

Rethinking Education in the Age of Technology

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All around us people are learning with the aid of new technologies: children are playing complex video games, workers are taking online courses to get an advanced degree, students are taking courses at commercial learning centers to prepare for tests, adults are consulting Wikipedia, etc. New technologies create learning opportunities that challenge traditional schools and colleges. These new learning niches enable people of all ages to pursue learning on their own terms. People around the world are taking their education out of school into homes, libraries, Internet cafes, and workplaces, where they can decide what they want to learn, when they want to learn, and how they want to learn.

The emergence of alternative venues for learning threatens the identification of learning with school. The tension between new forms of learning and old forms of schooling will not be resolved with the victory of one or the other. Rather, we see the seeds of a new education system forming in the rapid growth of new learning alternatives such as home schooling, learning centers, workplace learning, distance education, Internet cafes, educational television, computer-based learning environments, technical certification, and adult education. This does not mean that public schools are going to disappear, but their dominant role in education will diminish considerably.

The changes we see happening in education are neither all good nor all bad. We see many benefits to the kinds of education that technology affords, such as the ability of learners to pursue deeply topics of interest to them and to take responsibility for their own education. We also see many benefits in the successful history of traditional public schooling, which has provided extraordinary access to learning, status, and economic success for millions of students over the course of the past two centuries. But at the same time the roads to dystopia are also open. In particular, the new technologies can undermine both Thomas Jefferson's vision of educating citizens who can make sensible public policy decisions, and Horace Mann's vision of a society where everyone can succeed by obtaining a good education. Increasing the ability to personalize educational opportunities gives a natural advantage to those who can afford the services. Our fear is that citizenship and equity may be undermined by the fragmentation and customization afforded by the information revolution.

The developments described above are changing how people think about education. This rethinking will take many years to fully penetrate our understanding of the world and the society around us. Eventually when people and politicians become worried about what kids are learning or what adults don't know, their automatic reaction may not be "How can we improve the schools?" Instead they may ask, "How can we develop games to teach history?", "How can we make new technology resources

available to more people?” or “ What kinds of tools can support people to seek out information on their own?” These are all questions that push the envelop for improving education out of the schools and into new venues. The link between schooling and learning forces our conversation into institutional responses - we don't yet know how to ask wider questions when we think about improving education. To be successful, leaders will need to grasp these changes in a deep way and bring the government's resources to bear on the problems raised by the changes that are happening. They will have to build their vision of a new education system around these new understandings.

The rethinking that is necessary applies to many aspects of education and society. We are beginning to rethink the nature of learning, motivation, and what is important to learn. Further the nature of careers are changing and how people transition back and forth between learning and working. These changes demand a new kind of educational leadership and changing roles for government. New leaders will need to understand the affordances of the new technologies, and have a vision for education that will bring the new resources to everyone.