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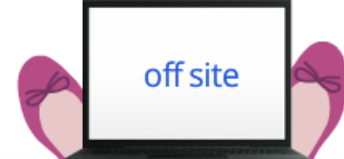
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GRADING THE DIGITAL SCHOOL

In Classroom of Future, Stagnant Scores



Jim Wilson/The New York Times

Students using an interactive whiteboard, part of an ambitious technology plan in the Kyrene School District in Arizona.

By [MATT RICHTEL](#)

Published: September 3, 2011

CHANDLER, Ariz. — Amy Furman, a seventh-grade English teacher here, roams among 31 students sitting at their desks or in clumps on the floor. They're studying Shakespeare's "As You Like It" — but not in any traditional way.

Grading the Digital School
The High-Tech Gamble

In this technology-centric classroom, students are bent over laptops, some

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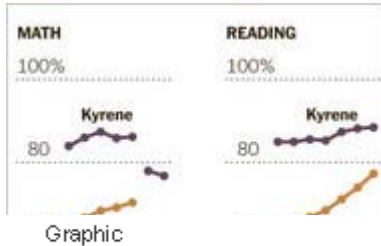
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Articles in this series will look at the intersection of education, technology and business as schools embrace digital learning.

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A More Flexible School Day



Eileen Lento, Intel

0:52

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To hear from more experts, and to share your own predictions for the future of technology in the classroom, visit [the Bits blog](#).

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blogging or building Facebook pages from the perspective of Shakespeare's characters. One student compiles a song list from the Internet, picking a tune by the rapper Kanye West to express the emotions of Shakespeare's lovelorn Silvius.

The class, and the [Kyrene School District](#) as a whole, offer what some see as a utopian vision of education's future. Classrooms are decked out with laptops, big interactive screens and software that drills students on every basic subject. Under a ballot initiative approved in 2005, the district has invested roughly \$33 million in such technologies.

The digital push here aims to go far beyond gadgets to transform the very nature of the classroom, turning the teacher into a guide instead of a lecturer, wandering among students who learn at their own pace on Internet-connected devices.

"This is such a dynamic class," Ms. Furman says of her 21st-century classroom. "I really hope it works."

Hope and enthusiasm are soaring here. But not test scores.

Since 2005, [scores in reading](#) and math have stagnated in Kyrene, even as statewide scores have risen.

To be sure, test scores can go up or down for many reasons. But to many education experts, something is not adding up — here and across the country. In a nutshell: schools are spending billions on technology, even as they cut budgets and lay off teachers, with little proof that this approach is improving basic learning.

This conundrum calls into question one of the most significant contemporary educational movements. Advocates for giving schools a major technological upgrade — which include powerful educators, Silicon Valley titans and White House appointees — say digital devices let students learn at their own pace, teach skills needed in a

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Jim Wilson/The New York Times

Molly Siegel and Christian Dedman, both 7, worked together with a laptop during a class in the Kyrene School District in Arizona.

modern economy and hold the attention of a generation weaned on gadgets.

Some backers of this idea say standardized tests, the most widely used measure of student performance, don't capture the breadth of skills that computers can help develop. But they also concede that for now there is no better way to gauge the educational value of expensive technology investments.

"The data is pretty weak. It's very difficult when we're pressed to come up with convincing data," said Tom Vander Ark, the former executive director for education at the Bill and Melinda Gates Foundation and an investor in educational technology companies. When it comes to showing results, he said, "We better put up or shut up."

And yet, in virtually the same breath, he said change of a historic magnitude is inevitably coming to classrooms this decade: "It's one of the three or four biggest things happening in the world today."

Critics counter that, absent clear proof, schools are being motivated by a blind faith in technology and an overemphasis on digital skills — like using PowerPoint and multimedia tools — at the expense of math, reading and writing fundamentals. They say the technology advocates have it backward when they press to upgrade first and ask questions later.

The spending push comes as schools face tough financial choices. In Kyrene, for example, even as technology spending has grown, the rest of the district's budget has shrunk, leading to bigger classes and fewer periods of music, art and physical education.

At the same time, the district's use of technology has earned it widespread praise. It is upheld as a model of success by the National School Boards Association, which in 2008 organized a visit by 100 educators from 17 states who came to see how the district was innovating.

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