INFORMATION LITERACY IMPLICATIONS FOR STUDENTS USING 1:1 DEVICES

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About Me
(and this topic!)

- Associate professor in the library science program at the University of Central Missouri, doctorate in information science from Mizzou
- Former librarian and instructional designer
- Parent to teenagers who use 1:1 devices
- Therefore, I see information policy and literacy issues everywhere, especially between the schools and libraries!
- Why should librarians care about 1:1?
AGENDA

1. What is 1:1?
2. Results from my study
3. Implications
4. Discussion/Questions
WHAT IS 1:1?

- 1:1: Personal devices issued by schools to individual students which can be used in or outside of school (a ratio of 1 device per child in a school or district)

- Mass uptake (90%) in one-to-one computing programs in the U.S., particularly after pandemic (Klein, 2021). In Mississippi this was 96%!

- 73% of teacher says that great access to 1:1 makes teaching easier (Bushweller, 2020)

- 1:1 programs often use E-Rate funding

- Bourdieu’s capital theory: 1:1 lessens digital divide by increasing technology assets (those with personal computing have access to extra assets)
Is 1:1 effective?

- Student performance was positively impacted in English, writing, math and science (for more affluent students) (Zheng, et al., 2016).

- Without tech support, infrastructure, and professional development (on beliefs and integrating into instruction) 1:1 programs are ineffective (Bebel & O’Dwyer, 2010; Lemke, Coughlin, & Reifsneider, 2009; Sell et al., 2012; Warschauer, et al., 2011)

- 1:1 program are costly: repairs, maintenance, staff time, replacement devices (Hinton & Burstein, 2022)

- 30% students have inadequate connectivity/devices (Chandra et al. 2020)

- What we don’t know: benefits for students (outside of academics); problems for students; what pre-service teachers need to know; implications outside of school; implications for universities
What is on a 1:1 device?

- Cloud-based network management (authentication, security).
- Access to school portals
- Access to school approved software (learning management system, productivity tools, etc.)
- Some have bookmarks to the school library webpage (recommended!)
- Content filtering software
- Some schools will issue more robust computers (ie. MacBook Air) to students taking dual credit classes
Acceptable Use Policies

- Provide “contract” with students/parents which explains policy (fines, rules, etc.)
- Teaches digital stewardship
- Usage is often tracked (expected to be educational)
5 CSR 20-100.220 Internet Filtering

(1) This rule is designed to restrict minors from gaining access to inappropriate material on the Internet. Public school districts should review and comply with the standards set forth in the Federal Children’s Internet Protection Act (CIPA) and the Neighborhood Children’s Internet Protection Act (NCIPA) which are incorporated by reference and made a part of this rule.

-Rules of Department of Elementary and Secondary Education

Technology protection measure: a specific technology that blocks or filters Internet access to visual depictions that are (A) obscene (B) child pornography or (C) harmful to minors; monitoring online content of minors; and online behavior education (Protecting Children in the 21st Century Act of 2008, 47 C.F.R. 54.520)
Blocked Content

Categories Blocked on School Devices

- Most schools overfilter: social media, porn, games, known virus-infected websites, entertainment

Commonly Filtered Categories
(Deibert et al., 2008)

- Human rights
- Minority rights
- Women’s rights
- Environmental issues
- Dating
- Gambling
- Gaming
- Hate speech
- Sex education
- Pornography
- Militants, extremists, separatists
- Alcohol and drugs
- LGBTQIA+ content
- Hacking
- Religious conversion
Requiring school-issued computers creates level academic playing field

Marcus Johnson
February 7, 2022

Atlanta Public Schools took a necessary stride to provide educational resources to all students and close the digital divide by issuing each student a personal Chromebook at the start of the school year.

However, many students are still being left

Figure 1. Midtown High School paper headline and related story: https://thesoutherneronline.com/87225/uncategorized/requiring-school-issued-computers-creates-level-academic-playing-field/
“On a school Chromebook, it can take up to 15 minutes to log on, connect to WiFi and pull up a website. Every time a student closes a school laptop, no matter how briefly, it completely logs them out of their computer. This requires the student to re-login and open all of their tabs again, wasting precious class time.”
My Research on 1:1

- Participatory Mixed Methods (2 Stages):
  - Stage 1: Used phenomenology, a qualitative method, to understand lived experience (12 youth; 3 parents)
  - Stage 2: Photovoice (students sent pictures of their struggles)

- Used a snowball sampling method called chain referral (started with dual-enrollment, then expanded)

- Research questions:
  - Challenges?
  - Strategies?
  - Experiences?
Challenges

Blocked Content

- games
- Khan academy videos
- nude sculpture
- marketing websites
- math games
- math tutorials
- medical content
- food on youtube
- Netflix
- anything with Flash

- travel websites
- genetics articles
- research articles for English blogs
- a New York Times article
- sex ed stuff
- Perusall (discussion site)
- videos for women's literature
- publisher's test site
- computer science stuff
- IXL math assignments
- coding

General Annoyances

- time limits
- shutting down after 10
- no customization (background, etc.)
- no commenting
- no installing software (OS, coding apps, VPN etc)
What do students do when they have frustrations with devices?

- Give up
- Find another device
- Buy another device
- Access the school’s digital library
- Access the public library
- Ask for help from the school librarian
- Use mobile device
What is the lived experience of 1:1?

- Problems on 1:1 interrupt a student’s autonomy
  - dependence on other assets
  - lack of personal expression
  - unable to use learned problem-solving strategies
- Learning is disrupted
  - teaching and learning flow is disrupted
  - additional time required to work around restrictions
  - not always able to work around issues
- Accepting challenges as behavior control
  - thinking other students are doing bad things
  - accepting issues because they protect younger kids
Public Library Concerns

- Students need space to work on their devices
- Students need another device sometimes (one with less filtered content)
- Students may need hotspot to use the device at home
- They may need chargers for devices when school is out of session
- They are familiar with going to the library for technical support
- They may need technical support
Implications

Information Literacy

- Used to blocked content
- Library awareness (library resources are not blocked!)
- Need to know when to use a google search/when to use the library resources
- What they have learned about the search process is interrupted
- Asking a human librarian is helpful to them (but they may not be able to do that on virtual chat)
What experiences have you had with 1-1 devices in the library?
References


THANK YOU!

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