

University of Groningen

Supportive hints in a digital learning environment

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

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

2017

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

ter Beek, M., Brummer, L., Donker-Bergstra, A., & Opdenakker, M. (2017). *Supportive hints in a digital learning environment: Effects on students' motivation*. Poster session presented at JURE 2017, Tampere, Finland.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

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.¹ 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.² 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

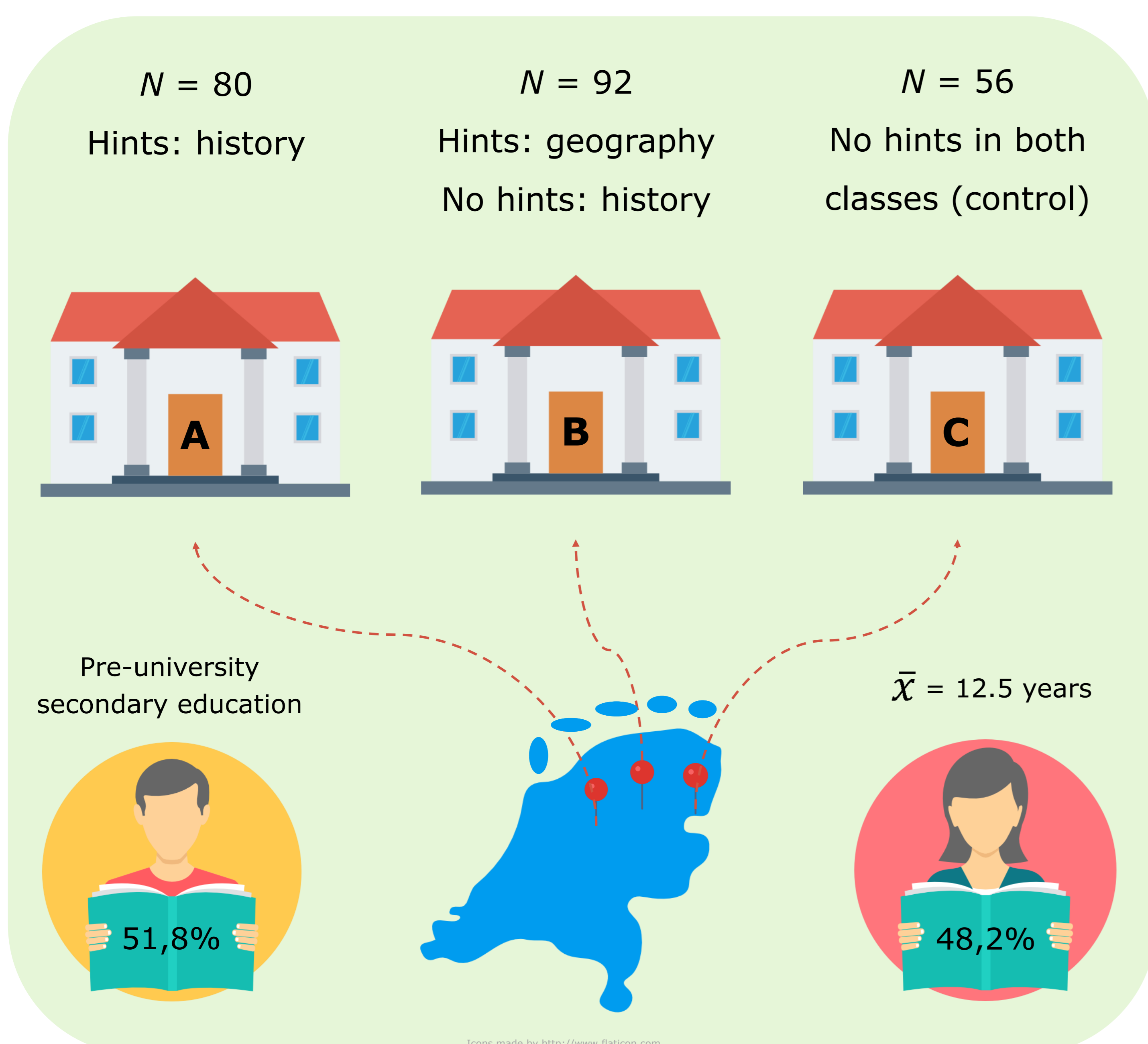
What is the effect of supportive hints in a digital learning environment on secondary students' motivation in geography and history classes?



Method

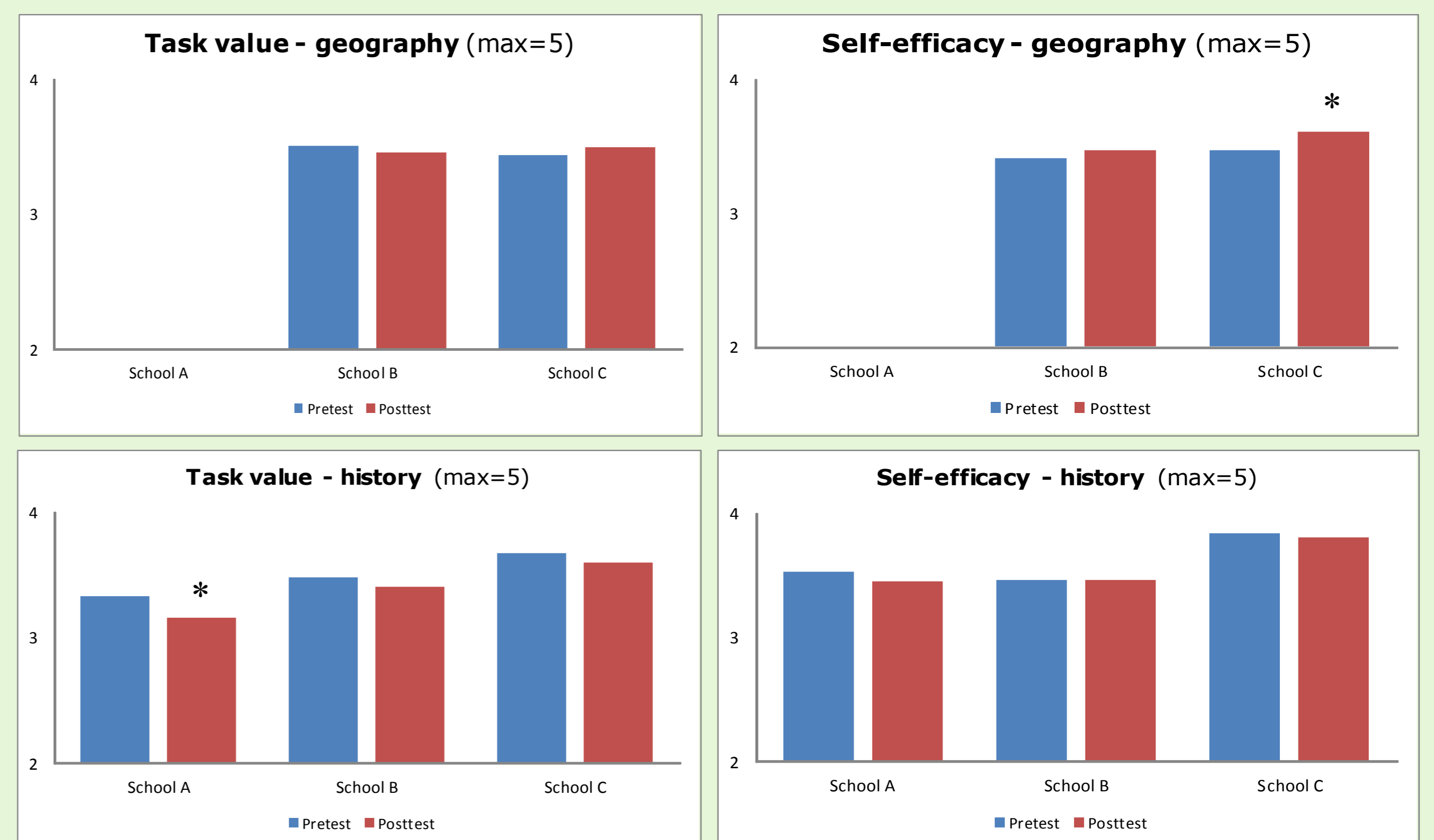
Four geography teachers and six history teachers implemented the use of the DLE in their first grade secondary school classes. During a six-week intervention period, students ($N = 228$, $M_{age} = 12,5$ years) weekly read one text for each class in the DLE. Both experimental groups (A & B) were able 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?*)³ 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

- Guthrie, J. T., Klauda, S. L., & Ho, A. N. (2013). Modeling the relationships among reading instruction, motivation, engagement, and achievement for adolescents. *Reading Research Quarterly* 48(1), 9-26.
- Souvignier, E., & Mkhlesgerami, J. (2006). Using self-regulation as a framework for implementing strategy instruction to foster reading comprehension. *Learning and Instruction*, 16(1), 57-71.
- Pintrich, P. R., Smith, D. A. F., García, T., & McKeachie, W. J. (1991). *A manual for the use of the motivated strategies for learning questionnaire (MSLQ)*. Ann Arbor, MI: University of Michigan, National Center for Research to Improve Postsecondary Teaching and Learning.

This work is part of the research programme 'Innovation in education through research' (NRO-PPO) with project number 405-15-551, which is financed by the NWO.

