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ter Beek, Marlies; Brummer, Leonie; Donker-Bergstra, Anouk; Opdenakker, Marie-christine

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# Supportive hints in a digital learning environment: Effects on students' motivation

Contact: m.ter.beek@rug.nl



M. ter Beek, L. Brummer, A. Donker & M.-C. Opdenakker  
Groningen Institute for Educational Research (GION), The Netherlands



## Introduction

Students' motivation has an important influence on reading achievement. However, students need to recognize the task value or decrease the perceived difficulty of a task in order to be motivated to read a text.<sup>1</sup> Reading motivation is a problem many content area teachers face when instructing their secondary students.

Incorporating cognitive, metacognitive and motivational support during instruction increases students' motivation towards learning from text.<sup>2</sup> Students were offered these three types of support using hints in a digital learning environment (DLE) while they read informative texts for geography and history classes.

## Research question

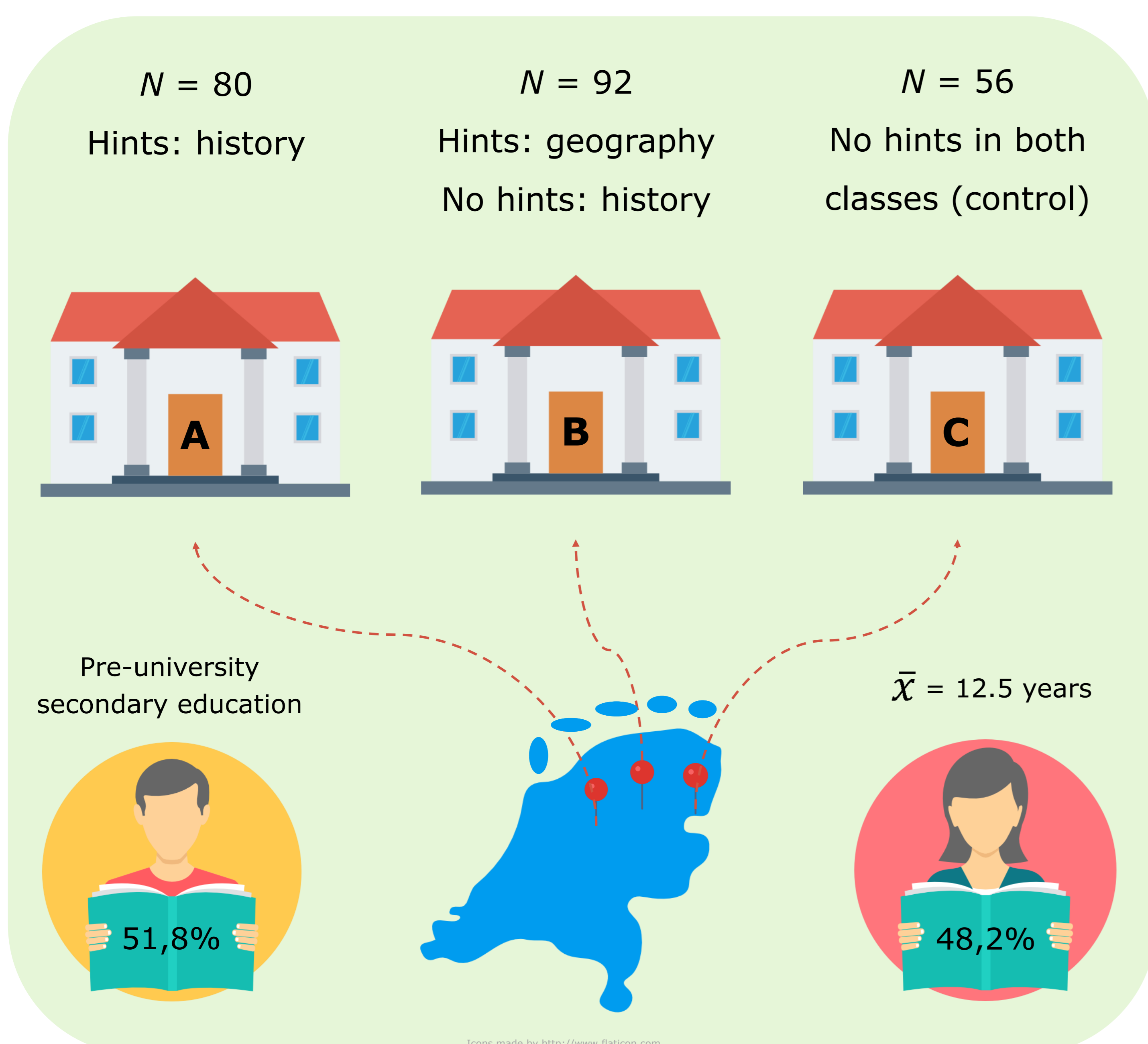
What is the effect of supportive hints in a digital learning environment on secondary students' motivation in geography and history classes?



## Method

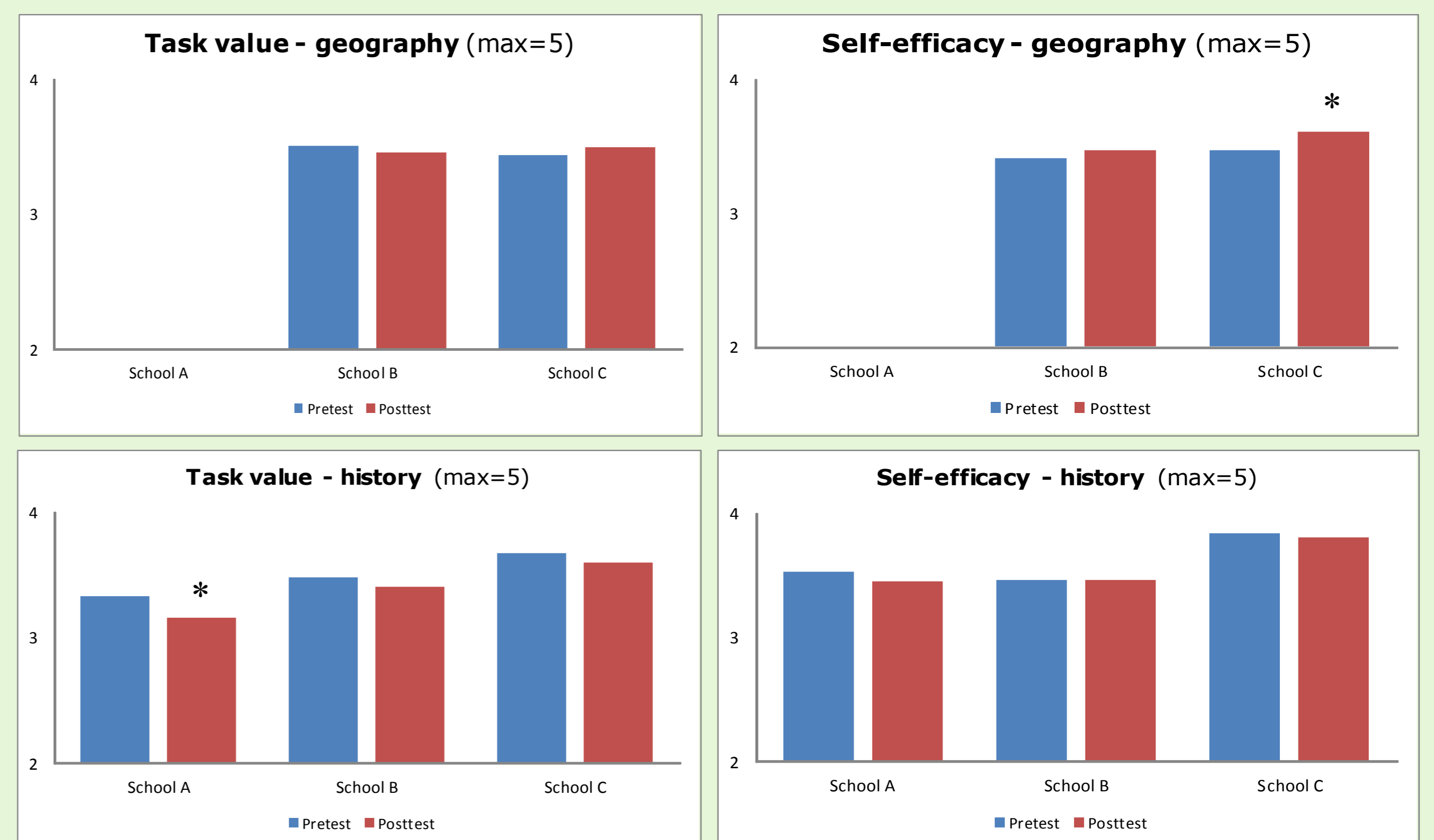
Four geography teachers and six history teachers implemented the use of the DLE in their first grade secondary school classes. During a six-week intervention period, students ( $N = 228$ ,  $M_{age} = 12,5$  years) weekly read one text for each class in the DLE. Both experimental groups (A & B) were able to use hints in either geography or history texts. The control group (C) was unable to use hints.

This research uses a pretest-posttest design. Two components of motivation are measured with the MSLQ: task value (e.g., *Is this course useful to me?*) and self-efficacy (e.g., *Am I good at this?*)<sup>3</sup> Student data was analyzed using ANOVA, GLM and paired samples  $t$ -tests.



## Results

For geography, the difference between self-efficacy pretest ( $M = 3.47$ ,  $SD = .46$ ) and posttest ( $M = 3.61$ ,  $SD = .48$ ) scores of school C is significant;  $t(38) = -2.08$ ,  $p = .044$ .



For history, the difference between task value pretest ( $M = 3.33$ ,  $SD = .70$ ) and posttest ( $M = 3.15$ ,  $SD = .63$ ) scores of school A is significant;  $t(77) = 2.83$ ,  $p = .006$ .

## Conclusion & discussion

The results presented here are not in line with previous research on the effects of reading strategy instruction on students' motivation:



\* Self-efficacy *increased* significantly in the control group (geography; no hints available).



\* Task value *decreased* significantly in the experimental group (history; hints available).

Currently no motivational hints were offered. Adding motivational hints to the DLE may elicit positive effects on students' motivation.

## Recommendations for practice

Student evaluations revealed that students enjoyed working with the DLE. However, in order to keep students motivated to learn, a DLE with supportive hints should be used in addition to regular classes, not as a continuous replacement hereof.

## References

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