

InterActive Reading: Understanding Strategies Learners Use to Study Multimedia Content in Tablet-Based Textbooks

Jennifer Palilonis & Davide Bolchini

Department of Human-Computer Interaction, IU School of Informatics, IUPUI

Active reading of educational textbooks is a complex meta-cognitive process. The traditional framework for active reading is conceptualized as the combination of three types of actions: *annotation* (e.g. highlighting and note taking), *reorganization* (e.g. outlining and summarizing) and *browsing* (e.g. studying annotations and outlines to prepare for future recall). However, as the traditional textbook paradigm evolves to include interactive, multimedia tablet-based products, dramatic changes are on the horizon for the ways in which educational content is delivered and consumed. Tablet devices allow textbook authors, publishers and developers to integrate multimedia content, such as video, audio, animations and interactive visualizations, with traditional expository text, designed as a browse-able book. However, existing tablet devices (i.e., iPad; Kindle Fire) only offer tools that support traditional active reading learning for text-based content. This research project reports findings of an exploratory qualitative study that examines what new active reading strategies emerge when learners engage with tablet-based multimedia textbooks. Participants were presented with one of two tablet textbooks developed using Apple's iBook Author. The texts included a number of content forms, including traditional expository text, videos & animations, clickable keywords, image galleries, and interactive information graphics. Concept mapping tests were conducted to determine what students learned during their tablet study sessions, and semi-structured interviews were conducted to determine how easy or difficult it was for participants to actively study videos and animations. Early results suggest that the active learning tools developed for the tablet—namely, highlighting and bookmarking—are not sufficient for multimedia content and new tools must be developed to better support such activities. Future research and development are discussed.

Mentors: Mark Pfaff, Department of Media Arts & Sciences, School of Informatics, IUPUI; Joseph Defazio, Department of Media Arts & Sciences, School of Informatics, IUPUI; Darrell Butler, Department of Psychological Science, College of Sciences & Humanities, Ball State University