

Citation

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Technology Use in Education

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Collins, A., & Halverson, R. (2009). *Rethinking education in the age of technology: The digital revolution and schooling in America*. New York: Teachers College Press.

How are educational institutions responding to the growing impact of technology in our lives? Do new ways of learning with technology have the potential of transforming institutionalized education? How can this transformation be envisioned? What learning, life changing opportunities are available in our technological environment? In Collins and Halverson's (2009) *Rethinking Education in the Age of Technology: The Digital Revolution and Schooling in America*, the authors provide intriguing and insightful responses to these questions. Collins and Halverson critically examine the historical background of the American educational system, describe the many learning opportunities that exist outside of traditional school spaces, and provide a compelling vision of the future of American schooling. This book is a fascinating account of how schools are functioning within a technology driven world, and what can be done to bridge the gap between in-school and out-of-school learning.

I read this book from two perspectives, as both a teacher and a doctoral candidate. My research interests revolve around how learning occurs in collaborative and technology-rich environments in educational settings and online communities. I strongly believe that learning is social and that it can be enhanced through distributed cognition (Mok, 2008) in which artifacts (i.e. computers) enable sharing of ideas. In addition, I bring diverse teaching experiences at the K-12 level from both the United States and Poland. In Poland I taught in a traditional classroom environment which was not enriched with technology, whereas in the United States I incorporated technology into the curriculum extensively. Technology was quite beneficial for my students, especially in terms of their motivation and engagement. However, I realize that technology should not be used for its own sake, but instead to enhance learning. Therefore, with a sense of enthusiasm and caution, I was curious to see how Collins and Halverson analyzed the current educational system, the ways teachers use technology in their classrooms, and the learning possibilities afforded by developing technologies.

In the introductory chapter, *How Education Is Changing*, Collins and Halverson set the tone for the book by equating the rise of technology based learning with a revolution. They provide captivating stories about individuals who transformed their careers and consequently their lives by pursuing their interests in the technological environment. The authors state, “People around the world are taking their education out of school into homes, libraries, Internet cafés, and workplaces, where they can decide what they want to learn, when they want to learn, and how they want to learn” (p. 3). According to Collins and Halverson, these growing educational possibilities outside of the school system will eventually make the society rethink the current model of formal education.

The second and third chapters entitled *The Technology Enthusiasts’ Argument and The Technology Skeptics’ Argument* describe perspectives of two key groups in the debate about educational technology. The enthusiasts’ perspective brings to bear the individualized learning possibilities available through a great number of technologies and how they differ from learning opportunities offered in traditional schooling. From this standpoint, technology rich environments offer the opportunity for students and teachers to work collaboratively on authentic projects that facilitate learning.

In contrast, skeptics, specified by the authors as “the conserving power of schools” (p. 30), marginalize technologies and focus on risks technologies create. They think that technologies distract students from learning and threaten existing instructional practices. Furthermore, the authors claim that teachers do not want to embrace technology because they are afraid of losing their authority in terms of delivering knowledge. However, Collins and Halverson’s description of skeptics does not adequately represent oppositional attitudes toward technology arguments. They focus on skeptics’ aversion to considering technology as an innovative and learning medium with potential, portraying those who criticize technology too narrowly. Lockard & Pregum (2007) argued that a simplistic portrayal of technology critics is ill-advised. “Critics of electronic education almost uniformly have significant personal experience in computer-mediated and online teaching, and have lived professional careers in academic contexts where electronic education has and will continue to expand” (Lockard & Pregum, 2007, p. 285). Collins and Halverson do not acknowledge this important group of skeptics, which significantly diminishes the potential for a rich debate around this topic. Furthermore, they do not include any examples of schools where computers are used in inquiry-based learning and where teachers are enthusiastic and knowledgeable about utilizing technology.

Although their description of enthusiasts and skeptics creates a sharp binary that is too simplistic, I found Collins and Halverson’s analysis of why the educational system is resistant to technologies comprehensive and convincing. The authors argue that current educational reform, with its focus on accountability, skill and drill instruction, high-stakes testing, and the “one size fits” all approach, blocks many educational innovations.

Chapter four, *The Development of American Schooling*, contains an illuminating timeline of events that led to the present state of education. The authors recount apprenticeship learning that preceded state run schools in which children were taught either at home or in one-room school houses. This account is followed by the presentation of the characteristics of the universal schooling movement that started in the 19th-century. According to the authors, the invention of

the printing press, the Reformation, the American Revolution, and the Industrial Revolution led to the abandonment of apprenticeship learning and a shift to universal schooling. Collins and Halverson provide the key features of these eras and elucidate many social, economic, demographic, and technological changes that led to the beginning of what they call “the lifelong-learning era of education” (p. 91), the third era of education, that develops outside of the formal educational system. I appreciated the historical background and context and the synthesis of three very distinctive major periods of education.

The fifth chapter, *Seeds of a New System of Education*, is thought-provoking, inspirational, and one of my favorites from this book. Collins and Halverson describe new ways of learning and speculate on possibilities for their future growth, usefulness, and impact. In particular, I was intrigued by their belief that the number of home schooled children will increase despite the growing number of families where both parents work full time. Although I am not entirely convinced of this suggestion, the authors’ depiction of how technologies can support and enable home schooling is very persuasive. Additionally, the authors provide a description of many other educational venues that will offer alternative methods for schooling including online universities and high schools, adult education programs, learning centers, educational television and videos, computer games, and internet cafés.

In chapter six, *The Three Eras of Education*, Collins and Halverson discuss in greater detail the three educational eras (apprenticeship, universal schooling, and the lifelong-learning era) and encourage the reader to consider broader social issues, such as the role of technology in bringing equity. The authors foresee future changes in the delivery model of education as illustrated in a quote from this chapter: “We think that in the lifelong-learning era, people interested in advancing their own learning will begin to take back responsibility from education from the state” (p. 104). Collins and Halverson envision the restoration of traditional apprenticeship learning and the adaptation of it to the technological revolution, which is a very powerful combination. However, the authors do not specify who will ensure equal access to a quality apprenticeship and how this can be done.

In chapter seven *What May Be Lost and What May Be Gained*, Collins and Halverson describe the pros and cons of embracing technology for learning. They speculate that further educational and social inequity will occur as poor students will be left with inadequate public schools, little individual learning, and fewer resources. They also consider the danger of social isolation for those who spend a lot of time in front of a computer. On the other hand, they underscore that technology enables more choice and engagement, which “may help put students more in charge of their learning” (p. 111). In addition, the authors elaborate on the potential that computers offer for a customized education that is adaptive and responsive to individual needs.

The final section contains two chapters (*How Schools Can Cope with the New Technologies and What Does It All Mean*) that offer suggestions for the educational system. The authors state “We do not need to start a new education system from scratch. Designing a better education system means understanding where the existing pieces can best be reshaped, brought together, or played down” (p. 113). Collins and Halverson envision that these changes have to apply to different forms of assessment, new curriculum designs, and the very complex issue of equity in education.

Furthermore, they advocate for better implementation of inquiry-based learning and good computer games. They stress the need for meaningful and contextualized learning.

Collins and Halverson propose concrete, realistic, and sometimes controversial actions and changes that can potentially transform schools into places actively supporting both those who know what goals they want to pursue and those who are not sure yet what careers paths they want to follow. They suggest that parents could encourage their children to share their interests in online learning communities and even set up such communities of children with different ages so that kids could share their passions and expand them. The authors state, “Whatever their interests may be, extended pursuit can develop expertise that may be highly valuable in later life” (p. 123). As a parent whose child displays a passion for space exploration, I can see how providing her with such an opportunity could lead to developing expertise she can utilize later in her life. Therefore, this book could be useful to parents as they will find plenty of advice on how to help their children use technology.

The book concludes with a vision for new roles of schooling in a technological world, with bold questions about school practices from the authors. The authors offer fascinating examples of self-directed learners who used technology to develop their interests initially and consequently transformed their careers:

Our vision of education in this book is structured around the idea of lifelong learning. Lifelong learning requires moving away from highly structured schooling institutions to instead act as consumers of a wide variety of learning experiences. Learners will need to develop the skills to judge the quality of learning venues and the kinds of social networks that provide guidance and advice. (p. 130)

With this quote in mind I am provoked to wonder at what point of their schooling should students be ready to move from learning in school buildings to more customized learning and online learning. It would be very difficult to delineate this timeline given that every child is different. Students of lower economic status and minorities could also face obstacles in this area. How do we customize their education to ensure access to technological resources, but also valuable guidance and help? How do we ensure that everyone will have an equal opportunity for a valuable apprenticeship? I also question the role of federal government in such a customized educational system as well as the knowledges and skills required for teachers in this new era.

Although I cannot find answers to all my questions in this book, Collins and Halverson’s vision for the future of education will encourage the reader to think about these questions and concerns, along with a host of others. Undoubtedly at a time when current educational reform does not seem to support every child in America adequately, this is a good time to ask and wonder about the future of education and the possible directions we will venture into. This book adds a significant contribution to the debate about schooling and its future in the United States and beyond.

References

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