BUSTING THE MYTHS OF DIGITAL LEARNING

Results of the 2012 JogNog Digital Learning Survey

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Today, high school students in the United States have dropped to below average in math and science as measured by the international Program for International Student Assessment (PISA) tests. We hear of many innovative solutions to combat this problem, like one iPad per child, smart boards in classrooms, and the use of video games to teach. Collectively, these solutions are called digital learning tools, and they represent a great opportunity for us as teachers, parents, and citizens. But the United States is not as far along in embracing digital learning as its citizens might think.

Digital learning tools provide both exciting opportunities and difficult challenges for teachers. Which tools are best? How can I best use technology to engage students? Are online games a distraction or an essential tool for learning? Many teachers disagree on these fundamental issues. To address these questions, JogNog surveyed more than 150 teachers and principals. This survey identifies the best practices for digital learning for teachers across the country, along with a listing of the challenges of using digital learning in the classroom and beyond.

MYTHS BUSTED

The survey provided many surprising insights into the progress of digital learning in the United States. Some commonly held beliefs appear to be incorrect:

1. **Computer Games Are Bad.** A vast majority of teachers—93%—want their students to use digital learning games.

2. **Our School Is Computer-Enabled.** The most common barrier to digital learning is too few computers or tablets for students.

3. **Our School Already Uses Digital Learning Tools.** Digital learning is still in its infancy. In our survey, no single tool was used by more than 25% of the teachers surveyed.

4. **Not Having Enough Computers Is a Teacher’s Biggest Problem.** Motivating students is the number one challenge for most teachers, followed closely by dealing with behavioral problems. Digital learning tools are important, but only if they help solve these problems for teachers.
METHODOLOGY

This survey on digital learning was conducted online during March 2012. Invitations were sent to a random sample of teachers across the United States, with the responses coming from locations spread throughout the country, as illustrated in the map below.

Approximately 61% of the responses came from female teachers and 39% from male teachers, a slightly more male population than for teachers in general. Teachers who responded had a range of experience on the job, from recent hires to highly experienced veterans, as illustrated in the chart below.

Approximately 80% of the responders taught in public schools, 15% in private schools, and the remainder in homeschooling and other special programs.
SURVEY DETAILS
The following sections describe the results of the survey. A copy of the survey itself appears in the appendix.

1. Myth Busted: Computer Games Are Bad
Educational games invite tremendous interest among teachers, with 93% saying they would use games in their classrooms if the subject matter matched their lesson plan.

Would you use digital learning games in class if the subject matter matched your lesson plan?

We also asked teachers which subject areas they thought digital learning games were best suited to. Math was the clear favorite—chosen by 87% of teachers—followed closely by science, history, and English. Interestingly, a significant percentage of teachers even saw uses for digital learning tools in areas like art and physical education.

Which subjects are well suited for digital learning games? (Check all that apply.)
2. Myth Busted: Our School Is Computer Enabled

As exciting as the promise of digital learning is for most teachers, many barriers hinder the active deployment of these tools in class. 64% of teachers say that their school has too few computers or tablets for their classes to use, and 35% are frustrated with hardware and software problems with the computers they do have.

One solution might be for students to use digital learning tools to do homework instead, but 48% of teachers recognize the lack of internet access at home as a barrier to digital learning. Based on JogNog’s other interactions with teachers, we know that many teachers are reluctant to assign computer homework if even one student doesn’t have the required equipment.

![Bar chart showing the biggest barriers to using digital learning tools in the classroom.]

*What are the biggest barriers to using digital learning tools in your classroom?*

We might expect that private schools would be better funded and have better computer technology. Surprisingly, more private school teachers have concerns about the technology at their school than public school teachers. Over 70% of them believe that their school has too few computers or tablets. This challenge is offset by the fact that far fewer of them (20%) feel that internet access at home is a problem.


Although many teachers are experimenting, no digital learning tool has been recognized as an industry leader. No digital learning tool garnered the interest of more than 25% of teachers. In fact, more than 35% of teachers in the United States don’t use digital learning tools at all.
Which digital learning tools (games, websites, computer software, tablet apps, etc.) do you use?

The most common response for teachers who do use digital learning tools was “Others.” Teachers who responded that way were given the opportunity to enter the tools they use; however, no tools besides those specified in the survey were mentioned more than once.

4. Myth Busted: Not Having Enough Computers Is a Teacher’s Biggest Problem

To get the big picture of what issues confront teachers today, we asked, “What are your three biggest challenges to being a great teacher?” More than 50% of teachers identified “Motivating students” as the number one challenge. Second was “Student behavioral issues,” such as talking during class. Both of these responses point to the need to deliver digital learning tools to students in a way that engages them more fully in the content being presented in class. Structural issues in education, such as budget cuts and bureaucracy, were not far behind in teacher concerns.

Interestingly, this survey question was one of the few in which the responses from male teachers differed from female teachers. For male teachers, the top three challenges were motivating students, budget cuts, and bureaucracy. Female teachers were most concerned about student behavioral issues, motivating students, and differentiated instruction for diverse student populations.
Myth Not Busted: Teaching to the Test

We had expected to find that state-mandated standardized tests place a burden on teachers to “teach to the test” and prepare students specifically for the material covered in these exams. However, we found that teachers take widely different approaches to standardized tests. We asked how many hours per week their students spend in class preparing for state standardized tests. 37% percent don’t spend any time at all, but 12% use more than 6 hours per week.

On average, how many hours each week do your students spend in class preparing for your state’s standardized tests?
Teacher tenure had a strong impact on responses to this question, with more than 50% of teachers with less than 5 years of teaching spending 2 to 5 hours/week focused on standardized tests. These younger teachers may have a heightened awareness of standards-based curricula, or perhaps they are more sensitive to how their students’ performance may affect their performance reviews.

Not surprisingly, since private school students are often not required to take state tests, teachers in private schools spend less time in preparation for standardized tests (with 67% spending no time at all).

SMARTPHONES AREN’T THE SOLUTION YET

The new trend in schools of Bring Your Own Device (BYOD) leads many people to hope that smartphones and tablets are a way to overcome the limits of using computers in the classroom. Teachers disagree. Though they have concerns about assigning homework on computers, they are even more concerned about assigning student work on smartphones and tablets, as the chart below illustrates. This resistance may be due to unfamiliarity with the educational apps that are available or lack of student access to the appropriate devices.

Which of these would you feel comfortable assigning to your students to use at home or at school?

STEPS FOR THE FUTURE

Amidst technology shortcomings, budget cuts, and bureaucratic challenges, teachers are excited about using digital learning tools. Some schools are testing new models that use the widespread proliferation of tablets and smartphones in the home as a starting point for technology in the classroom. These personal tools may provide a relief valve for limited technology budgets in schools. Just as the availability of paper books for every student
significantly advanced education, perhaps a low-cost technology equivalent may soon be available to all students.

ABOUT JOGNOG

JogNog provides competitive video games that motivate kids to learn in an engaging and fun way. Specifically designed to meet teachers’ needs to address standard curricula for grades 2 through 12, JogNog uses the latest in educational research to create competitive learning games that motivate and engage students. To receive future research reports as they become available, subscribe to the JogNog newsletter at www.JogNog.com/newsletter.
APPENDIX: SURVEY QUESTIONS

1. Which digital learning tools (games, websites, computer software, tablet apps, etc.) do you use? (Check all that apply.)

- I do not use digital learning tools
- ExamView
- Math Playground
- BrainPOP
- FunBrain
- Quizlet
- Khan Academy
- ClassZone
- StudyBlue
- Edline
- IXL
- Study Island
- VocabularySpellingCity
- Edmodo
- JogNog
- Others (please specify)

2. On average, how many hours each week do your students spend in class preparing for your state’s standardized tests?

- 0
- 1
- 2 to 5
- 6 to 10
- Greater than 10

3. What are your three biggest challenges to being a great teacher?

- Students talking during class
- Other student behavioral issues
- Motivating students
- Developing lesson plans
- Test and quiz creation
- Test and quiz grading
- Budget cuts
- Bureaucracy
- Professional development and ongoing site support for technology applications
- Differentiated instruction for diverse student populations
- Availability of technology (lab access, laptops, classroom PCs)
- Other (please specify)

4. What are the biggest barriers to using digital learning tools in your classroom? (Check all that apply.)

- Too few computers or tablets per student
- Hardware and software problems with school computers
- Students without internet access at home
- Lack of wireless internet access in school
- Lack of support from administration
- Other (please specify)
5. Which of these would you feel comfortable assigning to your students to use at home or at school? (Check all that apply.)

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<th>Computer</th>
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6. Would you use digital learning games in class if the subject matter matched your lesson plan?

Yes
No

7. Would you assign digital learning games for required homework if the subject matter matched your lesson plan?

Yes
No

8. Would you assign digital learning games as extra credit or enrichment if the subject matter matched your lesson plan?

Yes
No

9. Which subjects are well suited for digital learning games? (Check all that apply.)

No Subjects
Foreign Language
Math
Science
Art
Geography
Music
Social Studies
English
History
Physical Education
Other (please specify)

10. Are you a:

Teacher
Principal
Administrator
Home school teacher
Other (please specify)

11. Where do you work?

Public school
Private school
Charter school
Expanded Learning Time (ELT) program
12. How long have you been teaching?

- Less than 5 years
- Between 6 and 20 years
- More than 20 years

13. What grade level are your students? (Check all that apply.)

- Preschool
- Elementary
- Middle / Junior
- High
- Not applicable (principal, administrator, etc.)