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The social brain goes to school

Eye movements, instructional design and the classroom effect

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2016

Document Version:

Publisher's PDF, also known as Version of record

[Link to publication](#)

Citation for published version (APA):

Oliva, M., Niehorster, D. C., Wallin, A., Balkenius, C., Holmqvist, K., & Jarodzka, H. (2016). *The social brain goes to school: Eye movements, instructional design and the classroom effect*. Abstract from The Scandinavian Workshop on Applied Eye Tracking 2016, Turku, Finland.

Total number of authors:

6

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P8 - The social brain goes to school: Eye movements, instructional design and the classroom effect

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Introduction

Imagine writing an exam in a large hall where row after row of other students take the same test. You hardly look at each other, let alone talk, but you are likely to think about their progress compared to your own, and you experience how their presence affects your thoughts and actions. Previous research have shown that social presence sometimes facilitate and sometimes inhibit task performance (Bond & Titus, 1986). This dynamic is known in psychology as social facilitation/inhibition. Although theories behind this type of social influence are still under debate, recent evidence suggest that social presence can focus individual's attention (i.e., individuals focus on cues that are more central to the task). Attentional processes have also been described as important in the learning process (e.g., Sweller, 1994). Since attentional resources are limited, a focusing of attention may help reduce extrinsic cognitive load. Therefore, we hypothesize that social presence has a facilitating effect on learning performances when task demands are moderate.

Methods

Students from Lund University conducted two learning tasks about two different topics. The learning material consisted of multimedia material (text and picture). Data was recorded in a digital classroom equipped with multiple remote eye-trackers. Participants in the group condition (N = 130) completed the experiment in group sessions, although working individually. Participants in the solitary condition (N = 98) were also recorded in the digital classroom.

Results

Free Recall. Participants in the group condition obtained higher scores compared to the solitary condition, but none of such differences reached significance levels ($F(1, 216) = 0.82, p = 0.36$). Transfer Test. In the transfer test, participants in the group condition obtained significantly higher scores than participants in the solitary condition ($F(1, 230) = 4.34, p < 0.05$).

Discussion

The results show that the social environment can significantly affect learning performances. Although social presence can increase distraction, our results suggest that social presence can also facilitate learning performances. The results are discussed in terms of the visual attention deployed over the material as measured by eye movement analysis.