Examining the Relationship between Educational Technology and Constructivism in the Classroom: An Annotated Bibliography

Technology can assist educators in creating a constructivist learning environment. It offers a tremendous amount of information, tools for creativity and development, and various environments and avenues for communication. Constructivism changes the role of the teacher so that teachers help students construct knowledge rather than reproduce knowledge. The research found below supports the idea that using technology in the classroom allows for a more student-centered, constructivist learning environment.


The authors in this article reinforce the fact that the big challenge of today is to move schools away from authoritarian classrooms with abstract notions to constrictive environments in which learning is achieved through experimentation, practice and exposure to the real world. This article also described how instructional design functions within the constructivist framework. In contrast to Thorsen and Strommen the author brings to light some of the challenges constructivism holds for educational technologists and instructional designers as well. While this article touched a little bit more on instructional design and constructivism then some of my other research, it did give me a nice perspective of the challenges it will take to transform our classrooms and put all this theory into practice.


The authors, Aloka Nanjappa is currently a doctoral candidate, Instructional Design and Technology, Department of Instructional Curriculum and Leadership, University of Memphis, Tennessee and Michael M. Grant who is an Assistant Professor at the University of Memphis in the Instructional Design and Technology program bring to light the interrelationship between constructivism and technology as revealed by empirical research. The case studies they provide include a variety of studies in a variety of settings – teacher education, online learning, and K-12 education; constructivist strategies include collaborative and cooperative learning methods, engaging in critical and reflective thinking, evaluation through electronic portfolios, and a critical look at emerging teacher roles within constructivist paradigms. Much like Rakes, G. C., Flowers, B. F., Casey, H. B., & Santana, R, Nanjappa and Grant used great examples and case
studies to back up their work. This was one of the best research sources I have read to show the connection between educational technology and constructivism in the classroom.


The authors, all from University of Louisiana at Monroe, examine the relationship between teacher perceptions of their constructivist behaviors and their use of technology in their classrooms. Results from their study indicate that integrated technology use in the classroom and strong technology skills among teachers may be factors that encourage teachers to use constructivist practices. They go on to discuss the implications for technology training for K-12 teachers. This was a great article that strongly supports my research and helps make the connection between technology, constructivism and the present possibilities for classroom strategies that vary dramatically from those used in the traditional information-transfer model of instruction and presents possibilities for producing students who possess the skills necessary for work and life-long learning. Unlike any of the other authors I researched, Rakes, G. C., Flowers, B. F., Casey, H. B., & Santana, R used many surveys and examples to demonstrate how technology-using teachers are using constructivist behaviors in their classrooms.


Roblyer, University of Maryland, in Chapter 2: Foundations of Effective Technology Integration Models: Theory and Practice, examines the theories of constructivism along with some of the early proponents of it. Roblyer also documents how constructivist learning theories lead to inquiry-based technology integration strategies. Unlike most of the other authors in my research, this was more of a background on constructivism and how the theory of constructivism influences how technology gets integrated. This was helpful in my research because it gave me a good background on the theory of constructivism whereas my other research articles focused more on the correlation between technology and constructivism.


The authors Erik Strommen and Bruce Lincoln, from the Bank Street College of Education, reiterate how technology has effectively revolutionized how we must educate the "21st century child," raised in a world of instant information. They feel what is needed is a guiding philosophy that suggests principled changes in the curriculum, and effective uses of technology as part of these changes. Much like Nanjappa and Grant, the authors feel that this philosophy must be constructivism; a theory based on the premise that children actively construct their knowledge rather than simply absorbing ideas spoken at them by teachers, or somehow internalizing them.
through endless, repeated rote practice, constructivism believes that children actually invent their ideas. This article helps support my research and the relationship between educational technology and constructivism in the classroom.

**Thorsen, C. (2003).** *TechTactics: Instructional models for educational computing. Boston: Allyn and Bacon, 1, 4-5.*

The author, Carolyn Thorsen, Boise State University, focuses on using technology effectively in the classroom and how it requires more than basic computer skills because computers should fit into a larger context: the learning environment. Much like Strommen and Lincoln in their findings, Thorsen believes one kind of learning environment computers fit well in is based on the constructivist theory of learning. Her thoughts are in line with my research and the correlation between educational technology and constructivism in the classroom.