

## ANNEXE A : Bibliography of Research Supporting the SYNAPSE™ Learning Framework

1. Ainley , M., & Ainley , J. (2011). Student engagement with science in early adolescence: The contribution of enjoyment to students' continuing interest in learning about science.
2. Aleven, V., McLaughlin, E. A., Glenn, R., & Koedinger, K. R. (2016). Instruction based on adaptive learning technologies. In R. E. Mayer & P. A. Alexander (Eds.), *Handbook of research on learning and instruction* (pp. 522–560). Routledge.  
<https://doi.org/10.4324/9780203839089>
3. Akgun, S., & Greenhow, C. (2021). Artificial intelligence in education: Addressing ethical challenges in K-12 settings. *AI and Ethics*, 2(3), 431–440.
4. Alfredo, R., Echeverria, V., Jin, Y., Yan, L., Swiecki, Z., Gašević, D., & Martinez-Maldonado, R. (2024). Human-centred learning analytics and AI in education: A systematic literature review. *Computers and Education: Artificial Intelligence*, 100215. Elsevier.
5. American Psychological Association. (2022). Attention spans in the digital age. Speaking of Psychology Podcast. Retrieved from
6. Atkinson, R. C., & Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. In K. W. Spence & J. T. Spence (Eds.), *The psychology of learning and motivation* (Vol. 2, pp. 89–195). Academic Press.
7. Ausubel, D. P. (1960). *The use of advance organizers in the learning and retention of meaningful verbal material*. *Journal of Educational Psychology*, 51(5), 267–272. (ACTIVATION COGNITIVE)
8. Awad, P., & Oueida, S. (2024). The potential impact of artificial intelligence on education: Opportunities and challenges. In Future of Information and Communication Conference (pp. 566-575). Springer.
9. Baddeley, A. (2000). The episodic buffer: A new component of working memory? *Trends in Cognitive Sciences*, 4 (11), 417-423.
10. Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice-Hall.
11. Bandura, A. (1997). Self-efficacy: The exercise of control. Freeman.
12. Bangert , M., & Schlaug , G. (2006). Specialization of the specialized in features of external human brain morphology.
13. Barron, B., & Darling-Hammond, L. (2008). Teaching for meaningful learning: A review of research on inquiry-based and cooperative learning. In L. Darling-Hammond (Ed.),
14. Bawden, D., & Robinson, L. (2009). The dark side of information: Overload, anxiety and other paradoxes and pathologies. *Journal of Information Science*, 35(2), 180-191.

15. Beaty, R. E., Benedek , M., Silvia, P. J., & Schacter, D. L. (2018). Creative cognition and brain network dynamics.
16. Bellier , L., Bickel, S., & Knight, R. T. (2022). Brain activity during music perception and performance: Evidence from intracranial recordings.
17. Bengtsson, S. L., Ehrsson , H. H., Forssberg , H., & Ullen , F. (2005). Effector-independent voluntary timing: Behavioural and neuroimaging investigation.
18. Berardi-Coletta, B., Buyer, L. S., Dominowski, R. L., & Rellinger, E. (1995). Metacognition and problem solving: A process-oriented approach. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 21(1), 205-223. <https://doi.org/10.1037/0278-7393.21.1.205>
19. Best, J. R., Miller, P. H., & Naglieri , J. A. (2011). Relations between executive function and academic achievement from ages 5 to 17 in a large, representative national sample.
20. Binder, J. R., Desai, R. H., Graves, W. W., & Conant, L. L. (2009). Where is the semantic system? A critical review and meta-analysis of 120 functional neuroimaging studies.
21. Binns , R., Van Kleek , M., Veale, M., Lyngs , U., Zhao, J., & Shadbolt, N. (2018). 'It's reducing a human being to a percentage': Perceptions of justice in algorithmic decisions.
22. Binns, R. (2018). Fairness in machine learning: Lessons from political philosophy. *Proceedings of the 2018 Conference on Fairness, Accountability, and Transparency*, 149-159.
23. Binns, R., Van Kleek, M., Veale, M., Lyngs, U., Zhao, J., & Shadbolt, N. (2018). 'It's reducing a human being to a percentage': Perceptions of justice in algorithmic decisions. *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18)*, Paper 377, 1–14.
24. Bishop, C. M. (2006). Pattern recognition and machine learning. Springer.
25. **Bjork, R. A., Dunlosky, J., & Kornell, N. (2013).** *Self-regulated learning: Beliefs, techniques, and illusions*. Annual Review of Psychology, 64, 417–444.
26. **Boekaerts, M., & Corno, L. (2005).** *Self-regulation in the classroom: A perspective on assessment and intervention*. Applied Psychology, 54(2), 199–231.
27. Bohbot, V. D., et al. (2024). The cognitive impact of reliance on GPS navigation. According to a scientific study.
28. Bong, M., & Skaalvik , E. M. (2003). Academic self-concept and self-efficacy: How different are they really? *Educational Psychology Review*, 15 (1), 1–40.
29. Booth, J. R., Burman, D. D., Van Santen, F. W., Harasaki , Y., Gitelman , D. R., Parrish, T. B., & Mesulam , M. M. (2007). The development of specialized brain systems in reading and oral-language .
30. Bostrom, N., & Yudkowsky , E. (2014). The ethics of artificial intelligence. In K. Frankish & W. M. Ramsey (Eds.), *The Cambridge Handbook of Artificial Intelligence* (pp. 316–334). Cambridge University Press.
31. Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.

32. Bransford, J. D., & Schwartz, D. L. (1999). *Rethinking transfer: A simple proposal with multiple implications*. Review of Research in Education, 24, 61–100.
33. Brown, P. C., Roediger, H. L., & McDaniel, M. A. (2014). Make it stick: The science of successful learning. Harvard University Press.
34. Brown, T. B., Mann, B., Ryder, N., Subbiah, M., Kaplan, J., Dhariwal, P., ... & Amodei, D. (2020). Language models are few-shot learners. Advances in neural information processing systems, 33, 1877–1901.
35. Bruner, J. S. (1960). The process of education. Harvard University Press.
36. Brusilovsky, P. (2001). Adaptive hypermedia. User Modeling and User-Adapted Interaction, 11(1-2), 87-110.
37. Brynjolfsson, E., & McAfee, A. (2014). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. New York: W. W. Norton.
38. Byrne, J. H. (Ed.). (2017). Learning and memory: A comprehensive reference (2nd ed.). Academic Press.
39. Cabeza, R., & Nyberg, L. (2000). Imaging cognition II: An empirical review of 275 PET and fMRI studies.
40. Cahill, L., & McGaugh , J. L. (1995). A novel demonstration of enhanced memory associated with emotional arousal.
41. Carr, N. (2010). The shallows: What the Internet is doing to our brains. W.W. Norton & Company.
42. Cepeda, N. J., Pashler, H., Vul, E., Wixted, J. T., & Rohrer, D. (2008). Spacing effects in learning: A temporal ridgeline of optimal retention. Psychological Science, 19(11), 1095-1102.
43. Cerasoli, C. P., Nicklin, J. M., & Ford, M. T. (2014). Intrinsic motivation and extrinsic incentives jointly predict performance: A 40-year meta-analysis. Psychological Bulletin, 140(4), 980–1008.
44. Chai, W. J., Abd Hamid, A. I., & Abdullah, J. M. (2018). Working memory from the psychological and neurosciences perspectives: A review.
45. Chaire de leadership en enseignement sur les pratiques pédagogiques en contexte numérique. (2023).
46. Chardonnens , S. (2024). Music teachers' stance in action to develop student autonomy.
47. Chardonnens, S. (2023). Quelle posture du professeur d'instrument pour l'autonomie de l'élève ? [Thèse de doctorat, Université de Fribourg]. FOLIA.
48. Chardonnens, S. (2025). Adapting educational practices for Generation Z: integrating metacognitive strategies and artificial intelligence. Frontiers in Education, 10, 1504726.
49. Chen, Q., Yan, Z., & Wang, Q. (2020). The impact of mobile phone use on academic performance: The role of self-regulation and motivation. Computers in Human Behavior, 112, 106458.
50. Chen, T., Kornblith , S., Norouzi , M., & Hinton , G. (2020).

51. Chen, T., Kornblith, S., Norouzi, M., & Hinton, G. (2020). A simple framework for contrastive learning of visual representations. International Conference on Machine Learning (ICML).
52. Chen, X., Zou, D., Xie, H., & Wang, F. L. (2021). Effects of personalized adaptive learning on learner engagement and academic achievement. *Educational Technology Research and Development*, 69, 2291–2319. <https://doi.org/10.1007/s11423-021-09993-9>
53. Chi, M. T. H. (2009). Active-constructive-interactive: A conceptual framework for differentiating learning activities.
54. **Chi, M. T. H., & Wylie, R. (2014). *The ICAP framework: Linking cognitive engagement to active learning outcomes*.** Educational Psychologist, 49(4), 219–243.
55. Choudhury, S., & McKinney, K. A. (2013). Digital media, the developing brain and the interpretive plasticity of neuroplasticity. *Transcultural Psychiatry*, 50(2), 192–215.
56. Chun, M. M., & Marois , R. (2002). The dark side of visual attention.
57. Cifali, M. (1994). Le lien éducatif : Contre-jour psychanalytique. Presses Universitaires de France.
58. Clark, R. C., & Mayer, R. E. (2016). e-Learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning (4th ed.). Wiley.
59. Clément, B., Sauzéon, H., Roy, D., & Oudeyer, P.-Y. (2024). Improved Performances and Motivation in Intelligent Tutoring Systems: Combining Machine Learning and Learner Choice. arXiv preprint arXiv:2402.01669.
60. Constantinidis , C., & Klingberg , T. (2016). The neuroscience of working memory capacity and training.
61. Cowan, N. (2001). The magical number 4 in short-term memory: A reconsideration of mental storage capacity.
62. Cowan, N. (2017). Theoretical views of working memory capacity limits. In Psychology of Learning and Motivation (Vol. 67, pp. 1-34). Academic Press.
63. Craft, A. (2003). The limits to creativity in education: Dilemmas for the educator.
64. Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research.
65. D'Mello, S. K., & Graesser, A. C. (2012). AutoTutor and Affective AutoTutor: Learning by talking with cognitively and emotionally intelligent computers that talk back. *ACM Transactions on Interactive Intelligent Systems*, 2(4), 23.
66. Dahmani, L., & Bohbot, V. D. (2024). Competences in navigation: a little innate and a lot acquired. Journal du Geek.
67. Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2020). Effective Teacher Professional Development. Learning Policy Institute.
68. Darnell, J. A., & Gopalkrishnan, S. (2023). Digital Information Overload: How Leaders Can Strategically Use AI to Prevent Innovation Paralysis. In New Leadership Communication—Inspire Your Horizon (pp. 181–190). Springer.
69. Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108-116.

70. Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268.
71. Dehaene , S., & Cohen, L. (2007). Cultural recycling of cortical maps.
72. Dehaene , S., & Cohen, L. (2011). The unique role of the visual word form area in reading.
73. Dehaene, S. (2018). Apprendre ! Les talents du cerveau, le défi des machines. Odile Jacob.
74. Dehaene, S. (2020). How we learn: The new science of education and the brain. Viking Press.
75. Devlin, J., Chang, M. W., Lee, K., & Toutanova, K. (2019). BERT: Pre-training of deep bidirectional transformers for language understanding. NAACL-HLT.
76. Dodson, T. M., & Thompson-Hirston, K. (2022, March). Artificial intelligence in education for next generation: A multimedia adaptive tutoring system for mathematics that addresses cognition, metacognition and affect. *Journal of Physics: Conference Series*, 1714, 013459. IOP Publishing.
77. Domínguez, A., Saenz-de-Navarrete, J., de-Marcos, L., Fernández-Sanz, L., Pagés, C., & Martínez-Herráiz, J. J. (2013). Gamifying learning experiences: Practical implications and outcomes. *Computers & Education*, 63, 380–392.
78. Draganski , B., Gaser , C., Busch, V., Schuierer , G., Bogdahn , U., & May, A. (2004). Changes in grey matter induced by training: Newly honed juggling skills show up as a transient feature on a brain-imaging scan.
79. Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest*, 14(1), 4-58.
80. Dupret, D., & Aton, S. J. (2024). Comment la mémoire se met à jour au fil du temps. Le Monde.
81. Ebbinghaus, H. (1885). Über das Gedächtnis. Duncker & Humblot.
82. Education for Sustainable Development Goals: Learning Objectives . United Nations Educational, Scientific and Cultural Organization. Retrieved from <https://unesdoc.unesco.org/>
83. El Bahlouli, Y. (2024). Technologies émergentes en éducation : Potentiel et défis de la personnalisation via l'IA et la chaîne de blocs. *Médiations et médiatisations*, 19, 12-25.
84. Ericsson, K. A. (2006). The influence of experience and deliberate practice on the development of superior expert performance. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 683-704). Cambridge University Press.
85. Eubanks, V. (2018). *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor*. St. Martin's Press.
86. European Commission. (2019). Ethics Guidelines for Trustworthy AI. High-Level Expert Group on Artificial Intelligence.
87. European Journal of Neuroscience, 24 (6), 1832-1836.

88. Fadel, C., Bialik, M., & Trilling, B. (2015). *Four-dimensional education: The competencies learners need to succeed*. Center for Curriculum Redesign.
89. Festinger, L. (1957). A Theory of Cognitive Dissonance. Stanford University Press.
90. Fields, R. D. (2015). A new mechanism of nervous system plasticity: Activity-dependent myelination.
91. Firth, J., Torous , J., & Stubbs, B. (2019). The “online brain”: How the Internet may be changing our cognition.
92. Fischer, F., Hmelo-Silver , C. E., Goldman, S. R., & Reimann, P. (2021).
93. Fitzpatrick, K. K., Darcy, A., & Vierhile , M. (2017). Delivering cognitive behavior therapy to young adults with symptoms of depression and anxiety using a fully automated conversational agent (
94. Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, 34(10), 906-911.
95. Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., ... & Schafer, B. (2018). AI4People-An ethical framework for a good AI society: Opportunities, risks, principles, and recommendations. *Minds and Machines*, 28(4), 689-707.
96. Frankland, P. W., & Bontempi , B. (2005). The organization of recent and remote memories.
97. Freeman, S., et al. (2014). *Active learning increases student performance in science, engineering, and mathematics*. PNAS, 111(23), 8410-8415.
98. Gathercole, S. E., & Pickering, S. J. (2000). Assessment of working memory in six- and seven-year-old children.
99. Gaudreau, H., & Lemieux, M.-M. (2020). L'intelligence artificielle en éducation : un aperçu des possibilités et des enjeux. Conseil supérieur de l'éducation.
100. Gillespie, T. (2018). Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media. Yale University Press.
101. Global education monitoring report, 2023: Technology in education: A tool on whose terms? Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive - developmental inquiry.
102. Goodfellow, I., Bengio , Y., & Courville, A. (2016). Deep Learning. MIT Press.
103. Gore, B., & Ihnat, M. (2021). L'apprentissage adaptatif : Personnalisation de l'éducation à grande échelle. eCampusOntario.
104. Gottlieb, J., Oudeyer , P.-Y., Lopes, M., & Baranes , A. (2013). Information-seeking, curiosity, and attention: Computational and neural mechanisms.
105. Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment.
106. Greenfield, P. M. (2009). Technology and Informal Education: What Is Taught, What Is Learned. *Science*, 323(5910), 69-71.
107. Gregory, R. L. (1997). Knowledge in perception and illusion.
108. Grenander, M., Belfer, R., Kochmar, E., Serban, I. V., St-Hilaire, F., & Cheung, J. C. K. (2021). Deep discourse analysis for generating personalized feedback in intelligent tutor systems. arXiv preprint arXiv:2103.07785.

109. Gross, M. E., Zedelius , C. M., & Schooler, J. W. (2020). Cultivating an understanding of curiosity as a seed for creativity.
110. Gruber, M. J., Gelman, B. D., & Ranganath , C. (2014). States of curiosity modulate hippocampus-dependent learning via the dopaminergic circuit.
111. Grégoire, G. B. T., Isidore, T. B. T., & Koffi, F. G. (2024). Effet de l'apprentissage par le jeu et des stratégies de régulation des émotions sur l'engagement affectif chez des élèves ivoiriens lors de la période post-transition primaire-secondaire. European Journal of Social Sciences Studies, 9(4).
112. Habib, M. (2022). Processus émotionnels en situation d'apprentissage. ISTE Group.
113. Haenlein, M., Kaplan, A., Tan, C. W., & Zhang, H. (2019). Artificial intelligence in business and education: Promises and perils. *Journal of Business Research*, 120, 262–273.
114. Halkiopoulos, C., & Gkintoni, E. (2024). Leveraging AI in e-learning: Personalized learning and adaptive assessment through cognitive neuropsychology—A systematic analysis. *Electronics*, 13(18), 3762. MDPI.
115. Harrell, S. (2019). Factors Affecting Technology Integration in the Classroom. Alabama State University and The University of Alabama.  
<https://doi.org/10.13140/RG.2.2.36567.70565>
116. Hastie, T., Tibshirani, R., & Friedman, J. (2009). *The Elements of Statistical Learning*. Springer.
117. Hattie, J. (2009). *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*. Routledge.
118. Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112.
119. He, K., Chen, X., Xie , S., Li, Y., Dollár , P., & Girshick , R. (2022). Masked Autoencoders Are Scalable Vision Learners. *IEEE Transactions on Pattern Analysis and Machine Intelligence*.
120. Henry, L. A., Messer, D. J., & Nash, G. (1989). Verbal mediation and children's recall: A test of the articulatory loop hypothesis. *British Journal of Developmental Psychology*, 7(3), 267-276.
121. Henry, S. B., LeBreck, D. B., & Holzemer, W. L. (1989). The effect of verbalization of cognitive processes on clinical decision making. *Research in Nursing & Health*, 12(3), 187-193.
122. Herholz , S. C., & Zatorre , R. J. (2012). Musical training as a framework for brain plasticity: Behavior, function, and structure.
123. Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist*, 41(2), 111–127.
124. Hillman, C. H., Erickson, K. I., & Kramer, A. F. (2008).
125. Hinton, G. E., & Salakhutdinov , R. R. (2006). Reducing the dimensionality of data with neural networks.
126. Hochreiter, S., & Schmidhuber, J. (1997). Long short-term memory. *Neural computation*, 9(8), 1735-1780.

127. Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education: Promises and implications for teaching and learning. Boston: Center for Curriculum Redesign.
128. Holmes, W., Bialik, M., & Fadel, C. (2023). Artificial intelligence in education. In Data ethics: Building trust: How digital technologies can serve humanity (pp. 621–653). Globethics Publications.
129. Houdé , O. (2007). Le rôle positif de l'inhibition dans le développement cognitif de l'enfant.
130. Houdé , O. (2019). Apprendre à résister: Pour une pédagogie de l'inhibition. Le Pommier
131. <https://brainscale.net/> Jaeggi , S. M., Buschkuhl , M., Jonides , J., & Perrig , W. J. (2008).
132. Hwang, G.-J., & Chen, N.-S. (2023). Editorial Position Paper: Exploring the Potential of Generative Artificial Intelligence in Education: Applications, Challenges, and Future Research Directions. *Educational Technology & Society*, 26(2), I-XVIII.
133. Ifenthaler, D., & Yau, J. Y. K. (2020). Utilising learning analytics to support study success in higher education: A systematic review. *Educational Technology Research and Development*, 68, 1961–1990.
134. Illeris, K. (2018). Contemporary Theories of Learning (2nd ed.). London: Routledge.
135. Immordino-Yang, M. H., & Damasio, A. (2007). We feel, therefore we learn: The relevance of affective and social neuroscience to education. *Mind, Brain, and Education*, 1(1), 3-10.
136. Ivancovsky , T., et al. (2023). Be curious: Strategic curiosity drives creativity.
137. Jang, H., Reeve, J., & Deci, E. L. (2010). Engaging students in learning activities: It is not autonomy support or structure but autonomy support and structure.
138. Jay, T. M. (2003). Dopamine: a potential substrate for synaptic plasticity and memory mechanisms.
139. Jenkins, J. G., & Dallenbach , K. M. (1924). Obliviscence during sleep and waking.
140. Jordan, M. I., & Mitchell, T. M. (2015). Machine learning: Trends, perspectives, and prospects. *Science*, 349(6245), 255–260.
141. Journal of Educational Psychology , 111(6), 1002-1014.
142. Journal of Physics: Conference Series, 1714 , 013459. IOP Publishing.
143. Kahneman, D. (2011). Thinking, Fast and Slow. New York: Farrar, Straus and Giroux.
144. Kang, M. J., Hsu, M., Krajbich , I. M., Loewenstein , G., McClure, S. M., Wang, J. T., & Camerer , C. F. (2009).
145. Kaplan, A. (2021). Higher Education at the Crossroads of Disruption: The University of the 21st Century. Emerald Publishing Limited.
146. Kaplan-Rakowski, R., Grotewold, K., Hartwick, P., & Papin, K. (2023). Generative AI and teachers' perspectives on its implementation in education. *Journal of Interactive Learning Research*, 34(2), 313–338.
147. Kapur , M. (2020). Eliciting and building upon student-generated solutions: Evidence from Productive Failure. In E. Manalo, Y.

148. Kashdan, T. B., & Silvia, P. J. (2009). Curiosity and interest: The benefits of thriving on novelty and challenge. *Handbook of Positive Psychology*, 2, 367-374.
149. Keele , S. W., Ivry, R., Mayr, U., Hazeltine, E., & Heuer, H. (2003). The cognitive and neural architecture of sequence representation.
150. Kirschner, P. A., & van Merriënboer, J. J. G. (2013). Do learners really know best? Urban legends in education. *Educational Psychologist*, 48(3), 169-183.
151. Klingberg , T. (2010). Training and plasticity of working memory.
152. Knudsen, E. I. (2007). Fundamental components of attention.
153. Kochmar, E., Vu, D. D., Belfer, R., Gupta, V., Serban, I. V., & Pineau, J. (2020). Automated personalized feedback improves learning gains in an intelligent tutoring system. *arXiv preprint arXiv:2005.02431*.
154. Koedinger, K. R., Brunskill, E., Baker, R. S., McLaughlin, E. A., & Stamper, J. (2013). New potentials for data-driven intelligent tutoring system development and optimization. *AI Magazine*, 34(3), 27–41.
155. Koedinger, K. R., Stamper, J. C., McLaughlin, E. A., & Nixon, T. (2013). Using data-driven discovery of better student models to improve student learning. In H. C. Lane, K. Yacef, J. Mostow, & P. Pavlik (Eds.), *Artificial Intelligence in Education* (pp. 421–430). Springer.
156. Kolb, B., & Gibb, R. (2011). Brain plasticity and behaviour in the developing brain.
157. Kolb, B., & Whishaw, I. Q. (1998). Brain plasticity and behavior.
158. Krullaars, J., Iskender, G., & Ferrajão, A. (2023). Over-reliance on AI dialogue systems and its impact on student cognitive abilities: A systematic review. *Smart Learning Environments*, 10(1)
159. Kucirkova, N. (2024). *AI and the future of learning: Rethinking educational practices*. Springer.
160. Kushlev, K., Proulx, J., & Dunn, E. W. (2016). "Silence your phones": Smartphone notifications increase inattention and hyperactivity symptoms. *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 1011-1020.
161. Lafortune, L., Daniel, M.-F., Doudin, P.-A., Pons, F., & Albanese, O. (Éds.). (2005). *Pédagogie et psychologie des émotions: Vers la compétence émotionnelle*. Presses de l'Université du Québec.
162. Lautenschläger, J. K. (2020). The effect of knowledge about Artificial Intelligence (AI) on openness towards AI-enabled products and services: Examining whether customer beliefs about the efficiency, convenience, privacy protection and data security of AI-enabled products and services mediate this effect (Master's thesis, NOVA – School of Business and Economics).
163. LeCun , Y., Bengio , Y., & Hinton, G. (2015). Deep learning. *Nature*, 521(7553), 436-444.
164. Lepper , M. R., Greene, D., & Nisbett , R. E. (1973).
165. Lepper, M. R., Greene, D., & Nisbett, R. E. (1973). Undermining children's intrinsic interest with extrinsic reward: A test of the "overjustification" hypothesis. *Journal of Personality and Social Psychology*, 28(1), 129–137.

166. Lieberman, H., & Selker, T. (2020). Intrinsic and Extrinsic Motivation in Intelligent Systems. In Proceedings of the AAAI Conference on Artificial Intelligence, 34(09), 13172-13175.
167. Limb, C. J., & Braun, A. R. (2008). Neural substrates of spontaneous musical performance: An fMRI study of jazz improvisation.
168. Loh, K., & Kanai, R. (2016). How has the Internet reshaped human cognition? The Neuroscientist, 22(5), 506-520.
169. Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). Intelligence unleashed: An argument for AI in education. *Pearson Education*.  
<https://www.pearson.com/content/dam/one-dot-com/one-dot-com/global/Files/about-pearson/innovation/open-ideas/Intelligence-Unleashed-Publication.pdf>
170. Luckin, R. (2017). Towards Artificial Intelligence-based Assessment Systems. *Nature Human Behaviour*, 1(3), 0028.  
<https://doi.org/10.1038/s41562-016-0028>
171. Luckin, R. (2018). Machine learning and human intelligence: The future of education for the 21st century. UCL Press.
172. Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). Intelligence Unleashed: An argument for AI in Education. Pearson Education.
173. López-Barroso, D., Catani, M., Ripollés , P., Dell'Acqua , F., Rodríguez- Fornells , A., & de Diego-Balaguer, R. (2013). Word learning is mediated by the left arcuate fasciculus.
174. Maguire, E. A., Gadian , D. G., Johnsrude , I. S., Good, C. D., Ashburner, J., Frackowiak , R. S. J., & Frith, C. D. (2000). Navigation-related structural change in the hippocampi of taxi drivers.
175. Maity, S., & Deroy, A. (2024). Generative AI and Its Impact on Personalized Intelligent Tutoring Systems. arXiv preprint arXiv:2410.10650.
176. Makransky, G., Terkildsen, T. S., & Mayer, R. E. (2019). Adding immersive virtual reality to a science lab simulation causes more presence but less learning. *Learning and Instruction*, 60, 225-236.
177. Markauskaite, L., Marrone, R., Poquet, O., Knight, S., Martinez-Maldonado, R., Howard, S., Tondeur, J., De Laat, M., Buckingham Shum, S., Gašević, D., & Siemens, G. (2022). Rethinking the entwinement between artificial intelligence and human learning: What capabilities do learners need for a world with AI? *Computers and Education: Artificial Intelligence*, 3, 100056.
178. Martí, S., King, J.-R., & Dehaene , S. (2015). Time-resolved decoding of two processing chains during dual-task interference.
179. **Masicampo, E. J., & Baumeister, R. F. (2011).** *Consider it done! Plan making can eliminate the cognitive effects of unfulfilled goals*. *Journal of Personality and Social Psychology*, 101(4), 667-683.
180. Mayer, R. E. (2009). Multimedia Learning (2nd ed.). Cambridge University Press.
181. Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning.

182. Mayer, R. E. (2014). *Cognitive theory of multimedia learning*. In R. E. Mayer (Ed.), *The Cambridge Handbook of Multimedia Learning* (2nd ed., pp. 43–71). Cambridge University Press. (ACTIVATION , organization des contenus)
183. McCarthy, J., Minsky, M., Rochester, N., & Shannon, C. (1955). A proposal for the Dartmouth summer research project on artificial intelligence. *AI Magazine*, 27(4), 12-14.
184. McCombs, B. L. (2017). Historical review of learning strategies research: Strategies for the whole learner—A tribute to Claire Ellen Weinstein and early researchers of this topic. *Frontiers in Education*, 2, 6. Frontiers Media SA.
185. McKinsey Global Institute. (2021). The future of work after COVID-19. McKinsey & Company.
186. Melby- Lervåg , M., & Hulme, C. (2013). Is working memory training effective? A meta-analytic review.
187. Messaoudi, A. (2024). Les défis de l'IA dans l'éducation : de la protection des données aux biais algorithmiques. *Médiations et médiatisations*, (18), 148–160.
188. Metcalfe, J. (2017). Learning from errors. *Annual Review of Psychology*, 68, 465-489. <https://doi.org/10.1146/annurev-psych-010416-044022>
189. Meyer, K., Muller, L., & Schupp, J. (2019). The power of visual learning: An experimental study on RA environments.
190. Mezirow, J. (1991). *Transformative Dimensions of Adult Learning*. Jossey-Bass Inc.
191. Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information.
192. Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
193. Moore, T., & Zirnsak, M. (2017). Neural mechanisms of selective visual attention. *Annual Review of Psychology*, 68, 47-72.
194. Mueller, P. A., & Oppenheimer, D. M. (2014). The Pen Is Mightier Than the Keyboard: Advantages of Longhand Over Laptop Note Taking.
195. Nakata, T., & Suzuki, Y. (2019). Effects of massing and spacing on the learning of semantically related and unrelated words.
196. Narkhede, K., Patil, R., Kasat, A., Gawas, A., & More, P. (2024). Unveiling the art of effective learning through spaced repetition and evidence-based techniques. In 2024 IEEE International Conference on Contemporary Computing and Communications (InC4) (pp. 1–6). IEEE.
197. Nature Neuroscience, 15 (4), 528–536 Greenfield, P. M. (2009). Linking social change and developmental change: Shifting pathways of human development.
198. Neuron, 56 (2), 384-398. <https://doi.org/10.1016/j.neuron.2007.10.004> Dehaene , S. (2009).
199. Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2(2), 175–220.
200. Noble, S. U. (2018). *Algorithms of oppression: How search engines reinforce racism*. New York University Press.

201. Obermeyer, Z., Powers, B., Vogeli, C., & Mullainathan, S. (2019). Dissecting racial bias in an algorithm used to manage the health of populations. *Science*, 366(6464), 447-453.
202. OECD. (2021). *AI and the Future of Skills, Volume 1: Capabilities and Assessments*. Paris: OECD Publishing.
203. Özcan, Z. Ç. (2017). The relationship between mathematical problem-solving skills and self-regulated learning through homework behaviours, motivation, and metacognition. *International Journal of Mathematical Education in Science and Technology*, 48(2), 276–293.
204. Orlowski, J. (Director). (2020). *The Social Dilemma* [Film]. Exposure Labs.
205. Oudeyer , P.-Y., Kaplan, F., & Hafner, V. V. (2007).
206. Packard, M. G., & Knowlton, B. J. (2002). Learning and memory functions of the basal ganglia.
207. Pariser, E. (2011). *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Press.
208. Parong, J., & Mayer, R. E. (2018). Learning science in immersive virtual reality: Effects of immersion and realism on learning and cognitive load. *Educational Psychology Review*, 30(4), 1067-1080.
209. Pascanu , R., Mikolov , T., & Bengio , Y. (2013). On the difficulty of training recurrent neural networks.
210. Pellegrino, J. W., & Hilton, M. L. (2012). *Education for life and work: Developing transferable knowledge and skills in the 21st century*. National Research Council. <https://doi.org/10.17226/13398>
211. Pessoa, L. (2008). On the relationship between emotion and cognition.
212. Pessoa, L. (2009). How do emotion and motivation direct executive control? *Trends in Cognitive Sciences*, 13 (4), 160–166.
213. Peterson, L. R., & Peterson, M. J. (1959). Short-term retention of individual verbal items.
214. Petit, B., & Chenette, A. (2021). Intelligence artificielle, algorithmes, bulle de filtres, chambre d'écho, « cookies », conditionnement opérant : Pourquoi mes élèves gagnent-ils à comprendre ces phénomènes ? Dans Actes du Colloque CRIFPE Sommet Numérique 2021 (pp. 123-135).
215. Philosophical Transactions of the Royal Society B: Biological Sciences, 352 (1358), 1121–1128.
216. Piaget, J. (1972). La naissance de l'intelligence chez l'enfant. Delachaux et Niestlé.
217. Piaget, J. (1972). La psychologie de l'intelligence. Armand Colin.
218. Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. *Handbook of Self-Regulation*, 451-502.
219. Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95(4), 667–686.
220. Pons, F., Hancock, D., Lafortune, L., & Doudin, P.-A. (Éds.). (2005). *Emotions in learning*. Aalborg University Press.

221. Posner, M. I., & Petersen, S. E. (1990). The attention system of the human brain. *Annual Review of Neuroscience*, 13(1), 25-42.
222. Posner, M. I., & Rothbart, M. K. (2007). Educating the human brain. American Psychological Association.
223. Prahani, B., Rizki, I., Jatmiko, B., Suprapto, N., & Tan, A. (2022). Artificial intelligence in education research during the last ten years: A review and bibliometric study. *International Journal of Emerging Technologies in Learning (iJET)*, 17(8), 169-188.
224. Prince, M. (2004). *Does active learning work? A review of the research*. *Journal of Engineering Education*, 93(3), 223-231.
225. Prykhodko, D. (2024). Current challenges and prospects of using artificial intelligence technologies in contemporary education. *European Science*, sge27-02, 132-162.
226. Przybylski, A. K., & Weinstein, N. (2017). A large-scale test of the Goldilocks hypothesis: Quantifying the relations between digital-screen use and the mental well-being of adolescents. *Psychological Science*, 28(2), 204-215.
227. Psyché, V., & Ruer, P. (2019). L'apprentissage adaptatif intelligent. *Pédagogie universitaire*, 8(4).
228. Puentedura, R. R. (2010). SAMR and TPCK: Intro to advanced practice. *Retrieved from [http://hippasus.com/resources/sweden2010/SAMR\\_TPCK\\_AdvancedPractice.pdf](http://hippasus.com/resources/sweden2010/SAMR_TPCK_AdvancedPractice.pdf)*
229. Puderbaugh , M., & Emmady , P. D. (2023). Neuroplasticity.
230. Pérez-Serrano, M., Nogueroles -López, M., & Duñabeitia , J. A. (2022). Effects of semantic clustering and repetition on incidental vocabulary learning.
231. Rasch, B., & Born, J. (2013). About sleep's role in memory. *Physiological Reviews*, 93(2), 681-766.
232. Reeve, J. (2016). Autonomy-supportive teaching: What it is, how to do it. In W. Liu, J. Wang, & R. M. Ryan (Eds.), *Building autonomous learners: Perspectives from research and practice using self-determination theory* (pp. 129-152). Springer.
233. Reeve, J. (2018). *Understanding Motivation and Emotion* (7th ed.). Wiley.
234. Renninger, K. A., & Hidi, S. (2016). *The power of interest for motivation and engagement*. Routledge.
235. Rizzolatti, G., Fadiga, L., Gallese, V., & Fogassi, L. (1996).
236. Rodriguez, M. G., Gummadi, K., & Schoelkopf, B. (2014, May). Quantifying information overload in social media and its impact on social contagions. In *Proceedings of the international AAAI conference on web and social media* (Vol. 8, No. 1, pp. 170-179).
237. Roediger, H. L., & Butler, A. C. (2011). The critical role of retrieval practice in long-term retention.
238. Rosen, L. D., Lim, A. F., Carrier, L. M., & Cheever, N. A. (2011). An empirical examination of the educational impact of text message-induced task switching in the classroom: Educational implications and strategies to enhance learning. *Psicología Educativa*, 17(2), 163-177.
239. Ruginski, I. T., et al. (2019). Using GPS impairs spatial learning and memory for the environment. *Journal of Environmental Psychology*.

240. Russell, S., & Norvig, P. (2016). Artificial intelligence: A modern approach (3rd ed.). Pearson.
241. Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being.
242. Ryan, R. M., & Deci, E. L. (2020). Self-determination theory: Basic psychological needs in motivation, development, and wellness. Guilford Publications.
243. **Sailer, M., & Homner, L. (2020).** *The impact of immersive virtual reality on learning: A meta-analysis*. Computers & Education, 147, 103778.
244. Scholz, J., Klein, M. C., Behrens, T. E. J., & Johansen-Berg, H. (2009).
245. Schraw, G., & Moshman, D. (1995). Metacognitive theories. Educational Psychology Review, 7(4), 351-371.
246. **Schraw, G., Flowerday, T., & Lehman, S. (2001).** *Increasing situational interest in the classroom*. Educational Psychology Review, 13(3), 211–224.
247. Schultz, W. (2015). Neuronal reward and decision signals: From theories to data. Physiological Reviews, 95(3), 853–951.
248. Schultz, W., Carelli , R. M., & Wightman, R. M. (2015). Phasic dopamine signals: From subjective reward value to formal economic utility.
249. Schunk, D. H. (2020). Learning theories: An educational perspective (8th ed.). Pearson.
250. Schunk, D. H., & DiBenedetto, M. K. (2021). Motivation and social-emotional learning: Theory, research, and practice. Contemporary Educational Psychology, 64, 101947.
251. Schunk, D. H., & Pajares, F. (2009). Self-efficacy theory. Handbook of Motivation at School, 35-53.
252. Scoville, W. B., & Milner, B. (1957). Loss of recent memory after bilateral hippocampal lesions.
253. Seaborn, K., & Fels, D. I. (2015). Gamification in theory and action: A survey. International Journal of Human-Computer Studies, 74, 14-31.
254. Sederberg , P. B., Howard, M. W., & Kahana , M. J. (2006). A context-based theory of recency and contiguity in free recall.
255. Selwyn, N. (2019). Should robots replace teachers? AI and the future of education. Polity Press.
256. Senge, P. M. (2006). The Fifth Discipline: The Art & Practice of The Learning Organization. New York: Doubleday.
257. Shaywitz , S. E., Shaywitz , B. A., Pugh, K. R., Fulbright, R. K., Constable, R. T., Mencl , W. E., Gore, J. C. (2002). Disruption of posterior brain systems for reading in children with developmental dyslexia.
258. Shibani , A., Knight, S., & Buckingham Shum, S. (2019). Contextualizable learning analytics design: A generic model and writing analytics evaluations. In Proceedings of the 9th International Conference on Learning Analytics & Knowledge (pp. 210–219).
259. Shin, H. J., Lee, S. J., Lee, J., & Kim, S. (2023). Enhancing working memory performance through napping: An EEG-based study.

260. Shuell, T. J. (2021). Learning theory, instructional theory, and adaptation. In Aptitude, learning, and instruction (pp. 277-302). Routledge.
261. Shute, V. J. (2008). Focus on formative feedback. *Review of Educational Research*, 78(1), 153-189.
262. Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, 2(1).
263. Siemens, G., & Long, P. (2011). Penetrating the fog: Analytics in learning and education. *EDUCAUSE Review*, 46(5), 30-40.
264. Skeide , M. A., Brauer, J., & Friederici , A. D. (2016).
265. Sparrow, B., Liu, J., & Wegner, D. M. (2011). Google effects on memory: Cognitive consequences of having information at our fingertips.
266. Sparrow, B., Liu, J., & Wegner, D. M. (2011). Google Effects on Memory: Cognitive Consequences of Having Information at Our Fingertips. *Science*, 333(6043), 776-778.
267. Stefaniak, N., & Meulemans, T. (2011). The learning of new semantic information by amnesic patients: a review of the literature. *L'Année psychologique*, 111, 577-610.
268. Stothart, C., Mitchum, A., & Yehnert, C. (2015). The attentional cost of receiving a cell phone notification. *Journal of Experimental Psychology: Human Perception and Performance*, 41(4), 893-897.
269. Stroop, J. R. (1935). Studies of interference in serial verbal reactions. *Journal of Experimental Psychology*, 18(6), 643-662.
270. Sweller , J. (1994). Cognitive load theory, learning difficulty, and instructional design.
271. Sweller, J. (1988). Cognitive Load During Problem Solving: Effects on Learning. *Cognitive Science*, 12(2), 257-285.
272. Sweller, J. (2011). Cognitive load theory. Springer.
273. Tabibian , B., Upadhyay, U., De, A., Zarezade , A., Schölkopf , B., & Gomez-Rodriguez, M. (2017). Optimizing Human Learning.
274. Tabibian, B., Upadhyay, U., De, A., Zarezade, A., Schölkopf, B., & Gomez-Rodriguez, M. (2019). Enhancing human learning via spaced repetition optimization. *Proceedings of the National Academy of Sciences*, 116(10), 3988-3993.
275. Tang, Y. Y., Hölzel , B. K., & Posner, M. I. (2015). The neuroscience of mindfulness meditation.
276. Topol, E. (2019). Deep Medicine: How Artificial Intelligence Can Make Healthcare Human Again. Basic Books.
277. Tricot, A. (1998). Charge cognitive et apprentissage. *Revue Française de Pédagogie*, 125, 85-122.
278. Tulving, E. (2002). Episodic memory: From mind to brain.
279. Turing, A. M. (1950). Computing machinery and intelligence. *Mind*, 59(236), 433-460.
280. Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases.

281. UNESCO. (2019). Education for Sustainable Development Goals: Learning Objectives. United Nations Educational, Scientific and Cultural Organization. Retrieved from
282. UNESCO. (2021). Artificial Intelligence in Education: Challenges and Opportunities for Sustainable Development. United Nations Educational, Scientific and Cultural Organization.
283. UNESCO. (2021). Recommendation on the Ethics of Artificial Intelligence. Paris: UNESCO.
284. UNESCO. (2022). Human-centered AI: Challenges and opportunities for education. Paris: UNESCO.
285. UNESCO. (2023). Global education monitoring report, 2023: Technology in education: A tool on whose terms?
286. UNESCO. (2025). Référentiel de compétences en IA pour les apprenants. UNESCO.
287. Usher, E. L., & Pajares, F. (2008). Sources of self-efficacy in school: Critical review and future directions. *Review of Educational Research*, 78(4), 751-796.
288. Vainio , L., & Ellis, R. (2020). Action inhibition and affordances associated with a non-target object : An integrative review .
289. Vallerand, R. J., Chichekian, T., & Schellenberg, B. J. I. (2024). The role of passion in education. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of educational psychology* (pp. 245-268). Routledge.
290. Van der Kleij, F. M., Feskens, R. C. W., & Eggen, T. J. H. M. (2015). Effects of feedback in a computer-based learning environment on students' learning outcomes: A meta-analysis. *Review of Educational Research*, 85(4), 475–511.
291. **van der Linden, D., et al. (2003).** *Mental fatigue and the control of cognitive processes: Effects on perseveration and planning*. Acta Psychologica, 113(1), 45–65.
292. Van der Meer, A. L. H., & Van der Weel , F. R. (2024). Handwriting versus Typing: Differences in Functional Brain Connectivity during Learning.
293. Van Lieshout , L. L., Trautmann , S. T., & Cools, R. (2020). Curiosity and learning: A theoretical and empirical review.
294. van Merriënboer, J. J. G., & Kirschner, P. A. (2018). *Ten steps to complex learning: A systematic approach to four-component instructional design*. Routledge.  
<https://doi.org/10.4324/9781315111373>
295. Vansteenkiste , M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation.
296. Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as an unifying principle. *Journal of Psychotherapy Integration*, 23(3), 263–280.
297. Vergnaud, G. (1990). La théorie des champs conceptuels. *Recherches en Didactique des Mathématiques*, 10(2.3), 133-170.
298. Von Stumm, S., & Ackerman, P. L. (2013). Investment and intellect: A review and meta-analysis. *Psychological Bulletin*, 139(4), 841–869.

299. Vosniadou, S. (2008). International handbook of research on conceptual change. Routledge.
300. Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.
301. Walker, M. P., & Stickgold, R. (2006). Sleep, memory, and plasticity. *Annual Review of Psychology*, 57, 139-166.
302. Walker, M. P., & Stickgold, R. (2010). Overnight alchemy: Sleep-dependent memory evolution. *Nature Reviews Neuroscience*, 11(3), 218-230.
303. Wan, C. Y., & Schlaug , G. (2010). Music making as a tool for promoting brain plasticity across the life span.
304. Wang, S., Christensen, C., Cui, W., Tong, R., & Yarnall, L. (2023). When adaptive learning is effective learning: comparison of an adaptive learning system to teacher-led instruction. *Interactive Learning Environments*.  
<https://doi.org/10.1080/10494820.2023.2176956>
305. Wang, X. J. (2001). Synaptic basis of cortical persistent activity: The importance of NMDA receptors to working memory.
306. Werker , J. F., & Hensch , T. K. (2015). Critical periods in speech perception: New directions.
307. **Wiley, J., & Voss, J. F. (1999).** *Constructing Arguments from Multiple Sources: Tasks That Promote Understanding and Not Just Memory*. *Educational Psychologist*, 34(3), 169–183.
308. Winne, P. H., & Hadwin, A. F. (2008). The weave of motivation and self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 297-314). New York: Lawrence Erlbaum.
309. Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving.
310. Woolf, B. P. (2010). Building intelligent interactive tutors: Student-centered strategies for revolutionizing e-learning. Morgan Kaufmann.
311. Woolfolk, A. (2022). *Educational psychology* (15th ed.). Pearson.
312. World Economic Forum. (2023). *The Future of Jobs Report 2023*. Geneva: WEF.
313. Xu, Y., Zhang, J., & Mostow , J. (2021). Personalized task difficulty adaptation based on reinforcement learning.
314. Ye, J., Su , J., & Cao, Y. (2022). Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining.
315. Zatorre , R. J., Fields, R. D., & Johansen-Berg, H. (2012). Plasticity in gray and white: Neuroimaging changes in brain structure during learning.
316. Zatorre, R. J., Fields, R. D., & Johansen-Berg, H. (2012). Plasticity in gray and white: Neuroimaging changes in brain structure during learning. *Nature Neuroscience*, 15(4), 528–536
317. Aleven, V., McLaughlin, E. A., Glenn, R., & Koedinger, K. R. (2016). Instruction based on adaptive learning technologies. In R. E. Mayer & P. A. Alexander (Eds.), *Handbook of research on learning and instruction* (pp. 522-560). Routledge.  
<https://doi.org/10.4324/9780203839089>

318. **Zawacki-Richter, O., et al. (2019).** *Systematic review of research on artificial intelligence applications in higher education*. International Journal of Educational Technology in Higher Education, 16(1), 39.
319. Zeidan , F., Johnson, S. K., Diamond, B. J., David, Z., & Goolkasian , P. (2010). Mindfulness meditation improves cognition: Evidence of brief mental training.
320. Zhai, X., Chu, X., & Wang, Y. (2024). The effects of over-reliance on AI dialogue systems on students' critical thinking skills. Smart Learning Environments, 11(1), 28.
321. **Zhao, Y., & Zhang, G. (2023).** *AI-driven adaptive learning systems: Impact on learner engagement and knowledge activation*. Educational Technology Research and Development, 71, 125–142.
322. Zheng, J. (2022). The Temporal Changes of Emotions and Their Relationships to Self-Regulated Learning: A Multi-Study Examination. McGill University (Canada).
323. Zheng, L., Fan, Y., Chen, B. et al. An AI-enabled feedback-feedforward approach to promoting online collaborative learning. Educ Inf Technol 29, 11385–11406 (2024).
324. Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. Journal of Educational Psychology, 81(3), 329-339.
325. Zimmerman, B. J. (1990). Self-regulated learning and academic achievement: An overview.
326. Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective.
327. Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory Into Practice, 41(2), 64-70.