

Additional Supplemental Material

The data reported in this manuscript have not been previously published. However, the data is part of a larger data set with overall up to 400 participants from 15 classes that was obtained in a multidisciplinary project. As a consequence, the overall analyses will involve more than just the variables reported in the present paper. In order to provide an overview of the overall dataset, we listed all variables that were part of the data collection in the table below:

Variable	Number/type of items	Time of data collection
Reading comprehension (LGVT 6-12)* (Schneider, W., Schlagmüller, M., & Ennemoser, M. [2007] <i>Lesegeschwindigkeits- und verständnistest für die Klassenstufen 6-12 [LGVT 6-12] [Reading speed and comprehension test for grades 6-12].</i> Göttingen: Hogrefe.)	Standardized test with text and words in brackets	prior to learning
Domain-specific academic self-concept*	5 items, rated on a 4-point Likert scale	prior to learning
Domain-specific interest*	5 items, rated on a 4-point Likert scale	prior to learning
Domain-specific prior knowledge**	15 verification items	prior to learning
Knowledge test**	15 verification items, 29 multiple-choice items, 8 drawing items	post learning
Mental effort**, concentration, interest, comprehension, difficulties related to the overall learning material	9 items, rated on a 9-point Likert scale	post learning
Difficulty of text-picture integration	1 item, rated on a 9-point Likert scale	post learning

SIGNALING IN MULTIMEDIA LEARNING: THE INFLUENCE OF PRIOR KNOWLEDGE

Comprehension related to the <i>text</i> included in learning material	2 items, rated on a 9-point Likert scale	post learning
Comprehension and motivation, related to the <i>visualizations</i> included in learning material	5 items, rated on a 9-point Likert scale	post learning
Mental effort related to learning tasks	2 items, rated on a 9-point Likert scale	post learning
Adapted System Usability Scale, SUS (Brooke, J. [1996]. SUS: A “quick and dirty” usability scale. In P. W. Jordan, B. Thomas, B. A. Weerdmeester, & I. L. McClelland [Eds.], <i>Usability evaluation in industry</i> [pp. 189–194]. London, UK: Taylor & Francis.)	10 items, rated on a 5-point Likert scale	post learning
Log file data (e.g., frequency and duration of viewing different types of information units, use of interactive elements)	n/a	during learning
Quality of responses to interactive learning tasks and monitoring questions, quantity / quality of summaries	n/a	during learning
Delayed knowledge test (same as knowledge test)	15 verification items, 29 multiple-choice items, 8 drawing items	6 to 10 weeks after post knowledge test

Note:

* Variable used in the current manuscript to ensure comparability of experimental conditions; no effects on dependent measures are reported.

** Variable used in the attached manuscript as moderator or dependent measure.