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Article *in* Review of Education · February 2021

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Review of Education
Vol. ●●, No. ●●, ●● 2020, pp. ●●–●●

DOI: 10.1002/rev3.3230

Context and Implications Document for: Does the ARCS motivational model affect students' achievement and motivation? A meta-analysis

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This guide accompanies the following article: Goksu, I. & Bolat, Y. I. (2020). Does the ARCS motivational model affect students' achievement and motivation? A meta-analysis, *Review of Education*, https://doi.org/10.1002/rev3.3231.

Author's Introduction

Motivation can be a powerful influencing factor on students' efforts in a given activity and their perseverance in completing the activity. The ARCS (attention, relevance, confidence, satisfaction) model of motivation was developed by John Keller in 1979 to find effective and systematic ways to understand the effects of ARCS on students' learning motivation.

This paper is an attempt to synthesise the results of experimental research to determine the effects of the ARCS model on student academic achievement and motivation. The meta-analysis focuses on seven research questions: (1) What is the overall effect of the ARCS model on students' academic achievement? (1.1) How does the effect on academic achievement differ according to the learning environment and the field of discipline? (1.2) How does the effect on academic achievement differ according to the educational level and sample size? (2) What is the overall effect of the ARCS model on students' motivation? (2.1) How does the effect on motivation differ according to the learning environment and the field of discipline? (2.2) How does the effect on motivation differ according to the educational level and sample size? (2.3) What is the overall effect of the ARCS model on attention, relevance, confidence, and satisfaction?

Implications for Practice

- There is some evidence that teachers' integration of the ARCS model into learning environments could improve students' academic achievement and, to a lesser extent their motivation.

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- The ARCS model also has the potential to contribute to the acquisition of both computer technologies and mathematical skills.
- While there is evidence that ARCS may have a positive effect on attainment and motivation, this should be interpreted with caution as the effect sizes calculated were an amalgamation of effects from the primary studies, averaging the effects of high quality and low quality studies.
- We therefore recommend the replication of the meta-analysis taking into account the quality of studies to see if similar results might be achieved.

Author Recommends

Hao, K.-C., & Lee, L.-C. (2019). The development and evaluation of an educational game integrating augmented reality, ARCS model, and types of games for English experiment learning: an analysis of learning. *Interactive Learning Environments*, https://doi.org/10.1080/10494820.2019.1619590

Julià, C., & Antolí, J. Ò. (2019). Impact of implementing a long-term STEM-based active learning course on students' motivation. *International Journal of Technology and Design Education*, *29*(2), 303–327. https://doi.org/10.1007/s10798-018-9441-8

Keller, J. M. (1987). Development and use of the ARCS model of instructional design. *Journal of Instructional Development*, *10*(3), 2–10. https://doi.org/10.1007/BF02905780

Keller, J. M. (1999). Using the ARCS motivational process in computer-based instruction and distance education. *New Directions for Teaching and Learning*, *78*, 37–47. https://doi.org/10.1002/tl.7804

Li, K., & Keller, J. M. (2018). Use of the ARCS model in education: A literature review. *Computers & Education*, *122*, 54–62. https://doi.org/10.1016/J.COMPEDU.2018.03.019

Means, T. B., Jonassen, D. H., & Dwyer, F. M. (1997). Enhancing relevance: Embedded ARCS strategies vs. purpose. *Educational Technology Research and Development, 45*(1), 5–17.

Woo, J.-C. (2014). Digital game-based learning supports student motivation, cognitive success, and performance outcomes. *Educational Technology & Society*, *17*(3), 291–307.

Useful Links

- The ARCS book. https://www.arcsmodel.com/
- Interview with John M. Keller: The beautiful mind behind the ARCS model of motivation. https://www.youtube.com/embed/VSEAOtX8e04
- An evaluation tool and more for instructional designers. https://extension.purdue.edu/4h/Documents/Handout.pdf
- Instructional design models and theories: Keller's ARCS Model of Motivation (with text-to-speech). https://elearningindustry.com/arcs-model-of-motivation
- Meta-analysis reporting standards. https://wmich.edu/sites/default/files/attachments/u58/2015/MARS.pdf