Why Schools Must Move Beyond One-to-One Computing

by Alan November of November Learning | **NovemberLearning.com**

Perhaps it was the driving rain and the dark grey clouds of an approaching storm that contributed to the superintendent's choice of words. He had spent the past month reviewing one-to-one computing programs in various school districts as he tried to decide whether his own district should commit to the enormous expense of a one-to-one program at a time of declining resources. His conclusion from his visits did not leave much room for interpretation.

"Horrible, horrible, horrible implementation from every program I visited," he said. "All of them were about the stuff, with a total lack of vision." His research convinced him not to move forward with one-to-one computing.

With this absolute conclusion that one-to-one computing can lead to a waste of precious resources—including dollars and time—hanging in the air, he then asked me my thoughts on the issue. My response, based on observing the implementation of one-to-one computing programs all over the world, was just as unequivocal: "Yes. Unfortunately, too often I concur."

As many schools and districts are now rushing to buy every student a digital device, I'm concerned that most one-to-one implementation strategies are based on the new tool as the focus of the program. Unless we break out of this limited vision that one-to-one computing is about the device, we are doomed to waste our resources.

The observation of failure is not limited to this superintendent or to me. I have heard some colorful names that describe the sad reality of such a wasted opportunity. While I tend to refer to these initiatives as "$1,000 pencil" programs, or paper shoved down the wire, a Welsh school head quips that they are nothing more than "shiny new spaceships." Even a corporate high-tech executive observes that too many schools are in "spray and pray" mode with one-to-one computing: "Spray" on the technology, and then "pray" that you get an increase in learning.

In every case of failure I have observed, the one-to-one computing plan puts enormous focus on the device itself, the enhancement of the network, and training teachers to use the technology. Then, teachers are instructed to go! But go where? That's the critical question that must be addressed first.

SEIZE THE WORLD

Without question, I believe every student must have 24-7 access to the internet. However, while one-to-one computing might work as a marketing slogan designed to convince schools to buy as many computers as possible, it is a simplistic and short-sighted phrase that suggests if every student had a device and if every teacher were trained to use these devices, then student learning would rise automatically.

Adding a digital device to the classroom without a fundamental change in the culture of teaching and learning will not lead to significant improvement. Unless clear goals across the curriculum—such as the use of math to solve real problems—are articulated at the outset, one-to-one computing becomes "spray and pray."

If the language we use to describe an initiative sets the tone and direction for it, and if we want to create a more inspiring vision than giving each student a device, then I have a simple proposition: Let's drop the phrase "one-to-one" and refer instead to "one-to-world."

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This simple, one-word change takes us beyond the focus on the boxes and wires and alludes to why we are making the investment in the first place. The planning considerations now evolve from questions about technical capacity to a vision of limitless opportunities for learning. This change also has enormous implications for the design of staff development. As soon as you shift from "one-to-one" to "one-to-world," it changes the focus of staff development from technical training to understanding how to design assignments that are more empowering—and engage students in a learning community with 24-hour support.

DEVELOPING LEADERSHIP

Perhaps the weakest area of the typical one-to-one computing plan is the complete absence of leadership development for the administrative team—that is, learning how to manage the transition from a learning ecology where paper is the dominant technology for storing and retrieving information, to a world that is all digital, all the time.

Leaders must be given the training to:

- Craft a clear vision of connecting all students to the world's learning resources.

- Model the actions and behaviors they wish to see in their schools.

- Support the design of an ongoing and embedded staff development program that focuses on pedagogy as much as technology.

- Move in to the role of systems analyst to ensure that digital literacy is aligned with standards.

- Ensure that technology is seen not as another initiative, but as integral to curriculum.

Leaders also must learn how to support risk-taking teachers and creating cohorts of teachers across disciplines and grades who are working on innovative concepts—such as students designing libraries of tutorials to help other students learn, as Eric Marcos has done with Mathtrain.TV.

In a one-to-world approach, the critical question is not, "What technology should we buy?" The more important questions revolve around the design of the culture of teaching and learning. For example, how much responsibility of learning can we shift to our students (see Who Owns the Learning by Alan November)? How can we build capacity for all of our teachers to share best practices with colleagues in their school and around the world? How can we engage parents in new ways? (See @livefromroom5 on Twitter.) How can we give students authentic work from around the world to prepare each of them to expand their personal boundaries of what they can accomplish?

The irony of many one-to-one programs is the overreach of filtering policies that prevent students from participating in powerful learning practices, such as publishing their work to a global audience. At a time of declining resources within many schools, it's essential to craft a vision that giving every student a digital device must lead to achievements beyond what we can accomplish with paper. Otherwise, let's just stick with the original one-to-one program: one No. 2 pencil per student.

We invite you to share your thoughts and follow the ideas contributed by others on this topic, using the Twitter hashtag #1toWorld.

About November Learning

Alan November has been an education technology consultant since 1995. Since then he has helped schools, governments and industry leaders improve the quality of education through technology. In 2004 Alan expanded November Learning to include a team of educational specialists and a wider range of educational materials. The November Learning Team is a highly specialized group of educators. We have a range of expertise in educational issues, with a primary focus on community building and technology integration. The November Learning Team is dedicated towards supporting and challenging teachers and students to expand the boundaries of learning.

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