



TECH: WHOSE DECISION?

Power and Impacts on Preschool Children's Learning

Karen C. Williams, Ph.D.

2013 Shepard Symposium on Social Justice

ACKNOWLEDGEMENTS

I would like to acknowledge and thank the following for their funding and support of this project:

- ▶ Social Justice Research Center
- ▶ Department of Family & Consumer Sciences

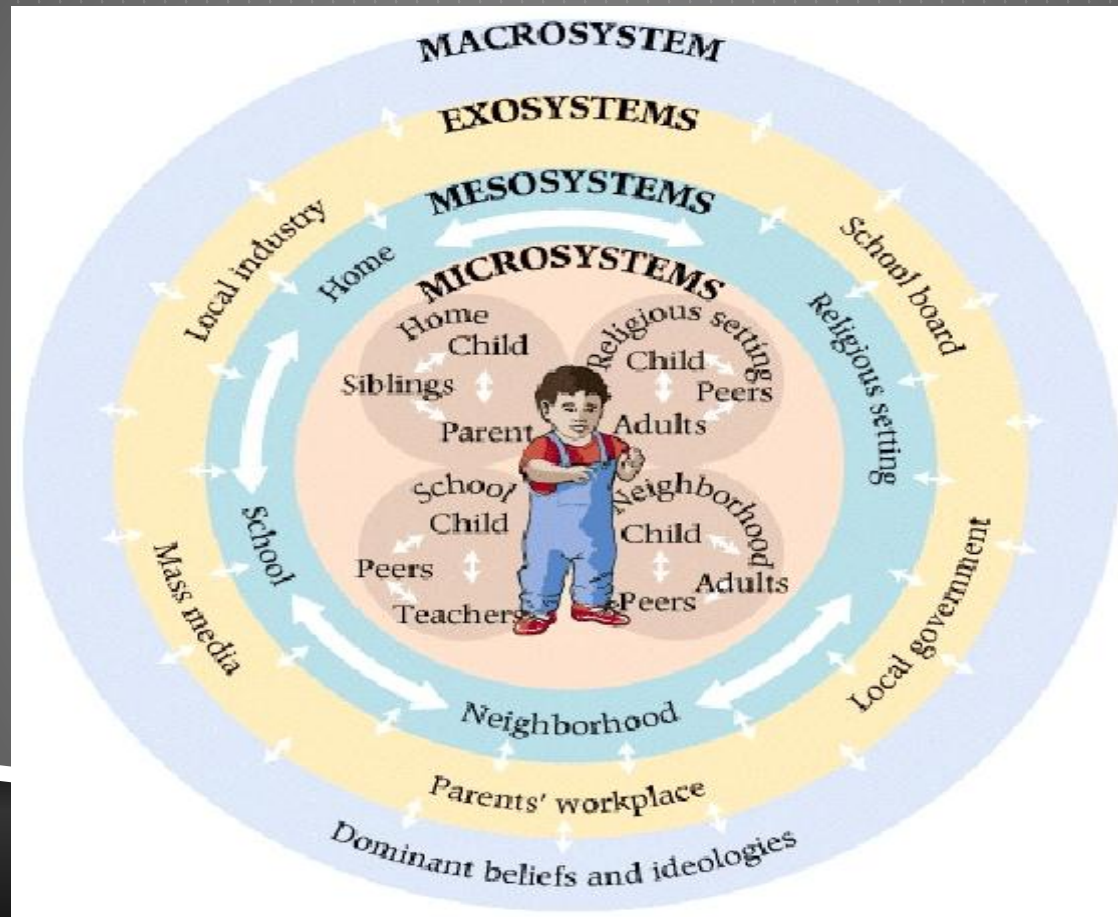
WHAT TYPES OF TECHNOLOGY ARE CHILDREN EXPOSED TO?





WHAT OTHERS CAN YOU ADD?

BRONFENBRENNER'S ECOLOGICAL SYSTEMS MODEL (2005)



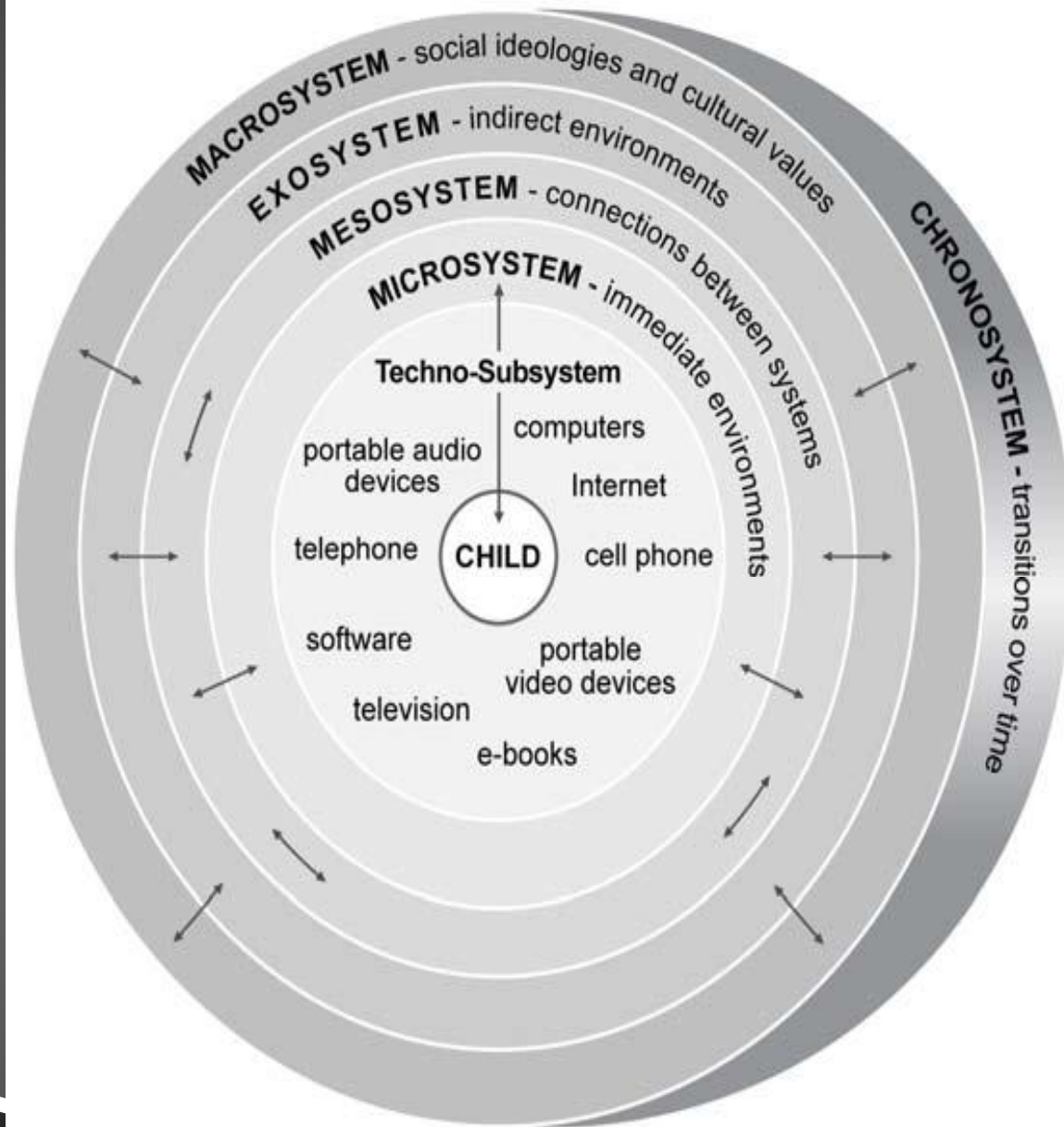


Figure 1: The Ecological Techno-Subsystem (Johnson & Ptoplampu, 2008)

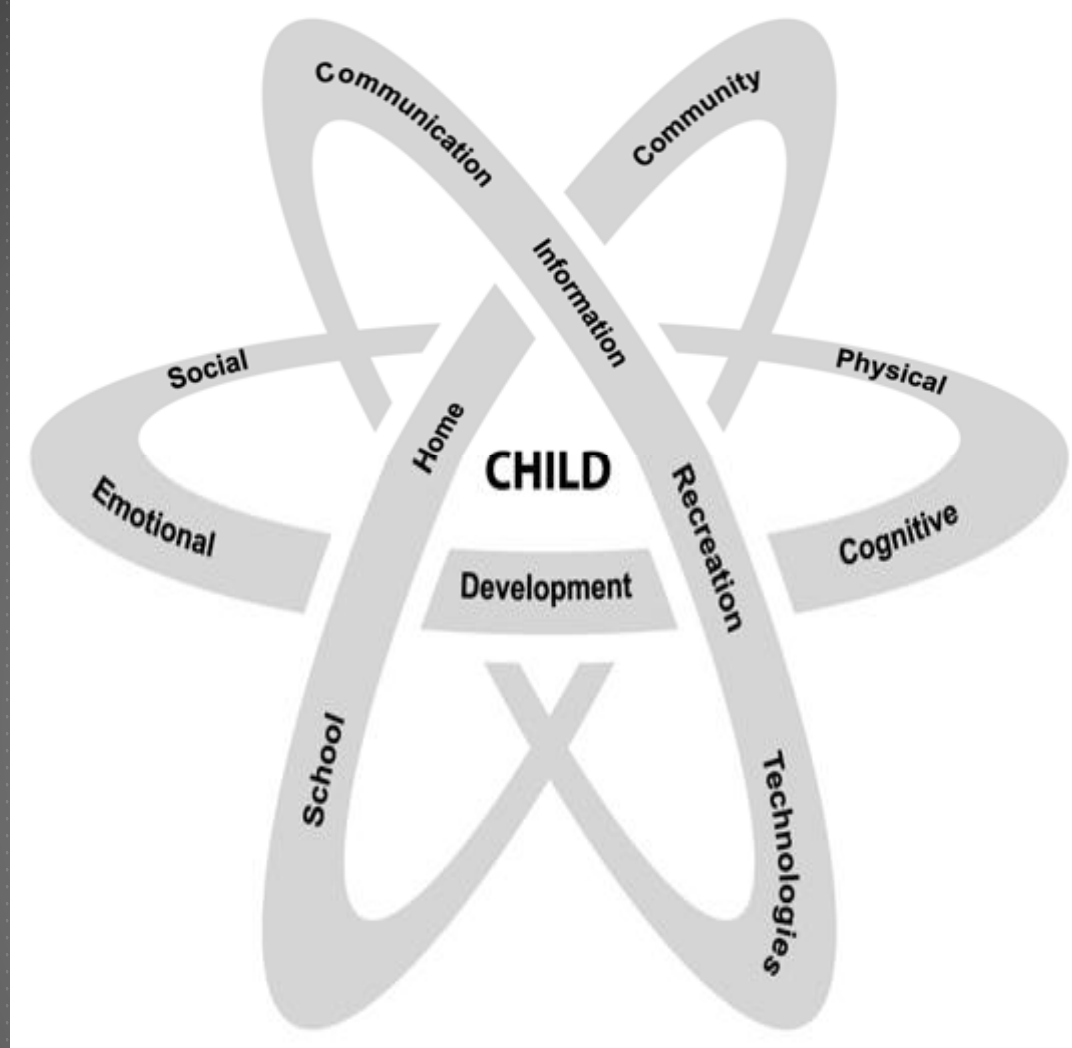


Figure 2: The Ecological Techno-Microsystem


HOW DOES THE NAEYC DEFINE TECHNOLOGY?

“...the word technology is used broadly, referring to interactive digital and electronic devices, software, multi-touch tablets, technology-based toys, apps, video games and interactive (nonlinear) screen-based media. Technology is continuously evolving. As a result, this statement focuses on the principles and practices that address the technologies of today, while acknowledging that in the future new and emerging technologies will require continual revisions and adaptation. (p. 1)”

NAEYC DRAFT STATEMENT (BIRTH-8)

“It is the position of NAEYC and the Fred Rogers Center that technology and interactive media are learning tools that, when used in intentional and developmentally appropriate ways and in conjunction with other traditional tools and materials, can support the development and learning of young children. (p.1)”

INTERNATIONAL SOCIETY FOR TECHNOLOGY IN EDUCATION'S STANDARDS

1. Creativity and Innovation
 2. Communication and Collaboration
 3. Research and Information Fluency
 4. Critical Thinking, Problem-Solving and Decision Making
 5. Digital Citizenship
 6. Technology Operations and Concepts
- 


PROJECT GOALS AND OBJECTIVES:

- ▶ To see to what extent technology is used in young children's classrooms
- ▶ To determine parents', preschoolers' and teachers' understandings of technology.
- ▶ To apply critical theory to look at issues of power: how are decisions made for use of technology in the classroom and at home?
- ▶ To investigate implications of the findings for the transmission of culture and language of origin.


SELECTION OF PARTICIPANTS

- ▶ Programs were purposefully sampled:
 - ▶ Head Start program on a Native American reservation (3 yr. olds)
 - ▶ Military child care program in the Southwest (3-5 yr. olds)
 - ▶ International School in Germany (1st grade)
- ▶ Principle of respect was the guiding force: programs determined which classroom I was in, and where I was situated on the participant-observer continuum.

METHODOLOGY

- ▶ Prolonged Engagement
 - ▶ Classroom Observations
 - ▶ Child Interviews
 - ▶ Parent Interviews
 - ▶ Teacher Interviews
- 

ANALYSIS

- ▶ Coding of field notes
 - ▶ Coding of interviews
 - ▶ Reflective memos to develop grounded theory as analysis progresses
 - ▶ Member checks; audit
- 

TEACHER DEFINITIONS OF TECH

“A tool we use to better ourselves. More convenience. Technology is just a tool.”

“Resistance. I have gotten that from a lot of the staff. Resistance to get on or try to get on the new computer system.”

“All scientific advancements.”

“I think of electronics. I think of apps. Plug in and access a program.”

“Machinery. A spectrum of machines: household things, then in factories; then high tech like computers, phones, toy machines. I personally have a comfort level with the low end.”

“I think of computers, FAX machines, all different kinds of things to download. Technology has gotten into every part of our lives.”



- Computers/laptops 15
- Cell phones/smart phones 10
- Hand-held gaming devices 5
- iPads 4
- Digital or other cameras 3
- Others: CD player, binoculars, iPods, light board, clocks, radio, black light, technology in cars, household technology, FAX machines, magnifying glass, microscopes, tools in woodworking center, hole punch, HDTV.

ROLE OF TECHNOLOGY IN CHILDREN'S LIVES

Too Much Tech Hurts Children

“Technology takes most of the hands-on off for children.”

“I’m not really sure how engaged children are using their whole senses. It’s not something you share cooperatively with peers in a social way.”

“Children aren’t learning social skills and (using gaming devices and computers) even impacts their language development.”

TECH IS BAD IF USED AS A BABYSITTER OR AS A PUNISHMENT/REWARD

“A three-year-old child was misbehaving at school. When the mother picked her up, I told her about what was occurring. She said, ‘Ok, well then I think I’ll take away her iPhone.’”

“There should be no TV’s or movies shown in the classroom. It gets too easy to play them and use them as a crutch.”

“I see parents sit and let them (3-5 year olds) play video games and let them do that so they don’t have to engage with the child. As a consequence, violence becomes okay in their little heads. They (children) are missing out on that interaction between parent and child.”

TECH IS GOOD IF COUPLED WITH OTHER EXPERIENCES

“Children need opportunities for discovery. But these don’t have to be electronic. If coupled with experiences, that’s okay.”

“I was talking to my grandson on Face Time, and he put the phone in his toy box to play dinosaurs with me. In his mind, I was with him playing even though I couldn’t be there in person. We read books together on the iPad and phone and are able to see each other’s faces.”

TECH IS NECESSARY FOR THE FUTURE

“It’s important because the entire world revolves around it. Even if adults don’t understand it, children will need it.”

“(Children) should use technology tools since they will be immersed in them as they get older.”

“Children need more technology computer-wise because you don’t want kids left behind. The world is going to continue to rely on computers and use them more and more.”

DECISION-CRITERIA : COMPUTERS

Reservation

- ▶ Does it have a learning function?
- ▶ Is it interactive?
- ▶ Is it only for use during free play time?
- ▶ Is it fun?

Military Child Care

- ▶ More than buttons to push?
- ▶ Will all children have equal access?
- ▶ Is it interactive?
- ▶ Is it fun, age-appropriate and visually appealing?
- ▶ Does it connect to real life and later learning?

MAJOR THEMES AND ISSUES

- ▶ Administrators Fear Tech Will Be Used Inappropriately by Teachers
 - ▶ Cell phone use prohibited
 - ▶ Feel adults will misuse technology in the workplace, like Facebook

“I wanted to have the program use Face Book as a way to communicate, but the Director had said no...that people could be on it during work or post things that they shouldn't so it wasn't used.”

“We use HATCH with preloaded games in science, math, reading, etc. It's not really good or interesting for the kids. I like Jump Start Languages better. Most computer games have too many buttons for them to figure out and it's too hard for the children to tell how to use a mouse unless the teacher is right there.”



“Here, the Air Force drives practices. Teachers are told that they need to take photos of children engaged in activities, on fieldtrips, create books on projects, and for labeling. At another base, no computers were permitted. Then, during the mandatory inspections, they were told they had to have them. In the Creative Curriculum, they have to have centers, but were told to include computers even though it made the room very crowded and less functional. The inspectors base their observations and reports on Air Force Instructions. Sometimes there are ‘hot topics’ they specifically had to look for, like computers. The inspectors may have the credentials, but may not have the experience (working with children).”

Tech is Bad/Problematic



“A lot know how to use games, but don’t know how to do the basic stuff like playing tag or making up their own games. We are losing our ability to do things They’d rather be on the Wii or the computers or a Game Boy. We bought kites and my husband and I ran with the kites, but the youngest said, ‘You’re never going to get it up in the air.’ It did go up but the kids didn’t join in. They think the video game stuff is real life.”

▶ Unequal access to the Internet and/or Computers

- ▶ Not Available in the home on the Reservation: only half have computers or internet access
- ▶ Families on the Reservation were more likely to have gaming devices than computers
- ▶ All families use the internet with the military; most also had other tech as well

▶ Teachers Don't Feel Confident/Prepared to Use Tech

- ▶ Change is scary
- ▶ Tech is thrust upon them without their input
- ▶ Teachers feel they aren't trusted
- ▶ Not given training or education to help make decisions/feel prepared

POWER AND ITS IMPACTS

- ▶ Socio-economic status is a strong predictor of whether children have access to technology (high or low tech) in the classroom.
- ▶ As long as we continue to differentiate between child care and preschool, children's growth and learning will continue to suffer. All children deserve quality, developmentally and culturally appropriate programs.
 - ▶ Access to prepared teachers who receive fair pay and benefits
 - ▶ Access to program funding

IMPLICATIONS & RECOMMENDATIONS

- ▶ Pre-service and in-service teachers at all levels of preparation need education and training on how to make decisions about technology use in the classroom. They are not making decisions based on NAEYC guidelines, ISTE standards or Global Citizenship for the Digital World guidelines.

- ▶ Program accreditation and other measures of quality need to include indicators related to technology.
- ▶ Parents would benefit from understanding how to help their children navigate the potential issues from internet and other use of technology – programs should provide this.

REFERENCES

International Society for Technology in Education. (2007). *National technology standards for students*. (2nd Ed.). Eugene, OR: International Society for Technology in Education.

International Society for Technology in Education. (2008). *National technology standards for teachers*. (2nd Ed.). Eugene, OR: International Society for Technology in Education.

Johnson, G.M. (2010). Internet use and child development: The techno-microsystem. *Australian Journal of Educational & Developmental Psychology*, 10, 32-43.

Johnson, G. M. (2010). Young children's internet use at home and school: Patterns and profiles. *Journal of early childhood research*, 8 (3), 282-293.

Johnson, G.M., & Puplampu, K.P. (2008). Internet use during childhood and the ecological techno-subsystem. *Canadian Journal of Learning and Technology*, 34 (1), 168-172.

National Association for the Education of Young Children. (2011). Technology in early childhood programs serving children from birth through age 8. (Draft standards) Retrieved from <https://www.naeyc.org/files/naeyc/file/positions/Draft%20Technology%20in%20Early%20Childhood%20Programs%204-29-2011.pdf>

Ribble, M. (2011). *Digital citizenship in schools*. (2nd Ed.) Eugene, OR: International Society for Technology in Education.