Do Little Kids Belong on the Net?

by John Laurence Miller (jlmny@erols.com)

Is the Internet a safe and healthy place for little kids? A lot of parents worry that it is not.

Many of us feel the same way as Tonya Engst when she recently mentioned in an article in TidBITS the "mixed feelings" she has about kids (and adults) and "the immersive qualities of Web sites, computer games, and television" (see "Parenting with a Net" in TidBITS-556_) Her concerns arose out of a report by the American Academic of Pediatrics recommending that children under the age of two not be exposed to television. Others have based similar concerns on a widely disseminated report of a study entitled "Fool's Gold: A Critical Look at Computers in Childhood."

http://db.tidbits.com/getbits.acgi?tbart=06211

For a number of reasons, I have a deep interest in the questions that Tonya raises. The most important reason is personal - I have a daughter of my own and I am concerned about the effects on her of growing up in a home in which both of her parents are active Internet users. I also have a professional interest, having spent my career working as a specialist in child development. Furthermore, I presently work as Director of Learning for a major children's Internet company and my responsibilities require me to set and maintain standards for CleverIsland.com, our Web site. I have to make sure that our site is indeed safe as well as offering children between ages three and eight a valuable educational experience.

Fool's Gold or the Real Thing?

It's unfortunate that many people have seen only the "Fool's Gold" report and not any other research dealing with computers and children. The Fool's Gold report is perhaps the single most critical report on the use of computers with children that has ever attracted media attention. It makes shocking claims. Among these, it claims that computers represent serious health problems for children, that they hamper young children's intellectual growth and that they keep children away from active physical play. Reading these claims must surely give cause for concern to any responsible parent!

Nevertheless, just because somebody wrote something does not necessarily make it true. The vast majority of experts in both elementary education and child development regard the Fool's Gold report as polemic and its conclusions as invalid. Contrary to what it claims, most of us believe strongly that the computer is a powerful tool to promote, not hamper, children's intellectual growth. Furthermore, the risk to a child's health or social development seems minimal to most of us, as long as the computer is used responsibly. Virtually every public school board and every private school plans to increase the use of computers by elementary school children, and the U.S. federal government allocates $425 million annually to assist

in implementing these plans. The vast majority of professionals regard this commitment as one of the most positive developments today in American education.

Does the consensus of experts prove that the concerns in the Fool's Gold report are unfounded? Experts in every field are sometimes wrong. I invite anyone who's interested in this field to read the report itself and examine the evidence that it presents. You will find, I think, that the evidence consists of quotations rather than hard data, opinions instead of facts. Let's look at a few of the issues it raises.

http://www.allianceforchildhood.net/projects/computers/computers_reports_fools_gold_contents.htm

Books Versus Computers

Do computers affect children in a positive or negative way? Let me suggest that there is something funny even about the question itself. Professor Seymour Papert of MIT, a pioneer in the field of computers and education, has argued that asking this kind of question is an example of what he calls "technocentric thinking." Technocentric thinking portrays technology as a force that acts independently on children instead of being a resource that may be used by people for either good or ill. It is more correct to ask whether teachers and/or parents are using computers in ways that are beneficial to their children or harmful to them. As well, it is reasonable to ask whether there may be better ways to use computers.

As a point of contrast, imagine that someone asked whether books affect children in a positive or negative way. You can immediately see that the question is absurd. Surely it depends which particular book you have in mind, whether it suits the child's interests, and whether its level of difficulty is appropriate.

We usually see books as positive. Nevertheless, there are many books that you would not want to give to children. The list includes books that are too easy or too difficult, books of inferior quality, or books that deal with subjects that require greater maturity. Furthermore, people who sound the alarm over the immersive quality of the computer should keep in mind that the immersive quality of a good book is at least as great. But in spite of these facts, we do not worry about the dangers of reading. I think we should feel similarly about computers.

What About Health Risks?

The Fool's Gold report makes a major issue of computer-related health risks to children. It claims that the risks include repetitive stress injuries, eyestrain, obesity, social isolation, and, for some, long-term damage to physical, emotional, or intellectual development.

What does the research say? According to the American Academy of Pediatrics, "Children spend a lot of time surfing the Net but there is no research to date on the effects, especially on young children." The Academy is planning to sponsor the first

study on the subject, a modest one-year investigation of questions relating to computer use and its impact on motor development, costing $50,000.

I would personally welcome a more extensive program of research. $50,000 does not purchase a lot of time from medical researchers. Larger studies are needed if we hope to receive definite answers. Why do they not spend more? It is possible of course that pediatricians as a profession are still living in the past and therefore fail to appreciate the dangers represented by futuristic technology. On the other hand, it is also possible the risks themselves are simply not that great.

Influence of Computers on Intellectual Growth

The Fool's Gold report claims that we do not yet have enough research into the effect of computers on intellectual development. How much is enough? Over the last twenty-five years, the role of computers in children's learning and development has been a major topic of investigation for psychological and educational researchers. Indeed a new field has grown up, that of Computers and Education, devoted entirely to this subject. There is much disagreement about how to make the best use of computers in education. But whether they have a positive effect is a non-question. In The Development of Children, a leading textbook in Developmental Psychology, authors Michael Cole and Sheila R. Cole speak for the field when they conclude:

"Numerous studies have shown that computers can make a positive difference in the classroom when properly used. The challenge now is to realize this potential, making effective use of the new technology a routine part of every child's education."

The problem in refuting the claim that computers hamper intellectual growth is knowing precisely where to begin. The evidence is overwhelming. My own favorite book on the subject is Robert Lawler's meticulously careful case study of his own daughter's learning, Computer Experience and Cognitive Development: A Child's Learning in a Computer Culture. Furthermore, for every academic subject (and many non-academic subjects such as typing), it is possible to point to software that significantly helps students. There are many programs available that help children with "thinking skills" of the kind measured by IQ tests. A good example is the I Spy series of CD-ROMs produced by Scholastic, which teach visual acuity of a kind that the most widely used IQ test measures.

http://www.amazon.com/exec/obidos/ISBN%3D0470201932/tidbitselectro00A/
http://www.scholastic.com/ispy/cdroms/

In my opinion, the strongest case for the computer is in learning mathematics. Computers by their nature are mathematical machines - they are also a lot of fun for most kids. Learning mathematics on a computer bridges the gap between the concrete world of physical things and the abstract world of mathematical symbols. This is especially important since so many children find mathematics intimidating. As tools to teach mathematics, I would recommend software that uses the Logo programming language (such as Lego Mindstorms), a number of CD-ROMs - one that I like is the Reader Rabbit Interactive Math Journey produced by The

Learning Company - and a number of the mathematical activities on the CleverIsland.com Web site.

http://mindstorms.lego.com/
http://www.learningcompanyschool.com/school/products/imj.htm

Computers versus Playing with Other Children

Many parents fear that their children will become so addicted to the computer that it will interfere with finding time to play with other children. There are three answers to this fear. First, this is a problem of anything very engaging, not just the computer. A small number of children become so involved with books that they spend time reading when their parents would prefer them to be outside playing. Some children spend a great deal of time listening to music. A very large number of children spend a great deal of time watching television.

Second, the computer can also increase social contact in certain positive ways. Through email, it is possible to get to know children from other parts of the world. This experience can broaden one's experience in a way no other medium can match.

Third, if a child spends too much time on the computer, the fault lies with the parents, not the technology. Here again is the issue of technocentric thinking. Parents need to accept responsibility for telling children when it is time to do other things, just as with television or video games or similar activities.

Which Kids' Web Sites Are the Best?

Like Tonya, I am reluctant to use the Internet with children much younger than three. For one thing, you need to be able to control a mouse (and maybe the keyboard as well) to use the Internet. That's extremely hard for little kids. Once they can use the Internet, there are a number of good Web sites that little children should try. Be warned, however, that you will need to download Flash or Shockwave to access most of these sites.

My favorite (naturally) is the one that I helped to create, CleverIsland.com. I like it especially because of the ambitiousness of the applications - they are larger than those on other sites, with more interactivity and richer graphics. I also like its success in integrating educational goals with fun. Finally, the activities have the unique feature that almost every one consists of games integrated into a story. A drawback for some is that Clever Island is a subscription site, costing $40 per family for a year, but you can try the site free for a month.

http://www.cleverisland.com/

Another good subscription Web site for little children is Disney Blast. The Disney site has the highest production values of any children's Web site. They integrate music and animation brilliantly and offer extremely entertaining games. Kids will also appreciate seeing the familiar Disney characters. On the other hand,

the Disney site emphasizes educational goals much less than other sites. Furthermore, you may find little difference in quality between the pay site (Disney Blast) and the free site (Disney Go). Disney Blast also costs $40 per year and has a 10-day demo.

[Disney recently announced it's closing the go.com portal, although Disney currently plans to continue some of its content- oriented Web sites. At this time, it's unclear how Disney Blast fits into the company's roll-back of Internet offerings." -Geoff]

http://disney.go.com/

There are also a number of good free children's sites. ALFY.com, also produced by my company, is probably the easiest for little children to use because it relies extensively on graphics and includes the least amount of text. The most popular features are the games and interactive stories.

http://www.alfy.com/

I also like Kids Edge, which is owned by Knowledge Universe, one of the most ambitious and innovative makers of educational products for children. (Their LeapFrog division makes a product called a LeapPad that in my opinion is the most entertaining resource available for teaching children phonics.) I like the site both for its games and for its parents' section. It offers serious discussion (not facile platitudes like many other Web sites) in answer to parental concerns.

http://www.kidsedge.com/
http://www.leapfrog.com/

The activities on the free nickjr.com, operated by Nickelodeon, tend to be clean, simple and sweet. Four-year-olds love them. Also attractive is SesameWorkshop.org (formerly Children's Television Workshop). Sesame Workshop produces many of the best CD-ROMs for pre-school age children. Their product Baby and Me, in my opinion, is the best CD-ROM on the market for introducing computers to children three and under. My main criticism of SesameWorkshop.org is that it does not yet have the same imaginative spark as their offline products.

http://www.nickjr.com/
http://www.sesameworkshop.org/
http://www.mattelinteractive.com/store/product.asp?OID=4142522&SC=1105647&CID=254

The Potential of the Internet

The real unanswered question in my mind concerns not the dangers of the Internet for little children but rather its potential. History has taught us that new media have an enormous potential to enrich children's lives. The motion picture revolution made possible The Wizard of Oz and Mickey Mouse. The TV revolution led to the creation of Sesame Street. The Internet is surely as much a

revolutionary medium as television and movies. When Internet products become as imaginative as those of Jim Henson and Walt Disney, what will they be like?

Time will tell. My guess is that the Internet will serve children best as a medium for learning and a stimulus for thought. The authors of the Fool's Gold report are plain wrong in saying that the Internet hampers intellectual development. Quite the contrary, the Internet gives all of us, children as well as adults, unprecedented access to a world of information and thought. The people who show children where to find the excitement in this knowledge will bring the potential of the Internet to users of all ages.

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