

TO: SIIA Members

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RE: Talking Points on Federal Education Software Study

On April 4, 2007, the U.S. Department of Education released a study titled, "Effectiveness of Reading and Mathematics Software Products: Findings from the First Student Cohort." This memo provides SIIA members with two sets of talking points you may use to respond to the media, customers and other education stakeholders. Since before the study was released, SIIA has been working to represent the perspective of the industry, including the majority of study participants who are SIIA members. SIIA released a statement, talked with many media outlets, shared our perspective with key Members of Congress, and is continuing outreach efforts. These talking points are also archived at <http://www.siiia.net/govt/docs/members/SIIAsoftwarestudyTPfinal.pdf>

Brief Talking Points:

- **The question today is not "if" technology is useful, but "how and when" technology can best be used to improve education.** A larger body of evidence and experience demonstrates that software and other technologies engage students and help them gain the knowledge and skills needed to succeed in the digital, knowledge-based economy.
- **The study indicates that the studied software worked at least as well as, and in some classrooms better than, other instructional methods and curriculum, such as textbooks.** Education technology is not a panacea, but as classroom instruction catches up with the 21st century digital world, these are positive findings. More than 90% of teachers indicated a desire to continue using the software.
- **The study confirmed what we already know: Effective implementation is critical to success; and the teacher is still the most important variable.** The study reports that only half the teachers felt adequately prepared, and products were used only 10% of class time on average. We would not judge a medical procedure by results from inadequately trained doctors; and we would not expect medication to have an impact when patients take half the prescribed dosage.
- **The study reports on the average effect of a few select software applications, not all educational software nor other technologies used in education.** Drawing either product-specific or generalized technology conclusions from this study would be like looking at not only which car to buy, but if to buy an automobile at all, by reviewing the average gas mileage of a few SUVs. Further, no single study is a sufficient basis for any conclusions or decisions.
- **The study is not done.** The report describes findings from only the first year of a two-year study. Achieving change and impact with new forms of instruction and materials is a multi-year process.

Extended Talking Points:

- **The question today is not "if" technology is useful, but "how and when" technology can best be used in light of the larger body of evidence and experience demonstrating**

technology's positive impact on education. Even despite inadequate implementation – only 10% time on task using software, 50% teachers feeling insufficiently trained well into the school year, only first year of what is traditionally multi-year ramping up, etc. – the study finds that students using the selected software achieved at least as well as those in the control classrooms using traditional methods. The study found other positive impacts.

- “When Products Were Being Used, Students Were More Likely to Engage in Individual Practice and Teachers Were More Likely to Facilitate Student Learning Rather Than Lecture.” (p.xix)
- And teachers clearly found the software beneficial to their instruction and to their students: “When asked whether they would use the products again, nearly all teachers indicated that they would.” (p.xix) For example, 92 percent of participating first grade teachers said they would use the product in the next school year if given the choice.

Technology will not replace the teacher, but a teacher effectively using technology will most likely replace one who is not. A large body of evidence demonstrates that well implemented, systemic reforms built around technology do have positive impact on education.

- **This study contributed to the research, but it has limitations and must be viewed in context.** Even taking the study findings at face value, we must recognize that: (1) no one study provides sufficient basis for making definitive conclusions on the studied software; and (2) no conclusions can be drawn about the overall impact of educational software and other technologies based on the study of just a few. This study looked at only a certain class of technology (instructional software applications), and within that class, looked at only about four discrete applications in each of four grades. And, in fact, the control classrooms also used other technologies, making it difficult to separate their impact from that of the treatment software. “This study . . . was not designed to assess the effectiveness of educational technology across its entire spectrum of uses, and the study’s findings do not support conclusions about technology’s effectiveness beyond the study’s context.” (p.xiv)
- **Study design trumped necessary systemic technology implementation.** The study reports that, “Because the study implemented products in real schools and with teachers who had not used the products, the findings provide a sense of product effectiveness under real-world conditions of use.” (p.xvii) But these artificial “real-world” study conditions are NOT the appropriate conditions under which software and other technologies should be used.
 - With only a few teachers/schools using the technology per district, presence may have been insufficient to warrant administrative/technical support, training, and leadership.
 - “Districts did not invest their own resources in purchasing products and training teachers, which could have reduced usage because districts did not have a stake in the products.” (p.24)
 - With a one-year study and product use (extended to a second year only in the Spring), educators randomly assigned to use the software were likely reluctant to devote the time to training, as well as to making necessary changes to their curriculum and instruction.
 - The study reports that students spent an average of about 10% of class time using the software, which in many cases is well below recommended use.
 - By mid fall, only about half of all teachers felt adequately prepared to use the software.
 - Beyond product training, there was no accounting for professional development around the systemic integration of technology into instruction and curriculum.

SIIA’s Software Implementation Guidelines (see below) are intended to support the more systemic implementation practices needed to effectively leverage software and other technologies to change, and improve, teaching and learning.

Background:

This study was born from a request included by Congress in the No Child Left Behind Act (NCLB). Recognizing the technology is not sufficient without proper implementation, Congress asked for a rigorous study: *“(A) on the conditions and practices under which educational technology is effective in increasing student academic achievement; and (B) on the conditions and practices that increase the ability of teachers to integrate technology effectively into curricula and instruction, that enhance the learning environment and opportunities, and that increase student academic achievement, including technology literacy.”*

Upon passage of NCLB, the U.S. Department of Education turned to translate the broad legislative request into a specific study, including deciding which types and uses of technology should be examined given the myriad options. As the decision was being made to focus on math and reading software applications, SIIA was among those consulted for its expert opinion. SIIA cautioned that the collective study of disparate applications should only be done when there is an overwhelming commonality in their purpose, design, function, intended use, etc. SIIA was commissioned by study contractor Mathematica to develop a briefing paper on these issues, which was completed in October 2003. SIIA also urged that software implementation was as important as the software itself, and that the study design must account for these key variables.

The study was conducted during the 2004-2005 school years. Sixteen software applications were selected for the study with about 4 products in each of 2 reading and 2 math grade groupings. 33 districts and 132 schools were selected for participation, with a single software “treatment” randomly assigned to about half of the sample’s 428 teachers and 9,424 students. Data collected included classroom observations, teacher interviews, and student pre- and post-test scores. Results were not reported by product, but instead were reported in aggregate in each of the 4 areas. The study’s primary finding reads: “Test Scores Were Not Significantly Higher in Classrooms Using Selected Reading and Mathematics Software Products. Test scores in treatment classrooms that were randomly assigned to use products did not differ from test scores in control classrooms by statistically significant margins.” The study was continued in the 2005-2006 school year, with second cohort results expected to be released by product within a year.

Resources:

- SIIA Statement on the National Study (April 5, 2007)
http://www.sii.net/press/releases/SIIAStatement_USEDStudy4-5-07.pdf
- SIIA Software Implementation Toolkit: Guidelines for K-12 Educators (April 2007)
http://www.sii.net/education/foreducators/toolkit_0407.pdf
- U.S. Department of Education Report: “Effectiveness of Reading and Mathematics Software Products: Findings from the First Student Cohort” (April 4, 2007)
<http://ies.ed.gov/ncee/pubs/20074005/>
- eSchool News Editorial, “Repeaters, Not Reporters”(April 16, 2007)
<http://www.eschoolnews.com/news/showStory.cfm?ArticleID=7017>