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Maine's laptop program is improving student writing? Not so fast...

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On October 24, 2007, the Maine Education Policy Research Institute at the University of Southern Maine released a report which claimed that the state's five-year-old middle-school laptop program was "creating better writers." It backed up this conclusion with three sets of data that, on the surface, appeared to confirm just that. A closer look at the data, though, suggests that the authors of the study stretched to reach a conclusion that is simply not supported by the facts.

The report began, for instance, by analyzing what it calls "self-reporting" data, which means that analysts used survey instruments to ask students and teachers if they *thought* that the laptops had made the students into better writers. The report states that "70 percent or more of the students think the laptops have facilitated their learning." Yet, a careful look at even this highly unscientific data suggest that the report's authors are reaching. For instance, more than 80 percent of students did indeed have some level of agreement with the statement that "I am more likely to edit my work when it is done on the laptop," but one would expect them to say that, given how much easier it is to edit written work electronically than on paper. The same could be said of the second question put to students, which asked if they thought they were "getting work done more quickly" using the laptops. They reported, as one would expect, that they were.

But do the students think their writing is actually better, as opposed to simply faster and easier? The report's own data suggests that they are not so sure. Only half of the students surveyed said they "agreed" or "strongly agreed" that they "do more work with the laptops" or that the "quality of [their] work has improved" since using laptops, and less than 40 percent "agreed" or "strongly agreed" that they were "better able to understand their school work" when using laptops.

Teachers tended to agree with them. They confirmed that the students "are more actively involved" when using laptops and are "more apt to edit or revise work," which is to be expected. The teachers were even more circumspect than the students, though, regarding how much actual learning is happening as a consequence of using laptops. Only half "agreed" or "strongly agreed" that the quality of student work "increases when we use laptops," and about 30 percent, less than a third, "agreed" or "strongly agreed" that "students are better able to understand when we use laptops." Fully a quarter disagreed entirely with that statement.

It is hard to see how any of this "self-reported" data proves that the use of laptops has made students into better writers. Perhaps standardized test scores or some other concrete data provides better evidence of this?

Evidently not. The report, to its credit, acknowledged that "overall performance" on the eight grade Maine Educational Assessment (MEA) tests "has not changed appreciably since the inception of the laptop program." The report explained this away, however, by suggesting that such a result would take time to show up in achievement test scores, and that variability in how and when the laptops have been used would skew results. The report also claimed that "most standardized tests are ill-equipped to measure 21st century learning taking place in one-to-one ubiquitous laptop environments." It is hard to know exactly what the report's authors meant by this, but despite their lack of faith in standardized tests, they go on to suggest that "one area assessed" by such tests "where the impacts of a laptop program on achievement is discernable is in the area of writing."

To prove this, the report's authors looked at MEA testing data from 2000, before laptops were implemented, and then from 2005, after the program had been in place for a couple of years. What they found was that the state average score on the eighth grade MEA writing test grew from 534.1 to 536.5 over that period, and that the percent of students rated "proficient" in their writing on the exams rose from 29 percent to 41 percent. It sounds like a lot of progress, and it is, but are laptops responsible?

A closer look at the MEA testing data suggests otherwise. The laptops were first distributed to seventh graders in the fall of 2002. Those seventh graders took the eighth grade MEA test in the spring of 2004, during their eighth grade year. If laptops were indeed responsible for any achievement growth, one would see a jump in test scores from 2003 to 2004. But as Table 1 indicates, the average score on the writing test was 537 in 2003, 537 again in 2004, and climbed a single point to 538 in 2005. The percent of students meeting the state proficiency standard for 8th grade writing was 41 percent in 2003, then dropped to 38

percent in 2004, after laptops were in use, then rose back up to 41 percent again in 2005. The percent of students demonstrating “improved writing” remained essentially unchanged from 2003 to 2005.

	School Year	Percent meeting the MEA writing proficiency standard	MEA Scale Score
After Laptop Deployment	2004-2005	41%	538
	2003-2004	38%	537
Before Laptop Deployment	2002-2003	41%	537
	2001-2002	39%	536
	2000-2001	39%	536
	1999-2000	29%	534

In selecting test scores from 2000, the report’s authors helped their case immeasurably because scores and achievement percentages were both down that year. But by the very next year, 2001, the average scale score had jumped from 534 to 536, (higher than the jump from 2004 to 2005), and the percent of students meeting the proficiency standard rose from the 29 percent cited in the report to 39 percent. This single-year ten-point jump occurred three years *before* the laptops were put into use, though the report’s authors would have readers believe that the laptops were “at least in part” responsible. The fact is that the 39 percent of students meeting the proficient writing standard in 2001 and 2002 outperformed the first generation of laptop users, who took the test in 2004.

There was indeed writing score improvement from 2000 to 2005, but it occurred well before the laptops were put into the hands of a single student.

Sources:

Gritter, A; Silvernail, D; *Maine’s Middle School Laptop Program: Creating Better Writers*, Maine Education Policy Research Institute, October, 2007
 MEA Testing Data: <http://www.maine.gov/education/mea/edmea.htm>.

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The last piece of data that the report points to as evidence that the laptops are making a difference is more “self-reporting” by students regarding how they have been using laptops in their writing. The report showed that students reporting the most thorough use of the laptops had an average MEA writing score of 538.8, while the “non-users” had a score of 532. No further analysis was done to determine whether any other factors, such as special education accommodations, might help explain this discrepancy. This is an especially glaring oversight given how small the non-user group is. Out of the 15,881 students surveyed, only 642 responded that they did not use the laptops for their writing, yet it was the average score of those 642 students, only four percent of the total, that was used to make the case that the use of the laptops, in and of itself, resulted in higher test scores. Isn't it possible that there were other reasons that those 642 students scored below their peers besides their limited use of laptops? The report’s authors don’t even bother to find out.

Conclusion

It may very well be that the laptop program is having the kind of profound impact on student learning that its backers hope for, but their cause is done a great disservice by this highly suspect report on writing achievement. The report over-relies on highly subjective data, make selective use of the more substantive data it does analyze, and provides virtually no meaningful evidence in support of its claims.

Whether the laptops are a great innovation or an enormous waste of resources remains an open question. In order to find an answer to this question policymakers must demand far better analysis of the program.