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Editor: Gene V Glass, Glass@ASU.EDU. College of Education,
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A Review of Computers as Tutors: Solving the Crisis in Education

Frederick Bennett. (1996) [Computers as Tutors: Solving the Crisis in Education](#)

[Greg Sherman](#)

Emporia State University

shermang@esumail.emporia.edu

It was with great interest that I began reading Frederick Bennett's book *Computers as Tutors: Solving the Crisis in Education* (1996). Published on the Internet and located at <http://www.cris.com/~Faben1/>, Bennett's book not only represented the first complete book I have ever tried reading straight off the computer, but it also represented the only book on education I have ever read in which the title purported to have a solution to education's problems. It took me less than twenty minutes to discover that the book failed me miserably on both accounts.

I initially began reading *Computers as Tutors* by accessing the web site, skimming the prologue and table of contents, and then settling down in my office chair to commence reading and digesting Chapter One. With my hand on the mouse, I read the words and scrolled slowly down the Chapter One web page as needed. Things were going pretty well as I toggled between my web browser and a word processing program I was using to jot down notes. And then I began to realize that I wasn't paying close attention to the words. I was skimming and jumping up and down the page, scrolling to the bottom of the page to size up the chapter. I soon discovered that I was approaching this book the same way I approach most other web pages: skim the text, look for relevant information, and click on links that will take me to the precise information I desire. My brain was treating this on-line book like any other web site, and I couldn't concentrate. In addition, I couldn't get used to making notes on specific elements of the chapter by typing in a separate window. So I printed off the entire book; over 100 pages of single-spaced text. I three-hole punched the pages, put them into a binder, settled into my reading couch, and read.

Much better.

Although *Computers as Tutors* was a rather lengthy read by web standards, the main points presented by Bennett were few and concise:

- Schools can use technology more effectively
- Schools must use technology differently
- Computers can remake education
- The key to utilizing computers more effectively is through their use as private tutors

Throughout the book, Bennett indicates emphatically that computers can solve most of the problems confronting educators today if computers are implemented as private tutors "...without a teacher interposed between the machine and the child." Bennett spends a good portion of the book describing all the specific benefits spawned by using the computer to provide effective, individualized instruction. These include relieving the teacher of burdensome and mundane teaching-related chores, providing an opportunity for all students to fulfill their need to succeed, accommodating the needs of the gifted and challenged students, reducing the need for substitute teachers, and eliminating prejudice against race and sex. In addition to these advantages, computer-based instruction could eliminate grades, promote better thinking skills, and provide a means of easily replicating and distributing successful learning programs. And because the use of computers has demonstrated the ability to improve reading skills, illiteracy could be wiped out, resulting in the reduction of such literacy-related problems as crime and poor job performance.

Before addressing what I feel are numerous flaws in Bennett's argument that computers as tutors can solve the problems facing educators today, I would like to point out some admirable strengths in the work. The writing itself is very well-structured, clear, and organized. Bennett describes many of the endemic problems within the institution of public education, and he identifies clearly the need for reform. Bennett astutely points out that computers are not being used to their potential and can play a vital role in a systemic reform movement. As they have done in the private and corporate sectors, better use of computers could provide greater flexibility in daily classroom scheduling, allow teachers to easily update and acquire effective materials, eliminate some paperwork, and accommodate absentees and nontraditional schedules.

There is no question that public education is in need of repair. There is no question that better use of computers can improve conditions in public education. And there is no question that students who perform well in school generally find themselves in better social and economic conditions when they emerge into the real world than students who perform poorly. Bennett does a commendable job of delineating the many ways computers can change how students might navigate through the system. But genuine reform isn't about changing how students learn. Genuine reform is more about changing what students learn, something Bennett's ideas regarding the use of computers in schools didn't even begin to address.

Near the beginning of the book, Bennett states: "When American education fully embraces computerized education, the dreadful state of American schooling will change overnight. Almost every child in the United States will learn to read early in their schooling. They will then be able to enjoy education." The implications of this statement are twofold: 1) the key to success in education is literacy, and 2) traditional, text-based instruction should be perpetuated. Bennett supports his literacy approach to reform by indicating that people who participate in riots, commit felonies, have out-of-wedlock births, or depend on welfare for support are more illiterate than people who don't exhibit such behaviors. Reduce the number of illiterate people, Bennett argues, and these types of behaviors will decrease. It is certainly beyond the scope of this review to speculate on whether or not reducing illiteracy will reduce poor decision-making, but my gut tells me that, like crime and welfare dependency, illiteracy is probably a symptom of a much bigger societal problem.

Bennett places a high educational premium on literacy, and he maintains that computers as individual tutors can get students reading better, faster, sooner. He contends that computers haven't had much of an impact in education because they have not been used as teachers. "This failure to allow computers to teach is the reason technology thus far has been a dismal failure in schools." He uses examples of how individual tutors have had profound impacts on the lives of successful people such as Alexander the Great, John F. Kennedy, and Thomas Edison. He describes how Edison was removed from school at an early age, yet excelled as a result of individual instruction from his mother. I certainly agree that Edison's mother probably had a positive influence on his development as a creative inventor, but I am quite certain his achievements were not the result of the effective instruction of school-related educational outcomes. People don't learn to become great inventors because somebody taught them to read. People become great inventors because somebody taught them to be great inventors. Edison's early education was probably more about exploration and intellectual encouragement than it was about reading.

Reading may have played a part in Edison's early education, but it was certainly not the goal of his education. Referring to his mother as tutor, Edison said "She instilled in me the love and purpose of learning." Implicit in this statement is the purpose of true educational reform: change WHAT is taught, not how. Bennett's book actually encourages the status quo in this area. For example, Bennett states that "...computerized education will be far more efficacious for developing better reasoning skills." He then describes what he feels are the three requirements for developing better reasoning skills: good underlying education, thought provoking questions, and time to respond to these questions. Based on his ideas up to this point, we can only assume that "good underlying education" refers in no small part to literacy. And "thought-provoking questions" still places this type of educational experience in the realm of text-based instruction. Not to mention that this Aristotelian pedagogical approach represents a rather simplistic formula for developing higher-order thinking skills. If it were this easy, there would be very little need for any technology in the learning process. What Bennett fails to address are the opportunities to use computer-based technology as contexts for experiencing purposeful, meaningful instructional environments where learning to read, performing mathematical calculations, and operating at higher levels of reasoning are not the end of the instruction but the means to a purposeful end.

If they are to be used effectively, computers should be part of an instructional environment which supports the learning of skills that students will need in order to be successful in the real world. Reading may be a prerequisite for many of these real-world outcomes, but believing the computer can successfully deal with all the outcomes related to literacy, including choosing to read, is narrow and misguided. Bennett states: "[Computers] can communicate information more efficiently and they can do it with a certain panache-they can fascinate while they teach." Substitute the word "television" for the word computers and you echo the sentiment of educational reformers in the 1950's who believed technology was really going to have an impact on how students learned. And like any other piece of instructional hardware, computers probably won't have a profound impact on how anybody learns anything. Somebody may be able to learn how to read from a computer as tutor because they have an opportunity to practice practice practice, with a certain level of feedback provided. But in the end, this is no different than working with an individual or a small group. The computer may be able to facilitate learning to read in a more efficient manner, but this is no indication that the learner will choose to read outside school, or will choose to communicate in written form, or will enjoy any or all of it.

But like television, computers can make a difference in what is learned. Because of television, many people in the United States have learned that owning lots of different, new products is important. As a "window to the world" television has also helped us to know more about people from other countries, and good or bad we know that reading isn't the only way to obtain information about the world around us. Because of computers, we can easily communicate

in writing to people all around the world, we can access precise information needed in a number of ways, we must discern between the relevant and the irrelevant, and we can create, simulate, and explore in countless ways. These are the reasons why computers can make a difference in schools. These indicate that different things can be learned in school. Like Edison's mother, computers can be used to provide a purpose for learning things that are important to us. And these types of outcomes go far beyond and around literacy.

Bennett summarizes his work by stating that "Computerized education will mean a profound alteration in the manner in which schooling is carried on." Bennett does a good job of pointing out exactly how schooling could change as a result of using computers as tutors. But no reform movement is carried very far by addressing schooling. We need to address learning, which isn't necessarily related to schooling. So if you want to read about all the different ways computers can address more effective ways of doing what public education tries to do today, read Frederick Bennett's *Computers as Tutors: Solving the Crisis in Education*. But if you think the crisis in education has something to do with what education tries to do today, you would be better off reading Seymour Papert's *The Children's Machine* or Howard Gardner's *The Unschooled Mind*. These books address real change and real reform. And although you can't access them on the Internet, you will probably save in the long run because they are already printed out for you.

About the Author

Greg Sherman is an Assistant Professor in the Division of Instructional Design and Technology, The Teachers College of Emporia State University

shermang@esumail.emporia.edu

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Editorial Board

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camilli@rci.rutgers.edu

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andrewco@ix.netcom.com

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ess016@marshall.wvnet.edu

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hunter@acs.ucalgary.ca

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Dewayne Matthews
dm@wiche.edu

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lmclean@oise.on.ca

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apembert@pen.k12.va.us

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richard.richardson@asu.edu

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dmsayers@ucdavis.edu

Robert Stonehill
rstonehi@inet.ed.gov

John Covaleskie
jcovales@nmu.edu

Alan Davis
adavis@castle.cudenver.edu

Mark E. Fetler
mfetler@ctc.ca.gov

Alison I. Griffith
agriffith@edu.yorku.ca

Ernest R. House
ernie.house@colorado.edu

Craig B. Howley
u56e3@wvnm.bitnet

Richard M. Jaeger
rmjaeger@iris.uncg.edu

Thomas Mauhs-Pugh
thomas.mauhs-pugh@dartmouth.edu

Mary P. McKeown
iadmpp@asvm.inre.asu.edu

Susan Bobbitt Nolen
sunolen@u.washington.edu

Hugh G. Petrie
prohugh@ubvms.cc.buffalo.edu

Anthony G. Rud Jr.
rud@purdue.edu

Jay Scribner
jayscrib@tenet.edu

Robert T. Stout
stout@asu.edu

**Contributed Commentary on
Volume 4 Number 16: Sherman A Review of Bennett's Computers as Tutors: Solving the
Crisis in Education**

9 October 1996

Frederick Bennett

faben1@concentric.net

Greg Sherman has reviewed somewhat critically my book *Computers as Tutors: Solving the Crisis in Education*. I would like to make a few comments about his piece, because I think he misses or misinterprets some of what I try to say.

I admit that I stress strongly the need to eliminate illiteracy in American schools. He seems to agree that computers can probably do this. I do not see this as the only goal of educational reform but I believe it is absolutely crucial to beginning any serious change in this nation's schooling.

Many other profound improvements, however, will follow, some of which he points out. Although disadvantaged students will make great advances, I believe the major beneficiaries of computerized education will be the more gifted students. I spend an entire chapter on their potential gains.

Dr. Sherman likens computerized education to television which some in the 1950's thought could reform schooling, but which failed. He neglects to mention the predominant difference that I stress so frequently between computers and any other supposed means of reform in the past - the interactive component of these unique machines. This magnificent feature could be augmented much further by programming that could be developed if computers were teaching without a human interposed between the machine and the pupil.

The most unexpected part of Dr. Sherman's review is his failure to comment on the position I see for human teachers in computerized education. This is particularly surprising since he is on the faculty of a teachers' college (at Emporia State University.) I use several chapters delineating how I envisage the role of teachers will change, how their position will be enhanced, and how much they will contribute to advancing education for all students. I emphasize that I believe "innovative teachers will use their new found time to devise ways to enrich students that we can't imagine today." They will aid the learning process immeasurably, which I agree with Dr. Sherman, is crucial in all schooling.