Preface

About 30 years ago, one of my high school students, Yves, profoundly changed my vision of education and helped me to understand how technology can be used to motivate students to learn. Yves broke into the computer lab on a Friday after school, and as director of the alternative high school, it was my job to deliver the discipline. Before Yves' adventure, I was happily teaching social studies and had never even touched a computer. Yves had been branded as a classic underachiever. He consistently demonstrated poor classroom performance (despite fairly good test scores) and sporadic school attendance. In fact, the computer lab break-in occurred 10 days before his classmates were scheduled to graduate without him.

When I walked into the computer lab, it was foreign territory to me—in 1981, all computers were owned by the math department. But there Yves sat, busily striking the Chiclet-like keys on the Commodore Pet computer. An audiotape drive was plugged into the back of the computer, but I was surprised—where was the music? In those days there was no software. Computers did not come with disk drives. All you could do with a computer was write your own programs and then record the information on an audiotape. Yves had been busy recording a program of his own making.

I was not prepared for the direction of the conversation with Yves. He explained that he did not break in to do anything wrong; instead, he wanted to see how well he could write computer code. The alleged need to discipline a student was quickly replaced by the need to help a student gain access to academic resources that could help him graduate.

Yves offered to show me what he was doing. He took me to a computer and ran several of the programming sequences he had developed. I did not have a clue what I was looking at, but I could decipher this much: he knew exactly what he was doing, and it interested him beyond belief. I was shocked. In 10 years of working with at-risk students, none had ever broken into an academic area to do work. I was fascinated by his fascination.

The second stunning revelation came when he said, without pause, "I could do this whole course in a weekend." He wasn't bragging (well, maybe a little); he was stating a fact. Here was a kid who, in all likelihood, was not going to graduate because he didn't have enough credits (classes bored him), and he was claiming to be able to do a computer programming course in a weekend at the end of the school year. How could he?

I was still soaking in the fact that he did not deserve punishment for what he had done when he repeated, "If you can arrange for me to take home a computer, I could come back on Monday with the work finished." We talked for a while. Maybe he could. . . .

Later that afternoon, I went to the math teacher who, like math teachers all over the United States in the early 1980s, was in charge of the computer lab. I told him I thought we should give Yves the chance to do what he said he could do—complete the programming course. It would give him the credits he needed to graduate. "No way," was the somewhat predictable reply. I pressed on: "Let's send the computer home with him over the weekend and see what he can do. What have we got to lose?" Wrong question. "We could lose the computer," he said, amazed at my naiveté. Finally, after some negotiation with the principal and Yves' mom, we boxed up the equipment and sent Yves home for the weekend. It was like sending a kid home with a basketball and a hoop. To Yves it was a game, and he understood how to improve his skills.

Yves arrived Monday morning with all the computer programming course work done, and done well—a slam dunk! The only part that disappointed me was the grade Yves' earned: a *C*. Since he had not actually attended any of the programming classes, he was marked down for not coming to class. Yves did not care about the grade. He had proved he was capable of doing the work. He did it without the rigorous structure of a standard classroom. No attendance, no grades, no 45-minute periods, no homework, no teacher monitoring daily what he was doing. As Mihaly Csikszentmihalyi (1991) would say, "He was into the flow of an optimal experience." Previously, the system had locked Yves into a pattern of failure, and he literally had to break in to break away from it. The ironic thing is that the same system rewarded him with graduation, told him he had done good work, and sent him out into the world. He went on to earn both a bachelor's and a master's degree.

Yves graduated by virtue of his breaking and entering, and I began a journey that still motivates me today. At first, my goal was simply to understand the fascination and focus that many students have with technology. But now, I find myself exploring ways to reorganize the culture of learning to take advantage of students' natural desire to explore their

world and to develop the skills that are needed to solve increasingly complex problems. Yves not only sat down with me and showed me how computers worked, he also taught me something even more important: technology can be a powerful motivator for some students who do not succeed in traditional classrooms. At the core of Yves' motivation and focus was a shift of control regarding who manages learning. Even though he was downgraded for not coming to class, Yves took pride and possession of his own learning, and the faceless programming machine gave him the environment of instant feedback. Yves showed me that as soon as you write a program, you can test it; the computer lets you know if you need to continue to work on it. Instant feedback can help students remain focused and work through problems. The other quality the computer has is a total lack of judgment. It does not care how often the learner makes a mistake. The dehumanized environment of the computer can actually create a very healthy learning environment for some students, especially for at-risk students. This is one of the reasons why online learning will explode. The anonymity of the Internet provides this same lack of judgment and, if designed correctly, provides instant feedback.

In the nearly 30 years since I was sent to punish Yves for breaking into the computer lab, I have watched for other examples of this shift in the control of learning. As our learning technologies have become more sophisticated, I have witnessed numerous examples. While a real fear exists that we are losing students to the computer and that increased computer use will erode face-to-face social skills, there is the upside potential of empowering students to have the confidence and the courage to learn without needing the formal structure of the traditional classroom.

Indeed, I now see the real revolution in learning as a greater sense of freedom to access information and people with powerful tools. In many ways, the ability of students to manage this learning mirrors the emerging skill set of the knowledge economy, where increasing numbers of workers are given the freedom to manage their own work. Increasingly, the new economy requires workers to be self-directed, self-assessing, and interdependent.

However, adding technology to the classroom is the easy part. The difficult work is reshaping the relationship between teachers and students. The real revolution in learning is not about adding technology on top of the current structure of schooling. Instead, the real revolution is about a transformational shift of control from the school system to the learner. Teachers are faced with the historic opportunity of teaching students to know what to do with their power to access unlimited amounts of information and to extend their relationships of learning. We are embarking

on a journey where the traditional boundaries of schooling are likely to be challenged and redesigned. If we are up to the task, many more students will be empowered to see learning as an adventure.

At an education conference in England, an insightful teacher made this distinction between what our schools were designed to do and what we need to do: "We have succeeded at teaching our students how to be taught, and what we need to do is to teach them how to learn."

This book explores the unique opportunities that technology provides to empower students to learn how to learn. It builds on the work of many pioneering educators who are breaking the traditional boundaries of learning. Enjoy. It is a very exciting time to be in education.

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A note to readers:

Please do not hesitate to get in touch with me to share your own stories and activities to help students make meaning of the world.

E-mail me at alan@novemberlearning.com or visit www.novemberlearning .com to learn more about activities and ideas.

—Alan November