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Reading Experiences, Digital Literacy, and Electronic Textbooks

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READING EXPERIENCES, DIGITAL LITERACY, AND ETEXTBOOKS
a research study by Chelsie Messenger

KEY TERMS
Reading experience is a combination of non-linguistic (behavioral setting, attractiveness, and environment) and linguistic (conventions, sense of closure, and author control) that is observed by readers' background and that influences the way a reader approaches and understands a text (Forsythe et al.).

Digital literacy is the ability to cope with computer-based tasks, to read and use electronic information, to use technological tools or programs, and to solve problems using such resources (Gee, 2008).

Etextbook is an electronic version of print textbooks that share the same structure and format of print text but that may include digital enhancements and are navigable, searchable, linked, backward and forward-linked, hyperlinked, etc. (Hoyt et al., 2010).

Procedural knowledge is the second tier of reading involving classifications and categorization, principles and generalizations, theories, models, and useful algorithms (Paivio, 1971).

Conceptual knowledge is the first tier of learning involving knowledge of subject-specific skills and algorithms, techniques, and methods, criteria for using appropriate procedures (Paivio et al.).

RESEARCH QUESTIONS
1. Do first-year composition students perform better on conceptual and procedural tasks using print textbooks, electronic textbooks, or websites?
2. What factors seem to be influencing whichever text is more effective? electronic textbooks, or websites?
3. Where are there difficulties in using whichever text is more effective?
4. What implications do these factors have for the design of multimedia, educational tests?

STUDY DESIGN
Quasi-Experiment was used to collect quantitative data from 30 participants who had taken the pre-test and who were randomly student into 3 groups: the etextbook group, the print textbook group, and the website group.

Think-Aloud was used to collect qualitative data from 41 participants who had taken the pre-test and who were randomly student into 3 groups: the etextbook group, the print textbook group, and the website group.

FINDING 1
Participants performed better on the procedural tasks with the print textbook because their familiarity with the print reading experience helped them easily navigate the print textbook.

FINDING 2
Participants performed more efficiently on the conceptual level next with the website because their familiarity with digital reading experiences of websites. The participants felt very familiar and satisfied with the digital reading experience of websites. Based on the post-test scores and the average time using each tool, the participants were also likely to use websites more efficiently than the etextbook.

FINDING 3
The participants disliked the etextbook because they associated it with the reading experience of websites, not the reading experience of print textbooks.

"The etextbook was the hardest to navigate out of the three, it was the most difficult to follow and find what you were looking for."-Elsabeth

"I think compared to the [website] the website was easier to use. It's easier to just click on something when you're online, and I'm usually one of those people who would rather read a book when your holding it than read online."-Emma

"You should be able to see sections and paragraphs of the same item, and break it up into different pages. I would much rather read a book as well, or something you can physically flip through. It's hard to read because of stuff getting lost."-Gabe

"The etextbook was the easiest to use out of the three. I have trouble navigating websites in general, so this was much better for me."-Wendy

"It might be psychological, but having the physical book in your hands and being able to flip through it gives you a choice, for me, just better."-Sam

"I just think books should be books in a hard copy, like a book. Stick with books in print!"-Noora

"Usually I just use whatever's online. I could just Google 'where do you find this thing.'"-Melanie

"I would use EasyB 100% of the time."-Christine

"I don't mind using websites, but etextbooks are different. I don't think I would use my time trying to navigate though the text, I would've looked back at EasyB."-Will

"I would use EasyB 100% of the time."-Christine

"I use Google where do you find this thing."-Melanie

"I would use EasyB 100% of the time."-Christine

"I don't mind using websites, but etextbooks are different. I don't think I would use my time trying to navigate through the text, I would've looked back at EasyB."-Will

When you clicked a certain heading, it wouldn't take you directly to the information you needed. This made it hard to use the next page. I never think to scroll forward."-Fur

"The page didn't have the information I needed because it was facing up on the previous section. I could see that confusing me."-Will

"EasyB is set up easier for me to understand because it is a website, cut on an online textbook. Like I said, my generation is a generation that grew up on computers as well as textbooks. We're a kind of happy medium. I understand the website, I don't understand the textbooks, but I understand the website. And it makes me think of learning is easier because nothing is different or new."-Dale

PASSAGE 1
When a study was conducted to see whether print or digital texts were used in middle school grades, the results showed that students preferred print-based texts. The study was conducted using a randomized controlled trial, with students randomly assigned to either the print condition or the digital condition. The print textbooks were printed versions of the digital textbooks, with the only difference being that the digital textbooks were displayed on a computer screen. The students were asked to complete a series of reading tasks, including reading comprehension, vocabulary acquisition, and fluency. The results showed that the students in the print condition performed better on all three tasks, indicating that they had a better reading experience with print-based texts. The study also found that the students in the print condition reported higher levels of engagement and enjoyment while reading, which may have contributed to their better performance. Overall, the study suggests that print-based texts may be more effective for middle school students than digital texts, at least in terms of reading comprehension and fluency. However, further research is needed to determine whether print-based texts are always more effective than digital texts, as the effectiveness of these two types of texts may depend on factors such as the content of the text, the reading level of the students, and the quality of the digital textbooks.