

Income Affects How Kids Use Technology and Access Knowledge

Logon. Google. Bandwidth. As technology has permeated our lives, words that previously didn't even exist are now a part of everyday life. Technology has affected everything from how we work to how we socialize, providing easy access to massive amounts of information. But has this information explosion helped kids learn?

For 10 years, Susan Neuman and her colleagues have studied how people access public library resources, including computers, in both low-income and middle-income neighborhoods. And they've arrived at some surprising conclusions.

The researchers found that today's information age produces a knowledge explosion that filters down to children, but in unequal ways—and it starts at a very early age. When using both books and computers at the library, lower-income children read fewer words and accessed less challenging material, putting them at an early disadvantage.

These findings indicate that technological access actually contributed to a widening of the knowledge gap between richer and poorer—and that gap was most glaring during the summertime.

We spoke to Neuman, an education professor at the University of Michigan, about the findings and what we can learn from them.

You've been studying how people access knowledge for 10 years now. How did you start investigating this line of research?

Originally, we were trying to see if libraries could help to close the achievement gap by providing access to technology in a high-poverty area of Philadelphia. What we found is that access to technology does help, but it benefits higher-income children more than lower-income children, creating an even greater learning gap between lower- and higher-income groups. So it actually makes the achievement gap worse.

CHILDREN'S READING ACTIVITY IN THE LIBRARY

	Middle-income neighborhoods	Low-income neighborhoods
Total number of children observed	91	118
Total library resource use	2376 minutes	2529 minutes
Total number of children reading	34	38
Total reading time	393 minutes	779 minutes
Total time with each material	12 minutes	6.6 minutes
Total number of words per visit	1069 words	618 words

Note that children in low-income neighborhoods spent more time using library resources, but read less challenging material with fewer words.



How do you account for that?

From what we observed and documented, it has a lot to do with family support and how children access knowledge from an early age. Middle- and higher-income children tended to come into a library and interact in very aggressive, proactive ways. The parents or other caregivers might suggest books, show how to find a book, read with the child, or go online and model how to navigate the computer. Children in low-income neighborhoods were often left on their own, without direction. Often, they might be with a sibling instead of a parent. Or, even if accompanied by a parent or adult, the adult would be passive. Without guidance, children often became frustrated and eventually gave up or resorted to something less challenging, like playing games.

What is the practical consequence of that lack of guidance?

There's a definite, measurable consequence. We found that low-income children tend to choose less challenging material and read less than their middle-income counterparts. In fact, for every one line of print read by low-income children, middle-income children read three.

Why do you think that low-income parents are less proactive?

It's not a lack of caring but a lack of competency, or feelings of competency. It might have to do with educational level to some degree, but mostly, I think the parents don't feel efficacious. Maybe they aren't comfortable in a book culture or they don't feel like they have the ability to help, so it perpetuates. We saw parents tell their children that they don't like technology or say, "I'm sorry, I can't help you."

“The idea that we can close the knowledge gap by just providing access to computers is a terrible fallacy.”

You’ve studied this for a long time. Have things changed as technology has become more pervasive, for example, between your 2006 study and your latest?

Yes, it’s become worse. The novelty has worn off, but there’s this negative cycle where children who weren’t mentored early on use even fewer print materials. The idea that we can close the knowledge gap by just providing access to computers is a terrible fallacy.

You particularly looked at what happens over the summer. What did you find?

During the school year there’s at least some leveling, with children from all income groups learning and gaining skills, but during the summertime it’s even more tragic. Low-income youth lack options in the summer, and sometimes come to the library just to hang out or because it’s air conditioned. Summer is when we saw the greatest disparity.

Your study also looked at the different camps that are available to children from different income levels during the summer. What did you find?

The difference in camp experiences was incredible. Middle- and higher-income children had access to some wonderful camps where they could create computer programs or games, solve problems, and engage in high-level, sophisticated thinking. But, for example, at one lower-income camp, they spent the entire afternoon learning one word. It was low level and lacked intensity.

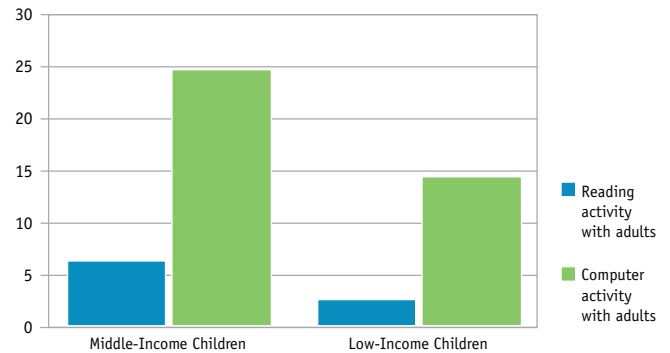
What steps do you recommend?

We need to recognize that we can’t level the playing field if it’s uneven to begin with, so we have to work toward comparability by adding resources for high-poverty kids. That may mean smaller classes, more computers, and more programs that intensely support language and knowledge, which are the key components of all learning. And the programs need to offer richness and intensity.

Also, clearly, we’ve got to provide more opportunities for kids to be engaged during summers because, without these opportunities, so much is lost. Most teachers will admit that they are reviewing material until November. It’s a lost period for high-poverty children and we need to change that equation.

We have to have a broader, bolder notion of education, one that’s not just centered on the schoolhouse, but where we recognize that early education, afterschool education, summertime, and working with families and family supports are all a vital part of the educational process. Kids need to be able to access educational opportunities every single moment of every day.

Average Time in Minutes with Adult Assistance



NEUMAN’S ADVICE TO TEACHERS AND PROGRAM PROVIDERS:

- Involve children in a form of learning that is different from what they have during the traditional school year.
- Challenge children through intense programs that involve the use of creativity and imaginative problem-solving.
- Recognize that high-poverty kids often don’t have alternatives outside of school. Get to know your community and community resources, and mobilize those resources.
- Encourage families to get a library card and involve children in library programs, many of which are free. Also, get to know the librarian and other teachers so that you can align instruction and make it more congruent.
- Realize that just providing access to technology isn’t enough. The ability to access knowledge effectively isn’t intuitive, but learned, so find a way to provide guidance and direction.



Susan Neuman

REFERENCES

- Celano, D., Neuman, S.B. (December 2008). “When Schools Close, the Knowledge Gap Grows.” *Phi Delta Kappan*, Vol. 90, No. 04, pp. 256-262.
- Neuman, S.B. (2008). *Changing the Odds for Children at Risk*, Praeger Publishers.
- Neuman, S.B. (2008). *Educating the Other America*, Paul H. Brookes Publishers.