

## David Elkind: Technology's Impact on Child Growth and Development

September 22, 2003 — CIO — There is considerable disagreement among experts regarding the effects of technology on child growth and development. Some regard technology as advancing intellectual development. Others worry that technology may overstimulate and actually impair brain functioning. One of the problems is that most researchers have taken too narrow a focus on the issue. They have looked at the impact of a particular technology rather than at the technological environment as a whole. One might argue that taken as an aggregate, technologies such as computers, television and cell phones create a digital culture that has to be looked upon in its entirety rather than piecemeal. The question becomes: What is it like growing up in a high-tech world, and how does that differ from growing up at an earlier time? Part of the answer lies in the fact that the digital youth has a greater facility with technology than their parents and other adults. As a result, there is a greater disconnect between parents and children today, and some adolescents have even less respect for the knowledge, skills and values of their elders than they did a generation ago (hard as that may be to believe).

Digital children evidence other worrisome traits, but first, let's explore the culture itself. It is certainly a speed-dominated culture—fast and getting faster. Online, we get impatient if it takes more than a second or two to get a response from a site hundreds, maybe thousands, of miles away.

Second, it is a screen culture. The movie screen has been followed by the television screen, which became a computer screen, and is now downsized to a cell phone screen. Today, young people spend a large portion of their waking hours in front of one or another screen.

Third, it is an information culture. In their homes, children and youth now have as immediate access to information as do the most erudite scholars in the world's best libraries. Science, literature, history, drama and the arts are all at their fingertips.

Finally, it is a communication culture. The Internet and cell phone have made communication with peers an instant—and at all times possible—connection.

Growing up in this technological culture affects the language and concepts that children learn, and shapes their perceptions of reality. Terms like cyberspace, Internet, DVD, VCR and so on all refer to digital realities unknown to children of even the previous generation. The language, music and dress of teenagers all speak to their lack of respect for the older generation and their need to have clearly delineated generational boundaries. Independence from parents and adults means greater dependence on peers for advice, guidance and support. The availability of cell phones and immediate access to friends through instant messaging has only exaggerated this trend and quite possibly worsened the divide between children and their parents.

Digital children also have a different comprehension of space than did children of even 30 years ago. Virtual realities are such that children and youth can check out new books, games and toys; explore college campuses; and make bets on sports teams, all while sitting in front of their computers. The virtual spaces of many computer games are extraordinarily intricate. The ability to explore and create spaces digitally, without going anywhere, keeps many young people at the computer and almost certainly contributes to obesity among the younger generation.

Children's sense of time has changed as well. The speed of digital communication allows us to be more productive than ever. Perhaps that is one of the reasons we seem to believe we can accomplish more in the time we have than we did in the past. Young children may not only attend day care or after-school programs, they may also be on two teams in one season such as soccer and T-ball, or gymnastics and another sport. School-age children are burdened with even more commitments and homework starting with the early grades.

Indeed, the focus on speed has contributed to education being seen as a race. Many parents erroneously believe that the earlier they start a child on academics, the earlier and the better he'll finish. At the same time, because we now have so many ways to communicate—e-mail, cell phones and IM—we feel busier, and more harried. Young people incorporate this sense of urgency and too often feel guilty about taking time off to play.

The high-tech culture has also changed children's social relationships. Before the digital culture predominated, there was a language and lore of childhood that was orally passed down from generation to generation. They consisted of games, riddles, rhymes, jibes and so on that were adapted to the child's immediate environment. Some were universal, like the superstitions ("Step on a crack, break your mother's back") or incantations like "Rain, rain go away, come again another day." Others were imported like "London Bridge Is Falling Down." The culture of childhood made it easy for a child to become part of a group. All she had to do was learn the language and lore. Such play rituals were passed down in the city streets and in country glens. They were intergenerational and made it easier for parents and children to connect.

This traditional culture of childhood is fast disappearing. In the past two decades alone, according to several studies, children have lost 12 hours of free time a week, and eight of those lost hours were once spent in unstructured play and outdoor pastimes. In part, that is a function of the digital culture, which provides so many adult-created toys, games and amusements. Game Boys and other electronic games are so addictive they dissuade children from enjoying the traditional games. Yet spontaneous play allows children to use their imaginations, make and break rules, and socialize with each other to a greater extent than when they play digital games. While research shows that video games may improve visual motor coordination and dexterity, there is no evidence that it improves higher level intellectual functioning. Digital children have fewer opportunities to nurture their autonomy and originality than those engaged in free play.

In many ways, then, digital children have a far different sense of reality than previous generations. This digital reality is extraordinarily rich and complex. Yet children are still children in many respects. Though they may be sophisticated about technology, they still love a good story told at their level. The success of the Harry Potter books attests to this truism. And while many contemporary teenagers are sophisticated users of all forms of technology, they remain as naive as preceding generations about the human condition. Young people today, like those of earlier generations, harbor mythical ideas about sexual behavior; many still believe you will not get pregnant if you do it standing up.

For all of those reasons, it is more incumbent than ever that parents continue to reach out and connect with their children. At a deeper level, our young still very much want and need the love, support and guidance of their parents. Even digital children and adolescents need a hug.