Metacognitive regulation of reading a scientific text with digital devices (the case of students performing educational tasks)*

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The wide integration of digital technologies into the educational process actualizes the problem of assimilation of knowledge obtained using various technical devices, as well as effective ways of metacognitive regulation in this process.

The purpose of the study: This study aims to identify the ways of the metacognitive regulation during reading a scientific text with digital devices (using the example of students performing educational tasks).

Methods and sample

The experiment involved **45 students aged 18-21**.

Students read a scientific article from paper, as well as from a smartphone or computer screen.

Eyetracking technology provides the data about the time for working with the text, the number of fixations and their average duration. In addition, students completed a questionnaire describing their metacognitive regulation while engaging with the text.

Results

The time for working with the text, the number of fixations and their average duration among the three experimental groups are positively correlated with the awareness of difficulties in the reading process and efforts to overcome them ($0.48 \leq rs \leq 0.65$). At the same time, students who worked with a smartphone more likely reported about the regulation of difficulties with memory and attention, and those who worked with a computer screen and paper reported about the regulation of difficulties related to understanding the meaning of the text.

Conclusion

Students use different strategies of metacognitive regulation when reading scientific texts using different digital devices.

This conclusion underscores the need for a differentiated investigation into the assimilation of information presented across different mediums: paper, computer screens, and smartphones.

Thank you for watching!

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