The Future of Education: Textbooks v. Tablets

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The K-12 book publishing industry in the United States is an $8 billion a year industry. Tablets are a $72 billion a year industry with 42% of US adults owning a tablet. As tablets have become more common, a new debate has formed over whether school districts should switch from print textbooks to tablets and e-readers.

By 2012 half of US adults owned tablets or e-readers and over half accessed the internet regularly using smartphones or tablets. 43% of US adults read books, magazines, and magazines online instead of the printed versions. However, 90% of US schools still use printed textbooks and only 30% of the currently used textbooks are available electronically.

Proponents of tablets point out that most teachers and students support the use of tablets and point out that tablets can hold hundreds of textbooks. Opponents of tablets point out the fact tablets are expensive and require expensive Wi-Fi connections.

**PRO Tablets**

81% of K-12 teachers believe that “tablets enrich classroom education.” The survey of technology in the classroom by the Public Broadcasting Service (PBS) also concluded that 77% of teachers found technology to “increase student motivation to learn.”

Tablets can hold hundreds of textbooks plus homework, quizzes, and other files, eliminating the need for physical storage of books and classroom materials. The average tablet contains anywhere from 8-64 gigabytes (GB) of storage space. On the Amazon Kindle Fire, for instance, 1000 books take up 1 BG of space.

E-textbooks on tablets cost on average 50-60% less than print textbooks. According to a 2012 report from the Federal Communications Commission (FCC), K-12 school districts spend more than $8 billion per year on textbooks. E-textbooks can save schools between $250-$1,000 per student per year. Tablet prices also continue to drop, making them increasingly affordable. Tablets cost on average $489 in 2011, $386 in 2012, and are projected to cost $263 in 2015.

Print textbooks are heavy and cause injuries, while a tablet only weighs 1-2 pounds. Pediatricians and chiropractors recommend that students carry less than 15% of their body weight in a backpack, but the combined average weight of textbooks in history, Mathematics, Science, and Reading/Language Arts exceeds this percentage at nearly all grade levels from 1-12. According to the US consumer Products Safety Commission, during the 2011-2012 school year more than 13,700 kids, aged 5 to 18, were treated for backpack-related injuries.

Tablets lower the amount of paper teachers have to print for handouts and assignments, helping to save the environment and money. A school with 100 teachers uses on average 250,000 pieces of paper annually. A school of 1,000 students on average spends between $3,000-4,000 a month on paper, ink, and toner, not counting printer wear and tear or technical support costs.
**CON Tablet**

Handheld technological devices including tablets are associated with a range of health problems. Handhelds contribute to Computer Vision Syndrome, which causes eyestrain, headaches, blurred vision, and dry eyes, according to the American Optometric Association. People who use mobile devices more often have a higher incidence of musculoskeletal disorders associated with repetitive strain on muscles, including carpal tunnel syndrome, neck pain (“text neck”), shoulder pain, and fibromyalgia.

**Using Tablets is more expensive than using print textbooks.** Implementing tablets in K-12 schools requires purchasing hardware (the tablet) and software (the textbooks), building new Wi-Fi infrastructure, and training teachers and administrators how to use the technology. Implementation costs for e-textbooks on iPad tablets are 552% higher than new print textbooks in an average high school. Lee Wilson, a prominent education marketing expert, estimated the annual cost per student per class with tablets to be $71.55 vs. $14.26 for print textbooks.

**Many students do not have sufficient home internet bandwidth to use tablets.** Students “need home broadband to access digital content and to complete internet based homework,” according to FCC Chairman Julius Genachowski and Secretary of Education Arne Duncan, but about a third of Americans – 100 million people – Do not have broadband internet at home. A 2010 FCC survey found that nearly 80% of K-12 schools reported broadband connections that were “Inadequate to meet their current needs”

**A broken tablet requires an experienced technician to fix, which can be costly and time-consuming.** Textbooks can usually be repaired with basic supplies such as glue or tape.

**Print textbooks cannot crash, freeze, or get hacked.** Unlike tablets, there is no chance of getting malware, spyware, or having personal information stolen from a print textbook.

**The higher cost of tablets marginalizes poorer school districts and increases the “digital divide.”** Rich school districts can afford to implement e-textbooks on tablets, while poor school districts cannot/ Lower income schools are less likely to implement an e-textbook program than to pay for teachers or basic classroom supplies.