Less
SCREEN
Time,

MORE PLAY TIME

Edward Miller

A new report challenges the trend for introducing advanced technology into early childhood classrooms.

The presence of computers in early childhood classrooms is growing, despite serious doubts about whether young children really need them or benefit from using them. A recent study of child care centers in Texas found that preschool children were using computers in more than 75 percent of them. Even educators who are skeptical about the value of computer use by young children find themselves under increasing pressure from parents to incorporate advanced technologies in their classrooms, and to spend time teaching young children how to manipulate a mouse, send an e-mail, and even create PowerPoint presentations (Guernsey 2001).

IN BRIEF

The author addresses the debate over the growing use of technology in early education. Citing a recently released report from the Alliance of Childhood, he argues that technology robs young children of the imaginative play that helps them develop the qualities they will need for future success.

Many parents today assume that the earlier a child starts to use high-tech tools, the better. As a result, software for toddlers and preschoolers is one of the fastest growing niches of the technology business.

Earlier Is Not Better

Many parents point out that their young children are fascinated by computers and other electronic gadgets, and they view technology as a powerful learning motivator. But according to most child development experts, the "earlier-the-better" assumption is incorrect. The primary work of the young child, according to Tufts University psychologist David Elkind, is to master the skills of regulating emotions; solving problems; developing flexibility, imagination, and persistence; paying attention; coordinating body movement; and negotiating social situations (Elkind 2001). There is no evidence that young children learn these skills better through high technology, and abundant evidence that they learn them best through direct interaction with other people.

Educational psychologist Jane Healy believes that starting children on computers too early is far worse than starting them too late. "The immature human brain neither needs nor profits from attempts to 'jump-start' it, and the fact that this phrase is being successfully used to sell technology for toddlers illustrates our ignorance of early childhood development" (Healy 1998).

The Decline of Imaginative Play

Computer play is different from the kind of imaginative, child-initiated play

that has long been regarded as the foundation of the early childhood curriculum. Educators report that many children that are adept at playing video games, pushing buttons, and operating a mouse show an alarming lack of imagination. Today, the average U.S. child sits in front of television, video, and computer screens for four to five hours per day, spending far less time in imaginative play. Add to this the increased emphasis on early literacy and numeracy in preschool and kindergarten, and time for open-ended play is sharply reduced—and in some cases eliminated entirely.

Early childhood education is thus in a process of radical transformation—in which play and other activities that promote social and emotional learning are being replaced by academic drills designed to improve early literacy and numeracy. Part of this push for more academic rigor in the early childhood curriculum is the requirement that schools teach "technology literacy." State and local technology education standards increasingly require teachers to integrate computers into lessons, starting at the preschool level.

For example, the model standards for "technology literacy" developed by the International Society for Technology in Education (1998) specify that children, before completing second grade, should be able to "use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audiotapes, and

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other technologies," and that, with support from adults or other students, they should be able to create "multimedia products" and gather information over the Internet.

While many technology literacy programs pay lip service to "developmentally appropriate" activities, nearly all seem guided more by what children *can* do with computers than by a deep understanding of what young children *need* to help their intellectual and emotional lives unfold and thrive. Technology education should be guided not by a focus on tools, but rather by activities that help children develop their full capacities. This, in turn, will govern what tools they should use at different ages.

A New Literacy of Technology

Last year, the Alliance for Childhood, a nonprofit partnership of educators, health professionals, and researchers, published *Tech Tonic: Towards a New Literacy of Technology* (2004), a report that questions the wisdom of infusing early education with

advanced technologies. It proposed a set of basic principles—from early childhood through high school—that are solidly grounded in the developmental needs of children and based on a much broader concept of technology literacy than those included in most standards.

Current efforts to create high-tech classrooms often aim to make the technology "invisible." Our conception of technology literacy would do just the opposite—that is, it would bring technology into full visibility so that it can be closely examined and critiqued. We believe that the use of any technology for preschoolers and elementary school children should be determined by its ability to support and deepen the healthy essentials of childhood. These include:

■ Close relationships with responsible adults;
■ Direct knowledge of the living world of nature, developed through outdoor play, exploration, and gardening;
■ Time every day for child-initiated play;
■ Music, drama, puppetry, dance, painting, and the other arts, offered both as separate classes and as a kind of yeast to bring the full range of other academic subjects to life;
■ Hands-on lessons, handicrafts, and other physically engaging activities that embody the most effective first lessons for young children in the sciences, mathematics, and technology;
■ Rich face-to-face language experiences, including conversation, poetry, storytelling, and books read aloud; and
■ Time and space for children to create meaning and experience a sense of the sacred.

Lowell Monke, a former award-winning technology teacher, argues that there is always a potential conflict between using technology tools, which extend human powers outward, and healthy child development, which is concerned with increasing the inner capacities of the child. He points out, for example, that word processors have

made it possible for children to hand in long essays with no spelling errors, when they themselves are barely able to spell (Monke and Burniske 2001).

With this caution in mind, *Tech Tonic* proposes a new definition of technology literacy: "The mature capacity to participate creatively, critically, and responsibly in making technological choices that serve democracy, ecological sustainability, and a just society" (Alliance for Childhood 2004). To be technologically literate requires that we judge technology's impact on our lives according to a set of values that transcends mere technical virtuosity.

Seven Key Reforms

The Alliance for Childhood calls for seven reforms to help create a new technology literacy:

■ Make human relationships and a commitment to strong communities a top priority;

■ Color childhood green to emphasize children's relationships with the rest of the living world;

■ Foster creativity every day, with time for the arts and play;

■ Put community-based research and action at the heart of the science and technology curriculum;

■ Declare one day a week an electronic entertainment-free zone;

■ End marketing aimed at children; and

■ Shift spending from unproven high-tech products in the classroom to children's unmet basic needs (Alliance for Childhood 2004).

We need to slow down the rush to put computer screens in front of toddlers and preschoolers and to open a wide-ranging debate about the proper role of advanced technologies in young children's lives. Reasonable people may differ about the details, but we can agree on this: All children deserve a healthy, active childhood that helps them grow into compassionate, thoughtful, courageous, and resourceful adults—willing and able to partici-

pate in the daunting technological choices that lie ahead. ■

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WEB RESOURCES

Alliance for Childhood's report, *Tech Tonic: Towards a New Literacy of Technology*, is available online at **www.allianceforchild hood.net/projects/computers/ pdf_files/tech_tonic.pdf**.

"Computer Use in Preschools: Directors' Reports of the State of the Practice," by Sharon Lynch and Laverne Warner, appeared in the Fall 2004 issue of *Early Childhood Research and Practice*. It can be downloaded from **http://ecrp.uiuc.edu/v6n2/ index.html**.

The International Society for Technology in Education includes its technology standards on its Web site, **www.iste.org/**.