

School/Department:	<i>Erasmus School of Behavioral Sciences (ESSB), Department of Psychology, Education and Child Studies (DPECS)</i>
Project Title:	ErasmusX: Creating new applications of educational technology to take social challenges as a context for education
Abstract:	<p>A myriad of universities has kickstarted innovation departments in a mission to redefine what a university is and what it should look like in the future. Known for its excellent research and academic education in a dynamic and international context, the EUR wants “to create a positive impact on societal challenges”. Embedded in a tradition of integrating research and education into impactful partnerships, both nationally and internationally, EUR has voiced the ambition to become a leading societal relevant educational institute in a diverse, technology driven society. Key to its ambitions to improve the quality of education, with a strong focus on student success, EUR will make room for exploration and innovation in a new innovation space: ErasmusX. ErasmusX’s focus is aimed at making use of social challenges as the context within which new didactical models are experimented with. Innovative research can be conducted in the following areas:</p> <ul style="list-style-type: none"> • Student involvement in shaping their own education; Future proof in co-creation with a focus on student agency, personal learning routes, new ways to construct new knowledge and knowledge valorization. • With the help of experimenting with new applications of educational technology; Use of new educational technology as a means to support new didactic concepts and knowledge transfer and challenge students to find solutions to challenging problems • Aligned with the university's ambition to create impact by taking social challenges as a context for relevant education; (Interdisciplinary) contextual learning in a multi-stakeholder setting and development of new didactical concepts with societal issue as a central focus point.
Requirements of candidate:	<p>Background: As such, we look for candidates with background in either educational psychology, cognitive psychology, and educational technology.</p> <p>Master’s degree: Yes</p> <p>EUR requirement: IELTS: 7.5 (min. 6.0 for all subs.) Or TOEFL: 100 (min. 20 for all subs.)</p>

<p>Supervisor information:</p>	<p><i>Prof. dr. Fred Paas will be the promotor and main supervisor of this project</i></p> <p>Promotor <i>Prof. Dr. Fred Paas</i> <i>Email address: paas@essb.eur.nl</i></p> <p>Fred Paas is a Professor of Educational Psychology at Erasmus University Rotterdam in the Netherlands and a Visiting Professorial Fellow at the University of Wollongong in Australia. His main research interest is in using knowledge about the human cognitive and motor system in the design of instruction for complex learning environments. He has (co-) authored over 300 publications in (S)SCI listed journals, which been cited over 36.000 times.</p> <p>https://www.eur.nl/people/fred-paas</p> <p><i>Selected publications 2020</i></p> <ol style="list-style-type: none"> 1. Ayres, P., Castro-Alonso, J. C., Wong, M., Marcus, N., & Paas, F. (2020). Factors that impact on the effectiveness of instructional animations. In S. Tindall-Ford, S. Agostinho, & J. Sweller (Eds.), <i>Advances in cognitive load theory: Rethinking teaching</i> (pp. 180-193). London: Routledge. 2. Baars, M., Wijnia, L., De Bruin, A., & Paas, F. (2020). The relation between student's effort and monitoring judgments during learning: A meta-analysis. <i>Educational Psychology Review</i>. 3. Baars, M., Wijnia, L., De Bruin, A., & Paas, F. (2020). Sharing the load: A strategy to improve self-regulated learning. D. Dinsmore, L. Fryer, & M. Parkinson, <i>Handbook of strategies and strategic processing</i>. (pp. 234-247). New York: Routledge 4. Castro-Alonso, J. C., Ayres, P., Wong, M., & Paas, F. (2020). Visuospatial tests and multimedia learning: The importance of employing relevant instruments. In S. Tindall-Ford, S. Agostinho, & J. Sweller (Eds.), <i>Advances in cognitive load theory: Rethinking teaching</i> (pp. 89-100). London: Routledge. 5. De Koning, B., Rop. G., & Paas, F. (2020). Learning from split-attention materials: Evidence for a mental self-managed integration effect. <i>Computers in Human Behavior</i>, 110, 106379. 6. De Koning, B., Rop. G., & Paas, F. (2020). The self-management effect in learning from split-attention materials: Mental versus physical integration. <i>Contemporary Educational Psychology</i>, 61, 101873. 7. Duchi, L., Lombardi, D., Paas, F., & Loyens, S. (2020). How a growth mindset can change the climate: The power of implicit beliefs in influencing people's thoughts and actions. <i>Journal of Environmental Psychology</i>, 70, 101461. 8. Eielts, C., Pouw, W., Ouweland, K, Van Gog, T., Zwaan, R., & Paas, F. (2020). Co-thought gesturing supports more complex problem solving in subjects with lower visual working-memory capacity. <i>Psychological Research</i>, 84, 502-513. 9. Es-Sajjade, A., & Paas, F. (in press). Educational theories and computer game design: Lessons from an experiment in elementary mathematics education. <i>Educational Technology Research and Development</i>. 10. Leppink, J., Paas, F., Van Gog, T., & Van Merriënboer, J. J. G. (2020). How to measure effects of self-regulated learning with checklists on the acquisition of task selection skills. In S. Tindall-Ford, S. Agostinho, & J. Sweller (Eds.), <i>Advances in cognitive load theory: Rethinking teaching</i> (pp.

	<p>66-79). London: Routledge.</p> <ol style="list-style-type: none"> 11. Liu, T. C., Lin, Y. C., Hsu, C. Y., & Paas, F. (in press). Learning from animations and computer simulations: Modality and reverse modality effects. <i>British Journal of Educational Technology</i>. 12. Mavilidi, M., Ouwehand, K., Okely, A. D., Chandler, P., & Paas, F. (2020). Embodying learning through physical activity and gestures in preschool children. In S. Tindall-Ford, S. Agostinho, & J. Sweller (Eds.), <i>Advances in cognitive load theory: Rethinking teaching</i> (pp.103-118). London: Routledge. 13. Mavilidi, M., Ouwehand, K., Riley, N., Chandler, P., & Paas, F. (2020). The effects of an acute physical activity break on test anxiety and math test performance. <i>International Journal of Environmental Research and Public Health</i>, 17: 1523. 14. Nazlieva, N., Mavilidi, M. F., Baars, M., & Paas, F. (2020). Establishing the scientific consensus on cognitive benefits of physical activity. <i>International Journal of Environmental Research and Public Health</i>, 17, 29. 15. Paas, F., & Sweller, J. (in press). Implications of cognitive load theory for multimedia learning. In R. Mayer & L. Fiorella (Eds.), <i>The Cambridge handbook of multimedia learning 2nd edition</i>. New York: Cambridge University Press. 16. Paas, F., & Van Merriënboer, J. J. G. (2020). Cognitive load theory: Methods to manage cognitive load in the learning of complex tasks. <i>Current Directions in Psychological Science</i>, 29, 394-398. 17. Pouw, W., Wassenburg, S., Hostetter, A. B., De Koning, B. B., & Paas, F. (2020). Does gesture strengthen sensorimotor knowledge of objects? The case of the size-weight illusion. <i>Psychological Research</i>, 84, 966-980. 18. Sepp, S., Howard, S., Tindall-Ford, S., Agostinho, S., & Paas, F. (in press). Working memory: Models and applications. <i>Oxford Research Encyclopedia of Educational Psychology</i>. 19. Sepp, S., Agostinho, S., Tindall-Ford, S., & Paas, F. (2020). Gesture-based learning with ICT: Recent developments, opportunities and considerations. In S. Tindall-Ford, S. Agostinho, & J. Sweller (Eds.), <i>Advances in cognitive load theory: Rethinking teaching</i> (pp. 130-141). London: Routledge. 20. Van Brussel, S., Verkoeijen, P., Timmermans, M., & Paas, F. (2020). "Consider the opposite" – Effects of elaborative feedback and correct answer feedback on reducing confirmation bias – a pre-registered study. <i>Contemporary Educational Psychology</i>, 61, 101844. 21. Weijers, R., De Koning, B. B., & Paas, F. (in press). Nudging in education: towards successful and responsible implication. <i>European Journal of Psychology of Education</i>. 22. Wong, M., Castro-Alonso, J. C., Ayres, P., & Paas, F. (2020). The effects of transient information and element interactivity on learning from instructional animations. In S. Tindall-Ford, S. Agostinho, & J. Sweller (Eds.), <i>Advances in cognitive load theory: Rethinking teaching</i> (pp. 80-88). New York: Routledge. 23. Xu, M. K., Koorn, P., De Koning, B., Skuballa, I., Lin, L., Henderikx, M., H. W. Marsh, Sweller, J., & Paas, F. (in press). A growth mindset leads to reduced cognitive load and improved learning: Integrating motivation and cognitive load theory. <i>Journal of Educational Psychology</i>. 24. Zhang, S., De Koning, B. B., Agostinho, S., Tindall-Ford, S., Chandler, P., & Paas, F. (in press). The cognitive load self-management principle. In R. Mayer & L. Fiorella (Eds.), <i>The Cambridge handbook of multimedia learning 2nd edition</i>. New York: Cambridge University Press.
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