References

Bowen, B. & Deluca, W. (2015). Comparing traditional versus alternative sequencing of instruction when using simulation modeling. *Journal of STEM Education, 16*(1), 5-10.

Carvin, A. (2000). More than just access: Fitting literacy and content into the digital divide equation. *Educause Review, 35*(6), 38-47.

Chen, S., Chang, W-H., Lai, C-H., & Tsai, C-Y. (2014). A comparison of students' approaches to inquiry, conceptual learning, and attitudes in simulation-based and microcomputer-based laboratories. *Science Education, 41*(5), 905-935. https://doi.org/10.1002/sce.21126

de Jong, T. (2006). Technological advances in inquiry learning. *Science, 312*(5773), 532-533. https://doi.org/10.1126/science.1127750

de Jong, T., Linn, M. C., & Zacharia, Z. C. (2013). Physical and virtual laboratories in science and engineering education. *Science, 340*(6130), 305-308. https://doi.org/10.1126/science.1230579

Finkelstein, N. D., Adams, W. K., Keller, C. J., Kohl, P. B., Perkins, K. K., Podolefsky, N. S., & Reid, S. (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), 010103-1 – 010103-8. https://doi.org/10.1103/PhysRevSTPER.1.010103

Finstein, J., Darrah, M. & Humbert, R. (2013). Do students in general high school physics classes learn as much from virtual labs as from hands-on labs? *National Teacher Education Journal, 6*(3), 61-70.

Foti, S. & Ring, G. (2008). Using a simulation-based learning environment to enhance learning and instruction in a middle school science classroom. *Journal of Computers in Mathematics and Science Teaching, 27*(1), 103-120.

Kelly, J., Bradley, C., Gratch, J., & Maninger, R. (2007). A reflective discourse on science learning and the merits of simulation. *Journal of Thought 42*(34), 23-38.

https://doi.org/10.2307/jthought.42.3-4.23

Kim, P. (2006). Effects of 3D virtual reality of plate tectonics on fifth grade students' achievement and attitude toward science. *Interactive Learning Environments, 14*(1), 25-34. https://doi.org/10.1080/10494820600697687

Lalley, J. P., Piotrowski, P. S., Battaglia, B., Brophy, K., & Chugh, K. (2010). A comparison of V-Frog© to physical frog dissection. *International Journal of Environmental and Science Education, (5)*2, 189 – 200.

Perkins, K. K., Loeblein, P. J., & Dessau, K. L. (2010). Sims for science: Powerful tools to support inquiry-based teaching. *Science Teacher, 77*(7), 46-51.

Prentice Hall Science Explorer (Eds.). (2009). *Georgia Earth Science*. Upper Saddle River, NJ: Pearson-Prentice Hall.

Renken, M. D. & Nunez, N. (2013). Computer simulations and clear observations do not guarantee conceptual understanding. *Learning and Instruction, 23*, 10-23. https://doi.org/10.1016/j.learninstruc.2012.08.006

Ronen, M. & Eliahu, M. (1999). Simulation as a home learning environment – students' views. *Journal of Computer Assisted Learning 15*(34), 258-268. https://doi.org/10.1046/j.1365- 2729.1999.00101.x

Roschelle, J., Pea, R. D., Hoadley, C. M., Gordin, D. N., & Means, B. (2001). Changing how and what children learn in school with computer-based technologies. *The Future of Children, 10*(2), 76-101. https://doi.org/10.2307/1602690

Roseman, R. B., & Jones, D. L. (2013). Utilization of hands-on and simulation activities for teaching middle school lunar concepts. *AIP Conference Proceedings, 1513*(1), 346-349. https://doi.org/10.1063/1.4789723

Smart, J. B. (2014). A mixed methods study of the relationship between student perceptions of teacher-student interactions and motivation in middle level science. *RMLS Online: Research in Middle Level Education, 38*(4), 1-19. https://doi.org/10.1080/19404476.2014.11462117

Stern, L., Barnea, N. & Shauli, S. (2008). The effect of a computerized simulation on middle school students' understanding of the kinetic molecular theory. *Journal of Science Education and Technology, (17)*, 305 – 315. https://doi.org/10.1007/s10956-008-9100-z

Trey, L. & Khan, S. (2008). How science students can learn about unobservable phenomena using computer-based analogies. *Computers & Education, 51*(2), 519-529. https://doi.org/10.1016/j.compedu.2007.05.019

Tuan, H-L., Chin, C-C., & Shieh, S-H. (2005). The development of a questionnaire to measure students' motivation towards science learning. *International Journal of Science Education, 27*(6), 639-654. https://doi.org/10.1080/0950069042000323737

United States Census Bureau. (2010 – 2014). *Quick facts Cumming City, GA* [Data file]. Retrieved from https://www.census.gov/quickfacts/table/PST045215/1320932,13117,00

van Joolingen, W. R., de Jong, T., & Dimitrakopoulou, A. (2007). Issues in computer supported inquiry learning in science. *Journal of Computer Assisted Learning, 23*(2), 111-119. https://doi.org/10.1111/j.1365-2729.2006.00216.x

Wecker, C., Kohnle, C. & Fischer, F. (2007). Computer literacy and inquiry learning: When geeks learn less. *Journal of Computer Assisted Learning, 23*(2), 133-144. http://doi.org/10.1111/j.1365-2729.2006.00218.x

Wieman, C. E., Adams, W. K., & Perkins, K. K. (2008). Simulations that enhance learning.

Science, 322(5902), 682-683. https://doi.org/10.1126/science.1161948

Williams, K., Kurtek, K., & Sampson, V. (2011). The affective elements of science learning: A questionnaire to assess – and improve – student attitudes toward science. *Science*

Teacher, 78(1), 40-45.