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This issue...

Laptops and Computers: Do they improve student learning?

Will American schools copy the German Education Model?

Federal legislation would mandate national academic standards

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Laptops for Every Student: Education reform or another fad?

Desktop computers are an integral part of most American classrooms. It is generally accepted that students must learn computer skills in order to complete assignments, research topics on the Internet, and prepare for college and employment. Most schools install desktop computers in regular classrooms and high-tech computer labs.

The technology debate has recently shifted to the efficacy of providing **a laptop computer for every student**. About one fourth of all school districts in the United States have already invested millions of dollars in “one-to-one” laptop programs.¹ When discussing this expensive, controversial purchase, school board directors and administrators must consider current research to answer two important questions:

1. Do computers/laptops improve academic achievement?
2. Are laptops a cost-effective use of taxpayer money?

Support for computers and laptops tends to be based on subjective observations of teachers, students, and parents – observations that may sound wonderful but are hard to quantify:

- Teachers are more enthusiastic.
- Students are more motivated and engaged.
- Discipline and attendance improve.
- “Higher order thinking skills” improve.
- Students and teachers collaborate more.

Relying on such anecdotal “research,” many educators assume that spending millions on computers contributes to the improvement of student outcomes.

Alan R. Peslak, assistant professor of Information Sciences and Technology at Penn State University, disagrees. After examining the state PSSA test scores in 2,500 schools in Pennsylvania, Peslak found that “technology factors do

not show consistent, positive relationships with higher educational math and reading test scores.” In fact, student scores were negatively impacted by the *total number of computers in the school* and the *number of computers per student*.²

Laptop-specific research conducted by Larry Cuban of Stanford University concluded: “There have been studies that try to show that laptops and test scores are related...but [there is] no evidence to show that simply giving out laptops will raise test scores or close the achievement gap.” In fact, “one-to-one access has failed to show a direct link to improved test scores.”³

Maine is an ongoing test case. The state spent \$37 million to lease laptops for all 7th and 8th grade students, and to train teachers. “Three years after laptops were first handed out, teachers and students generally rave about it. But there is no hard proof of an educational payoff, and funding issues loom.” In fact, “Maine can’t point to the kind of results the public is most interested in

seeing: rising test scores. For the last two years, average scores on the state’s eighth-grade test were about the same as those for eighth-graders before they were issued laptops.”⁴

Other negatives related to using laptops in the classroom include:

- While states may offer start-up money for laptop programs, the ongoing expense of purchasing, repairing, upgrading, and replacing laptops as well as hiring support staff and training teachers eventually falls on local districts.
- Valuable classroom academic time is lost when students lose, break, or forget their laptops. This is especially true if districts install all curricular and textbook materials on the laptop.
- Students may use laptops to access inappropriate websites.
- Teachers complain that students are



distracted by e-mail, instant messaging, online games, and the Internet. These students are less engaged in classroom instruction and discussions.

Research indicates that computers may be particularly inappropriate for young students. A peer-reviewed study released in 2005 found that “a large body of data supports the view that movement plays a crucial role in letter representation and suggests that handwriting contributes to visual recognition of letters.” Hence, “children do better if they learn to handwrite letters rather than to type them on the computer.” It has also been found that “using computers... to teach reading in primary grades actually showed negative results.”⁵

Education researcher Donna Garner explains the long-term effects of early computer use: “Once they [young elementary children] experience the excitement [and ease] of inputting their words into a computer, they are never satisfied with the grunge work that comes from learning to write precisely and correctly. What we are seeing is a whole generation of children who love computers, but who hate to write correctly. Penmanship is atrocious. Spelling is awful. Grammar is non-existent. Attention to detail is just not there. Yes, students can cut/copy/paste and produce lovely PowerPoints; but their compositions make no sense; their ideas are not connected; there is no real substance to their thoughts; they cannot write a thesis and carry it out logically.”⁶

What about older students? Researchers at Syracuse and Michigan State Universities looked at a one-to-one laptop program for middle-school students in Ohio. They

found that student test scores did not improve, and teachers reported more classroom distractions and wasted time.⁷

Dr. Cuban greatly expands the laptop debate to include other technology used in schools when he concludes: “For the past 80 years of research on technology’s impact on learning, from primitive projectors to modern laptops, not much reliable evidence has emerged to give impartial observers confidence that students’ use of computers or any other electronic device leads directly to improved academic achievement.”³

When a school district in New Mexico collected middle school laptops at the end of the school year, many had been vandalized and, despite having signed an ‘Acceptable Use Policy,’ about half of the students downloaded copyrighted material and “pornographic, obscene or other sexually oriented material.”⁸

Solid research indicates that using computers in school and providing laptops to individual students generally does not improve measurable academic achievement. Despite pressure from computer companies and the public, education decision makers – including governors, legislators, and local school leaders - must consider these valid findings when spending precious taxpayer dollars.

- 1 Borja, Rhea R. “Researchers Weigh Benefits of One Computer Per Lap.” *Education Week*. 10 May 2006. www.educ.msu.edu/news/newsbriefs/06/laptop.htm.
- 2 Peslak, Alan R. “The Educational Productivity Paradox.” *Communications of the ACM*. Oct 2005. Vol 48, No 10, pp.111-115.
- 3 Cuban, Larry. “The Laptop Revolution Has No Clothes.” *Education Week*. 17 Oct 2006. Vol 26, Issue 08, p. 29. www.edweek.org.
- 4 Kladko, Brian. “Maine pupils get iBook learning.” *Boston Globe*. 30 Sept 2005. www.boston.com.
- 5 Longcamp, Marieke, et. al. “The Influence of Writing Practice on Letter Recognition in Preschool Children: A Comparison Between Handwriting and Typing.” *ACTA Psychologica*. 4 Jan 2004.
- 6 Garner, Donna. “Comments about the Handwriting vs. Computer Article.” E-mail to Education Consumers Clearinghouse. 13 April 2005.
- 7 Toppo, Greg. “Computers may not boost student achievement.” *USA Today*. 4 Aug 2006. www.usatoday.com.
- 8 Medina, Jose L. “Schools say many students abused laptops.” *Sun-News Reporter*. 11 May 2006.

Will students lose the American Dream?

In an effort to “fix” American schools, education reformers are making major changes that were previously unthinkable –such as enrolling preschool children in public schools, allowing the curriculum to be narrowed in order to meet the demands of state assessment tests, and forcing children to select a ‘career pathway’ at the age of 14.

If radical education reformers like Marc Tucker and his colleagues at the National Center on Education and the Economy (NCEE) continue to have their way, the American dream - when all children have the opportunity to achieve their academic potential through individual choice – will end.

Two NCEE reports, the recently released “*Tough Choices or Tough Times: The Report of the New Commission on Skills of the American Workforce*”¹ and the 1990

“*America’s Choice: High Skills or Low Wages*,” assert that the only way to save the American economy from global competition is to **radically reinvent public education**.

The “reinvented” goal of education: to meet the employment needs of regional businesses by treating students as “human capital” to be educated/trained and funneled into predetermined jobs.

The most egregious aspects of the new NCEE plan involve three areas:

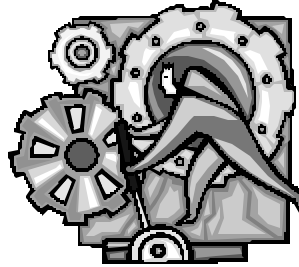
1. The end of the 4-year high school:

- At the end of 10th grade, all students will take state Board Examinations that are based on international standards for academic knowledge, attitudes, and beliefs.

- As the ‘gatekeeper’ for further education, the test results will have **lifelong consequences** as students are sorted into groups:
 - Most of the 16-year-olds who pass the exam will immediately enter community colleges or technical schools for two-year programs. High school is over for them.
 - A small group of students who “get a good enough score” on the Board Exams will stay in high school and take advanced college-prep classes for two more years.
 - Then students will then take the next set of Board Exams in hopes of being given “the right” to attend a four-year college.
- To support this system, extensive career education will be integrated into elementary and middle school curricula to prepare most tenth graders to go directly into job training or the workforce.

2. The end of local control:

- Locally elected school boards will be demoted to merely hiring independent contractors to run schools, monitoring operations, and collecting data for submission to the state.
- “The current policies regarding teacher education would be scrapped.” (p. 14) Each state will control recruitment, training, and certification of teachers.
- All teachers will work for the state (not local school districts) and will be paid according to a state salary schedule. Benefits will be reduced to mirror private industry.



3. Public schools will become the formal point of entry into a lifelong job-training system:

- Every adult worker will be ‘entitled’ to a free education in reconfigured high schools in order to pass initial Board Exams. “High schools all over the country...will find that they have a new clientele of people.” (p. 18)
- Government subsidized “**Personal Competitiveness Accounts**” will guarantee money for ‘lifelong training’ throughout the work lives of all Americans.
- To ensure that enough workers are trained for specific jobs, powerful **Regional Economic Development Authorities** will be established. They “would not only be responsible for coming up with development goals and strategies for their regions, but also for coordinating the work of the region’s education and training institutions to make sure that each region’s workers develop the skills and knowledge needed to be successful in that labor market.” (pp. 19-20)

- The end result will be federal control of a globally aligned education-labor system that trains and certifies students and workers for specific regional jobs that are determined by government/business employment projections and needs. Public Pre-K through grade 10 schools will be the formal point of entry into a system of “*limited learning for lifelong labor.*”

No matter how Marc Tucker, the NCEE, and like-minded radical reformers package this ‘reinvention’ of American education, it is a School-to-Work system based on the ‘German Model’ of educating, training, and sorting human beings. Yet German students did not do well on the 2001 international PISA test.²

⇒ They scored well below other affluent industrialized European countries.

⇒ “Fewer Germans reached the top scores than in 12 of the 15 European Union states.”²

⇒ More importantly, test scores revealed a large gap between the few at the top and the many at the bottom, perhaps because “university-bound students are separated from those headed for trade schools...”³

Americans should be alarmed because federal and state legislation continues to build the framework for this School-To-Work model. The current U.S. Congress has two bills that will begin to nationalize academic standards using international benchmarks. (*See back cover for more info.*) And Pennsylvania’s Governor Rendell is calling for development of Graduation Competency Assessments, a PreK-16 information system to collect data on student performance, and regional business and education alliances.

Before this “reinvention” of education becomes cast in stone, some important questions need to be asked NOW:

1. Should children be tested and sorted for life at the age of 14-16?
2. Should high school education end at 10th grade for the vast majority of students?
3. Should the focus of public schools be supplying workers for regional businesses?
4. Why would America copy a German-style education scheme that is blatantly un-American and anti-choice for students?

Regardless of America’s education problems, the change to this School-to-Work model is an unacceptable solution that will rob American children of their birthright – the opportunity to determine their own education path in order to reach their full potential and personal goals.

- 1 “Executive Summary.” *Tough Choices or Tough Times: The Report of the New Commission on the Skills of the American Workforce*. National Center on Education and the Economy. 2007. www.ncee.org.
- 2 Hirsch, Donald. “How good is our global education?” *OECD Observer*. Mar 2002. www.oecdobserver.org.
- 3 “Germans shocked by dreary school test results.” <http://cnnstudentnews.cnn.com>. 2 Jan 2002.

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Federal Legislation Would Globalize American Education S. 224 and H.R. 325

“Standards to Provide Educational Achievement for Kids Act” –the “SPEAK ACT”

Both the U.S. House and Senate are considering bills that call for creation of national education standards in mathematics and science that are based on international standards and benchmarks. Although these proposed standards are labeled “voluntary,” both bills almost guarantee acceptance at the state level by authorizing \$609,000,000 for incentive grants in 2007 alone. States that receive the federal money promise:

- to adopt the national/international standards as the core of the state’s math and science standards
- to align teacher certification and professional development
- to align state assessment tests (like the PSSA)

These two bills contradict the 2002 *No Child Left Behind* education law, which states the federal government can not “*mandate, direct, review, or control a State, local educational agency, or school’s instructional content, curriculum, and related activities.*” (§ 9526(b)(1))

Of course, this section of the law could be changed when Congress revises NCLB this year. Until then, calling the national standards “voluntary” skirts the intent and wording of NCLB while advancing the total re-invention of American schools.