Roundtable Discussions

Medium Matters: Connecting Research and Practice in Print and Digital Reading
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Adult/Tertiary Learners:
Influences on Reading Format Preference and Learning

Research suggests a number of variables correlate with whether an adult learner will learn optimally from digital reading formats, and whether they will prefer a digital or hard copy format. Some of these are briefly summarized in the attached grid.

Your Experience

PREFERENCE
- Under what circumstances do you like to read digital texts, and when do you prefer to print out or obtain a hard copy? How does this track with the available evidence? Does a need to deeply learn or remember information have an influence on your preference?

STUDENTS
- For tertiary educators, what have you noticed in your students about their preferences for print or digital text in trying to learn? How does this track with the available evidence?
- What costs do students incur for their printed or electronic learning materials?

Action Issues

Use your own experience as an educator, along with what you are learning today, to propose changes in selection and use of print vs. digital learning materials.

- What kinds of reading do your students engage with in their courses? Are the common formats optimal for those types of reading? If not, what could be changed about the format, assignment, presentation of text, availability of printing, other, either by you, your colleagues, or administrators?
- In your context, what is the relative importance of the cost and convenience of learning materials, versus any possible learning detriments? What are the implications for action?

Factors Influencing Format Preference
among Adult/Tertiary Learners

← GREATER PRINT PREFERENCE   GREATER DIGITAL PREFERENCE →

		GREATER PRINT PREFERENCE	GREATER DIGITAL PREFERENCE
Difficulty of Learning from Text	💻 **Interface Features**	• E-version features scrolling	• E-version supports mental mapping of text, single-page layout
	🎓 **Length**	• Over ~5-7 pages/3500 words	• Under ~5-7 pages/3500 words
	💻 **Accessibility**	• E-version exacerbates visual limitations and ergonomic strains	• E-version mitigates visual limitations and is ergonomic
	🎓 **Reading Level**	• Challenging relative to reader's capability	• Less challenging relative to reader's capability
Reader Objectives	🎓 **Learning Goal**	• Deep	• Surface or Strategic
	🎓 **Task Importance**	• High stakes; requires best effort	• Lower priority or leisure
Access	🌐 🏛 **Cost**	• Print version costs less • Printing services are expensive	• Electronic version costs less • Printing services are inexpensive
	🌐 🏛 **Convenience**	• Print more portable, network connectivity scarce • Close proximity to print versions/libraries/stores • Task time is less constrained	• Network connectivity abundant • Device access/ownership prevalent • Task time is more constrained

← GREATER PRINT PREFERENCE   GREATER DIGITAL PREFERENCE →

Factors can be influenced by...

💻 Interface designers & engineers

🎓 Educators in the classroom

🏛 Institutional policy or practice

Selected References

Baron, N. S., Calixte, R. M., & Havewala, M. (2017). The persistence of print among university students: An exploratory study. *Telematics and Informatics*, *34*(5). https://doi.org/10.1016/j.tele.2016.11.008

Presents quantitative and qualitative data on format preferences and identifies the role of cost and convenience in determining reader choice and behavior.

Mangen, A., Olivier, G., & Velay, J.-L. (2019). Comparing Comprehension of a Long Text Read in Print Book and on Kindle: Where in the Text and When in the Story? *Frontiers in Psychology*, *10*(February). https://doi.org/10.3389/fpsyg.2019.00038

Addresses haptic and cognitive-mapping influences on learning and information retention when reading across formats.

Mizrachi, D., Salaz, A. M., Kurbanoglu, S., & Boustany, J. (2018). Academic reading format preferences and behaviors among university students worldwide: A comparative survey analysis. *PLoS ONE*, *13*(5). https://doi.org/10.1371/journal.pone.0197444

Establishes firm preference for print among tertiary learners worldwide as well as perception of better focus and retention of information in print contexts.

Singer, L. M., & Alexander, P. A. (2017). Reading on paper and digitally: What the past decades of empirical research reveal. *Review of Educational Research*, 0034654317722961. Retrieved from https://doi.org/doi.org/10.3102/0034654317722961

Summarizes evidence showing disparate outcomes from studies of reading comprehension in print and digital formats in different circumstances.

Wästlund, E., & Göteborgs universitet. Psykologiska institutionen. Experimental studies of human-computer interaction : working memory and mental workload in complex cognition (2007). Department of Psychology, Gothenburg University. Retrieved from https://gupea.ub.gu.se/handle/2077/4693

Presents experimental data on the negative impact of interface features such as screen-based scrolling on cognition and learning.