

BIBLIOGRAPHY OF VIRTUAL REALITY

1. Andersen, E., & Haines, R. (2018). *Virtual Reality Experiences for Science Communication*. American Geophysical Union, Fall Meeting 2018, abstract #ED41B-0898.
2. Bailenson, J. N. (2018). *Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do*. WW Norton & Company.
3. Bailenson, J. N., & Blascovich, J. (2011). *Infinite reality: Avatars, eternal life, new worlds, and the dawn of the virtual revolution*. Harper Collins.
4. Bivens-Tatum, W. (2019). *Virtual reality and augmented reality: What librarians need to know*. American Library Association.
5. Bowman, D. A., & McMahan, R. P. (2007). *Virtual reality: How much immersion is enough?* Computer, 40(7), 36-43.
6. Brooks, F. P. (1999). *What's real about virtual reality?* IEEE Computer Graphics and Applications, 19(6), 16-27.
7. Chittaro, L., & Ranon, R. (2009). *Web3D technologies for interactive science education on the Web: A survey*. Computers & Education, 53(2), 335-349.
8. Cipresso, P., Giglioli, I. A., Raya, M. A., & Riva, G. (2018). *The past, present, and future of virtual and augmented reality research: A network and cluster analysis of the literature*. Frontiers in Psychology, 9, 2086.
9. Clark, R. C., & Mayer, R. E. (2016). *e-Learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*. John Wiley & Sons.
10. Cobb, S., M. (1994). *Virtual Reality Learning Environments: Potentials and Challenges*. Computer Graphics, 28(3), 29-32.
11. Cruz-Neira, C., Sandin, D. J., & DeFanti, T. A. (1993). *Surround-screen projection-based virtual reality: The design and implementation of the CAVE*. ACM SIGGRAPH Computer Graphics, 27(2), 135-142.
12. Dede, C. (2009). *Immersive interfaces for engagement and learning*. Science, 323(5910), 66-69.
13. Dede, C., Salzman, M. C., Loftin, R. B., & Ash, K. D. (1996). *Using virtual reality technology to convey abstract scientific concepts*. IEEE Computer Graphics and Applications, 16(6), 90-95.
14. Detmer, A. (2020). *Virtual reality science communication: A review of research*. Eludamos. Journal for Computer Game Culture, 14(1), 1-24.
15. Dourish, P., & Bell, G. (2011). *Divining a digital future: Mess and mythology in ubiquitous computing*. MIT Press.
16. Duncan, I., Miller, A., & Jiang, S. (2012). *A taxonomy of virtual worlds usage in education*. British Journal of Educational Technology, 43(6), 949-964.

17. Ellis, M. A., & Farrow, M. R. (2017). *The effects of virtual reality-based interventions on science learning: A meta-analysis*. *Educational Technology Research and Development*, 65(4), 885-898.
18. Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). *The role of deliberate practice in the acquisition of expert performance*. *Psychological Review*, 100(3), 363-406.
19. Finkelstein, N., Adams, W. K., Keller, C. J., Kohl, P. B., Perkins, K. K., Podolefsky, N. S., ... & LeMaster, R. (2005). *When learning about the real world is better done virtually: A study of substituting computer simulations for laboratory equipment*. *Physical Review Special Topics-Physics Education Research*, 1(1), 010103.
20. Foucault Welles, B. (2015). *Research ethics and the critical internet researcher*. In D. M. Berry (Ed.), *Research methods for digital work in the fields of the Internet and technology* (pp. 229–249). Emerald Group Publishing.
21. Gabbard, J. L., Hix, D., & Swan, J. E. (1999). *User-centered design and evaluation of virtual environments*. *IEEE Computer Graphics and Applications*, 19(6), 51-59.
22. Gaggioli, A., Riva, G., Peters, D., & Calvo, R. A. (Eds.). (2019). *Handbook of research on clinical applications of immersive virtual reality and augmented reality*. IGI Global.
23. García-García, I., Fernández-Aguilar, L., Aparicio, A. F., & Jara, C. A. (2019). *Towards an immersive virtual reality application for science communication*. In *Proceedings of the IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)* (pp. 235-239).
24. Gredler, M. E. (1996). *Educational games and simulations: A technology in search of a (research) paradigm*. *Handbook of research for educational communications and technology*, 2, 521-539.
25. Greitemeyer, T., & Mügge, D. O. (2014). *Video games do affect social outcomes: A meta-analytic review of the effects of violent and prosocial video game play*. *Personality and Social Psychology Bulletin*, 40(5), 578-589.
26. Gutierrez, A., Vexo, F., & Thalmann, D. (2008). *Stepping into virtual reality*. Springer Science & Business Media.
27. Hoffman, H. G., Chambers, G. T., Meyer III, W. J., Arceneaux, L. L., Russell, W. J., Seibel, E. J., & Richards, T. L. (2011). *Virtual reality as an adjunctive non-pharmacologic analgesic for acute burn pain during medical procedures*. *Annals of Behavioral Medicine*, 41(2), 183-191.
28. Johnson, D. W., & Johnson, R. T. (1989). *Cooperation and competition: Theory and research*. Interaction book company.
29. Kim, Y., & Baylor, A. L. (2016). *A social-cognitive framework for pedagogical agents as learning companions*. *Educational Technology Research and Development*, 64(2), 219-244.
30. Kirner, C., & Simões, R. (2015). *Learning computational thinking through the integration of virtual learning environments and programming languages*. *Computers & Education*, 82, 509-527.
31. Klopfer, E., & Sheldon, J. (2010). *Augmented learning: Research and design of mobile educational games*. MIT Press.

32. Kruse, J., & Stalder, D. R. (2000). *Virtual reality and education: Trends and directions*. *International Journal of Educational Telecommunications*, 6(4), 393-407.
33. Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
34. Lee, K. M. (2004). *Presence, explicated*. *Communication Theory*, 14(1), 27-50.
35. Lee, M. J., & Hammer, J. (2011). *Gamification in education: What, how, why bother?* Academic Exchange Quarterly, 15(2), 1-5.
36. Lin, L., Biggers, M., & Shute, V. (2015). *Using virtual reality technology for laboratory experiments in educational psychology: A mixed methods examination*. *International Journal of Gaming and Computer-Mediated Simulations (IJGCMS)*, 7(4), 1-24.
37. Livingston, M. (2016). *Learning to navigate the virtual landscape: What urban planning students can gain from a virtual reality educational experience*. *Journal of Planning Education and Research*, 36(2), 221-231.
38. Lombard, M., & Ditton, T. (1997). *At the heart of it all: The concept of presence*. *Journal of Computer-Mediated Communication*, 3(2), JCMC321.
39. Machado, L., & Reis, J. (2015). *Immersive virtual reality in the museum context: The value of simulations and edutainment experiences for cultural heritage communication*. In *ICOM 23rd General Conference Proceedings* (pp. 1-11).
40. Mayer, R. E. (2014). *Cognitive theory of multimedia learning*. *The Cambridge Handbook of Multimedia Learning*, 2nd Edn., 43-71.
41. Mayer, R. E., & Moreno, R. (2003). *Nine ways to reduce cognitive load in multimedia learning*. *Educational Psychologist*, 38(1), 43-52.
42. McArthur, V., & Barwick, D. (2020). *Virtual reality and its impact on learning science*. In S. Wu (Ed.), *Virtual reality and the enhancement of science education* (pp. 59-71). IGI Global.
43. McMahan, R. P., Bowman, D. A., Zielinski, D. J., Brady, R. B., & Betge-Brezetz, S. (2012). *Evaluating display fidelity and interaction fidelity in a virtual reality game*. *IEEE Transactions on Visualization and Computer Graphics*, 19(4), 626-633.
44. Merrill, M. D. (2002). *First principles of instruction*. *Educational Technology Research and Development*, 50(3), 43-59.
45. Miller, D. R., & Hobbs, R. (2010). *The importance of screening digital tools for ethical implications: The case of teachers and social networking sites*. *Journal of Educational Computing Research*, 42(1), 21-39.
46. Milgram, P., Takemura, H., Utsumi, A., & Kishino, F. (1995). *Augmented reality: A class of displays on the reality-virtuality continuum*. In *Proceedings of Telemanipulator and Telepresence Technologies* (Vol. 2351, pp. 282-293).

47. Mourkoussis, N., Antona, M., & Stephanidis, C. (2018). *Virtual reality and gamification in education: A brief overview*. In *Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct* (pp. 361-368).
48. Naber, J., Köller, A. C., & Urban, B. (2017). *Enhancing science education with virtual reality: Benefits and challenges from student's and teacher's perspectives*. *New Perspectives in Science Education Conference Proceedings, 6th Edition*, 185-189.
49. Nguyen, A., Gardner, D., Fan, S., & Davis, R. (2020). *Virtual reality for science communication: Learning outcomes and preferences*. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-8).
50. Nielsen, J. (1993). *Usability engineering*. Academic Press.
51. Oh, S. Y., & Bailenson, J. (2019). *Why we use and misinterpret virtual reality: Interview study*. *JMIR Serious Games*, 7(1), e10928.
52. Parsons, T. D., Gaggioli, A., & Riva, G. (2017). *Virtual reality for research in social neuroscience*. *Brain Sciences*, 7(6), 42.
53. Pedersen, C., & Sokoler, T. (2016). *An educational VR case: Science education in 3D*. In *Proceedings of the European Conference on Games Based Learning* (pp. 564-572).
54. Plancher, G., Tirard, A., Gyselinck, V., & Nicolas, S. (2012). *The effect of navigation speed in a virtual environment training application for route learning*. *Computers & Education*, 58(1), 338-345.
55. Price, T. W., & Webb, M. E. (2018). *Using virtual reality in science education*. In B. Schwarz, T. Dreyfus, & R. A. Hershkowitz (Eds.), *Transformation of knowledge through classroom interaction* (pp. 309-324). Routledge.
56. Pujol, L. M., & Mahlberg, T. (2019). *How and when do individuals use VR glasses? Investigating the determinants of intention to use VR glasses and use behavior*. *Computers in Human Behavior*, 93, 81-93.
57. Ragan, E. D., Bowman, D. A., & Kopper, R. (2014). *Motion sickness and latency effects on user performance with head-mounted displays*. In *Proceedings of the 2014 IEEE Virtual Reality (VR)* (pp. 15-20).
58. Ragan, E. D., Sowndararajan, A., Kopper, R., & Bowman, D. A. (2015). *The effects of higher levels of immersion on procedure memorization performance and implications for educational virtual environments*. *IEEE Transactions on Visualization and Computer Graphics*, 21(6), 727-734.
59. Ranon, R., & Chittaro, L. (2001). *Virtual science museums: How do users search and explore?* In *Proceedings of the International Conference on Virtual Systems and Multimedia* (pp. 158-167).
60. Rebenitsch, L., & Owen, C. (2016). *Review on cybersickness in applications and visual displays*. *Virtual Reality*, 20(2), 101-125.
61. Resnick, M., Maloney, J., Monroy-Hernández, A., Rusk, N., Eastmond, E., Brennan, K., ... & Kafai, Y. (2009). *Scratch: Programming for all*. *Communications of the ACM*, 52(11), 60-67.

62. Riva, G., & Mantovani, F. (2012). *Neuroscience of virtual reality: From virtual exposure to embodied medicine*. *Cyberpsychology, Behavior, and Social Networking*, 15(2), 67-72.
63. Riva, G., Waterworth, J. A., & Waterworth, E. L. (2014). *The layers of presence: A bio-cultural approach to understanding presence in natural and mediated environments*. *Cyberpsychology, Behavior, and Social Networking*, 17(7), 405-412.
64. Robert, T. (2019). *Virtual reality in chemistry education: Is it realistic?* *Chemical Education Research and Practice*, 20(2), 447-458.
65. Rolfe, B. (2001). *Fostering complex thinking in the classroom: A comparison of problem-based learning and concept mapping pedagogies*. In J. Andriessen, M. Baker, & D. Suthers (Eds.), *Arguing to learn: Confronting cognitions in computer-supported collaborative learning environments* (pp. 163-194). Kluwer Academic Publishers.
66. Rose, F. D., Brooks, B. M., & Rizzo, A. A. (2005). *Virtual reality in brain damage rehabilitation: Review*. *Cyberpsychology & Behavior*, 8(3), 241-262.
67. Rosenthal, R. (1979). *The file drawer problem and tolerance for null results*. *Psychological Bulletin*, 86(3), 638-641.
68. Roth, W. M., & Roychoudhury, A. (1993). *The development of science process skills in authentic contexts*. *Journal of Research in Science Teaching*, 30(2), 127-152.
69. Santhosh, K., & Suja, V. (2020). *Virtual reality for science communication and education: A study*. *International Journal of Engineering Research & Technology*, 9(2), 133-136.
70. Scalice, D., & Schacht, S. (2016). *Virtual reality in science education*. In *Proceedings of the 3rd Annual International Conference on Virtual and Augmented Reality in Education* (pp. 3-9).
71. Schaller, D. T., & Allison-Bunnell, S. (2009). *Evaluating virtual reality for conceptual transfer in chemistry*. *Journal of Chemical Education*, 86(5), 652-655.
72. Schuemie, M. J., van der Straaten, P., Krijn, M., & van der Mast, C. A. (2001). *Research on presence in virtual reality: A survey*. *Cyberpsychology & Behavior*, 4(2), 183-201.
73. Selmanovic, E., & Riecke, B. E. (2017). *Virtual reality science communication: A study on the impact of different VR systems on users' sense of presence, comprehension, and memory*. In *Proceedings of the ACM SIGGRAPH Symposium on Applied Perception* (pp. 1-8).
74. Shute, V. J., & Sun, C. (2012). *What is assessment for learning?* In *Assessment and learning* (pp. 3-12). Springer, Dordrecht.
75. Slater, M., & Wilbur, S. (1997). *A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments*. *Presence: Teleoperators and Virtual Environments*, 6(6), 603-616.
76. Slater, M., & Wilbur, S. (1997). *A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments*. *Presence: Teleoperators and Virtual Environments*, 6(6), 603-616.

77. Smale, B. J. A., & MacGregor, J. N. (2018). Augmented reality for teaching chemistry: Understanding solvent effects on SN1 reactions using the p ARticle editor. *Journal of Chemical Education*, 95(12), 2311-2316.
78. Smale, B. J. A., & MacGregor, J. N. (2020). Virtual reality for teaching chemistry: Virtual realignment of crystal structures. *Journal of Chemical Education*, 97(2), 358-364.
79. Solomon, D. J. (2002). *Writing for science*. Heinemann.
80. Squire, K. D. (2006). From content to context: Videogames as designed experience. *Educational Researcher*, 35(8), 19-29.
81. Steuer, J. (1992). Defining virtual reality: Dimensions determining telepresence. *Journal of Communication*, 42(4), 73-93.
82. Straus, S. E., Richardson, W. S., Glasziou, P., & Haynes, R. B. (2011). *Evidence-based medicine: How to practice and teach EBM*. Elsevier Health Sciences.
83. Subrahmanian, S., & Weinstock, J. (2005). Interactive, exploratory, virtual science museums: Concept and some exemplars. *Journal of Digital Information*, 6(2), 1-26.
84. Szczur, M. R., & Ziembka, P. (2018). Virtual reality applications in popular science communication. In *Proceedings of the 2018 Federated Conference on Computer Science and Information Systems* (pp. 245-248).
85. Talarico, J., Jorgensen, J., Olsen, D., & Wengreen, H. (2017). Virtual reality in education: A tool for teaching and learning. In *Proceedings of the Society for Information Technology & Teacher Education International Conference* (pp. 1417-1421).
86. Tarng, W., Huang, Y., & Shyu, T. (2008). Exploring the acceptance of virtual reality in education: A preliminary study. In *Proceedings of the 2008 3rd International Conference on Digital Interactive Media in Entertainment and Arts* (pp. 7-14).
87. Terry, D. M., & Vélez, J. (2018). Immersive virtual reality science learning: A longitudinal study in secondary education. *British Journal of Educational Technology*, 49(3), 355-370.
88. Thill, K. P., Otte, M., & Sander, P. (2020). The potential of virtual reality for nature conservation communication: A systematic review. *Environmental Communication*, 1-18.
89. Tressler, C. (2019). Virtual reality for science communication and informal learning. *Science Communication*, 41(1), 121-136.
90. Truszkowski, W. F., Rash, J. L., Rouff, C. A., Hinckley, M. G., & Rash, J. (1997). System safety: A virtual reality approach. *ACM Computing Surveys (CSUR)*, 29(4), 352-357.
91. Tuomi, I. (2002). *Networks of innovation: Change and meaning in the age of the Internet*. Oxford University Press.
92. Van Vugt, H. C. (2002). Immersive virtual reality as a research tool for social psychologists. *PsychNology Journal*, 2(3), 222-253.
93. Vorderer, P., Klimmt, C., & Ritterfeld, U. (2004). Enjoyment: At the heart of media entertainment. *Communication Theory*, 14(4), 388-408.

94. Wang, X., Xu, B., Liu, B., He, M., Wang, X., Liu, Y., & Sun, Y. (2020). Virtual reality (VR) technology for geological education and science communication: A review. *Journal of Computers in Education*, 7(4), 563-582.
95. Wilson, K. A., Bedwell, W. L., Lazzara, E. H., Salas, E., Burke, C. S., Estock, J. L., ... & Conkey, C. (2009). Relationships between game attributes and learning outcomes: Review and research proposals. *Simulation & Gaming*, 40(2), 217-266.
96. Wu, H. K., Lee, S. W. Y., Chang, H. Y., & Liang, J. C. (2013). Current status, opportunities and challenges of augmented reality in education. *Computers & Education*, 62, 41-49.
97. Youngblut, C., & Kent, S. (2004). Challenges for using instructional technology. *Educational Media International*, 41(3), 211-223.
98. Yun, H., & Kapralos, B. (2019). Virtual reality for scientific data visualization: A review. *Journal of Visual Languages & Computing*, 52, 78-93.
99. Zhang, X., Yun, H., Qian, L., & Wang, G. (2019). Virtual reality for science communication: A study on the influence of multiple roles on knowledge memory. *Journal of Visual Languages & Computing*, 53, 100874.