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Study on Eye tracking technique: Do different media influence reading comprehension?

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ABSTRACT

Digital reading has become one of the main popular ways of reading. People seem to be more increasingly willing to read on the screen than on paper. While digital reading triggers a lot of questions in our society, one of the dominant opinion is that digital reading will lead to *shallow reading*, which means that reading will lose its original depth as a result of the fragmentation derived of the digital reading dimension, but this assumption lacks empirical evidence. In this paper we have used eye tracking techniques to make a comparison between the results obtained by digital reading and the results obtained by paper reading, which aims at finding similarities and differences to provide people a better choice of different reading media. Participants were two groups of students: the first group read a text in the paper and the second group read the same text in the screen. The Eye Tracker records the visual results in both groups. After reading, all participants answered the same comprehension questionnaire. Experimental data show that there are significant differences on hot spot area between screen reading and paper reading, as there are more hot spot areas in paper reading than in digital reading process. On the other hand there is no significant difference in gazing time as, although different people's gazing time may vary, gazing time doesn't change with different reading media. It is also evident that there is significant difference in the number of fixation times, as there is more fixation time in digital reading than in paper reading. The most important result is that there is no significant difference in reading comprehension rate, which means different media don't determine the comprehension of the text. In conclusion, these results show that the visual attention dispensed in paper and in digital reading is different, although the cognitive process of understanding the text is not affected by the reading media.