. An iPad would have made this process only marginally better than what was available 20 years ago. Tech wasn't going to magically transform this student, or students like him into devoted readers.

My magic talisman, in conveying Hemingway to his student, was another teacher, Professor Alan Stephens at UC Santa Barbara. I was lucky enough to have taken a great Hemingway course that he taught that made it possible for me to understand how to teach Hemingway and stress what was valuable - the clarity, the powers of observation, the brilliant dialogue, and also the flaws of racism and anti-Semitism. I learned it well enough to develop curriculum for it, to sell it to these students who often treated their textbooks as if they were written in another language.

Tech isn't a panacea³. On an orderly campus with sufficient funding for workable restrooms and other niceties that enable students to be comfortable enough to flourish academically, it can be a useful tool for well-trained teachers. What tech can't do is change the culture of campuses where academic achievement is rare.

Locke High School is in an area of Los Angeles suffering from high unemployment and high crime, just as it did 24 years ago when I was there. Some students did well and achieved academically, but the majority of these students graduated in the lower percentiles in reading and math. The majority of students did want to graduate and some wanted to go to college, but many of them were rudderless, hoping at best to blunder into a community college or the military. Their choices were informed by brutal reality and existential struggle, then as today. Doing well in school mattered, but personal safety and money mattered more.

Under these difficult circumstances, schools that create a sense of order but also respect these young men and women can accomplish miracles. It is not an easy thing to do, and when it is done these schools and programs deserve great praise. USC's Neighborhood Academic Initiative headed by Kim Barrios is such a program. It's seven-year pre college enrichment program designed for low-income neighborhood students. If they complete the program and meet USC's

² pedagogical - of or relating to teachers or education

³ panacea - a solution or remedy for all difficulties or diseases

admission requirements and decide to attend USC, they are rewarded with a full financial package.

It also supports the USC Family Schools, such as Foshay Learning Center. The students are lively but prepared, and instruction is the highest priority. Students understand that attending Foshay is a privilege that can be revoked. They are expected to buy into the code of conduct of the school and if they don't consequences follow.

When I attended Foshay in the '70s, it was one of my worst experiences growing up. I feared for my life and saw riots, beatings, girls sexually assaulted, and teachers slugged. Now, it's an entirely different world: kids and their families have bought into the culture of achievement to such a degree that many of the students attend the Saturday Academy at USC and are there by 7:50 a.m. They are groggy but ready to attend S.A.T. preparation classes. As a consequence of all this hard work and support, the black and Latino students in the Neighborhood Academic Initiative all graduate from high school, and more than 98 percent attend four-year colleges and universities.

Verbum Dei in Los Angeles is another school that overwhelmingly serves low-income black and Latino students in a community that suffers from high unemployment and high crime. Students at Verbum Dei all graduate and are admitted to multiple colleges and universities. Here, too, students buy into the demanding culture of the school, with tons of homework and school-required work (yes, they work, at law firms and other high-income businesses).

The commonality of these very different success stories is not the emphasis on tech gadgetry but making the investment in creating a culture of achievement and getting the kids and their families to buy into it.

Seemingly, Deasy and the technophiles didn't see what should have been obvious: an iPad is an amazing device, but it isn't so amazing without content or the right pedagogical context. School reform isn't expensive tech and high-stakes testing; it's the incredibly difficult task of creating highly functioning, transformative educational communities. Tech isn't a shortcut. We are asking teachers and schools to fight the war on poverty when we won't even admit that we are doing exactly that.

The hundreds of millions already spent and wasted by the LAUSD on this misadventure serve as a very expensive cautionary tale.

“Why We Need iPads Out of the Classroom” from <http://time.com/3926875/ipad-use-classroom/>

Multiple Choice Questions

4. Part A

What is the purpose of the article?

- a. Inform
- b. Persuade
- c. Entertain
- d. Explain

Part B

Choose a quote that best supports the answer in Part A:

- a. “Why We Need to Keep iPads Out of the Classroom”
- b. “An iPad is an amazing device for transmitting information.”
- c. “I taught English for five years at Locke High School in South Los Angeles.”
- d. “On an orderly campus with sufficient funding for workable restrooms and other niceties that enable students to be comfortable enough to flourish academically, [an iPad] can be a useful tool for well-trained teachers.”

5. Part A

What is the main idea of the article?

- a. iPads are not a necessary tool students need in order to learn.
- b. iPads create more problems in the classroom than they solve.
- c. iPads are too expensive for all students to access them.
- d. iPads provide different ways of teaching the same content.

Part B

Choose a quote that best supports the answer in Part A:

- a. “On an orderly campus with sufficient funding for workable restrooms and other niceties that enable students to be comfortable enough to flourish academically, [an iPad] can be a useful tool for well-trained teachers.”
- b. “An iPad is an amazing device for transmitting information, but what makes a difference in a student’s life is the information, not its mode of transmission.”
- c. “An iPad loaded with inane apps is just another boring textbook.”
- d. “School reform isn’t expensive tech and high stakes testing.”

6. What does the term “rudderless” from paragraph 14 mean?

- a. Adjective, meaning lacking a clearly defined goal or plan of action.
- b. Adjective, meaning lacking in academic skills.
- c. Adjective, meaning lacking a supportive family.
- d. Noun, meaning one who does not move.

Refer to the articles “iPads Improve Classroom Learning, Study Finds” and “Why We Need iPads Out of the Classroom.” Then answer question 7.

7. You have learned about the use of iPads and technology in the classroom by reading two articles, “iPads Improve Classroom Learning, Study Finds” and “Why We Need iPads Out of the Classroom.”

In an essay, identify the purpose of each text and analyze how that purpose is developed. Consider how each author uses explanations, examples, and/or descriptions to help accomplish his purpose. Support your response with evidence from each article.