

### **Multimedia in Learning and Teaching**

Mammarella, N., Fairfield, B., & Di Domenico, A. (2012). When spatial and temporal contiguities help the integration in working memory: "A multimedia learning" approach. *Learning and Individual Differences, 24*, pp. 139-144. doi: 10.1016/j.lindif.2012.12.016

The authors, who are professors in the department of neuroscience and imaging at the University of Chieti in Chieti, Italy, were interested in how working memory is influenced by spatial and temporal contiguities. The study, which was supported by a PRIN grant, used twenty-five undergraduate students from the University of Chieti with a mean age of 22.47 years. In the authors' first experiment, they used a modified version of Mitchell et al.'s (2000) basic design to explore spatial contiguity with the accuracy scores expressed in a like manner as well. In the second experiment, the multiple images were studied sequentially rather than simultaneously. Contrary to studies by Allen (2006) and Reinitz & Hannigan (2004) in which no beneficial contiguity effects on performance were found, the authors concluded that the linking of verbal and pictorial information will benefit from continuity in a student's working memory. The intended audience for this article would be other researchers and teachers.

Schrand, Tom (2008). Tapping into active learning and multiple intelligences with interactive multimedia. *College Teaching*, 56(2), pp. 78-84.

The article was written by the author who is the associate dean for the school of liberal arts and an associate professor of history at Philadelphia University. The author cited a 1998 report by Coopers and Lybrand which stated that growth in technology was pushing for change in education just as the health care industry had to make a change. The author asserts that even though change is need, most uses of technology are an extension of passive forms of student learning. The author created two activities in his classroom utilizing animation during cooperative learning activities. He discovered that the students had a high level of engagement and was able to relate his finding five of the seven broad principles outlined by Chickering and Gamson (1987). The author determined that proper use of technology in an active learning environment is needed more among professors on the university level. The audience for this article would be professors and teachers.

Cummins, C. (2013, April/May). Celebrating Teachers: Using technology to make a difference. *Reading Today*, 30(5), 2-4.

Carrice Cummins is the current president of the International Reading Society. Along with being president, she is the Gerald and Shirley Cobb endowed professor in Education at Louisiana Tech University. The article encourages the use and knowledge of technology to enhance teaching. Teachers do not have to know everything about technology in order to begin. She relates two particular

teachers who are finding success in using technology with their children.

Kimberly Hunt who uses Ipads in her class in Hastings, New Jersey and Mike Lewis who is a fifth grade teacher in Massachusetts. The author relates the positive impact that technology has in their teaching. The audience for this article would be a classroom teacher.

Electronic Education Report. (2103). *Teachers want more technology, According to PBS Survey. 20(5), 8.*

This article reports findings from a survey done by PBS Learning Media. PBS Learning Media is a leading provider with over twenty thousand free teacher resources and digital media for classroom instruction. They surveyed 500 teachers from around the country, and released the results at the 2012 Florida Education Technology Conference. The survey discovered that teachers desire more access to technology because of the benefits that are being found from technology such as expanding on content, using multiple learning styles, and the ability to demonstrating things they would not be able to otherwise. The statistics found within the article are beneficial for teachers and administrators.

Enok joel, T. & Thangarajathi, S. (2012, May). Impact on multimedia in teaching and learning. *Golden Research Thoughts, 1(11).* 1-4.

The authors agreed with Tom Schrand that higher education is being changed by technology, and multimedia can be used in many different ways. They support a balance between teacher and multimedia in education. The authors assert that

multimedia enables to the learner to understand more quickly than in a traditional classroom setting. They used Mayer's definition of multimedia and cognitive theory of multimedia learning to build a foundation for their conclusions. The authors are assistant professors in the department of educational technology at Bharathiar University. The audience for this article would be teachers.

Larkin, P. (2013, April). Tweeting the good news and other ways to use social media. *Educational Leadership, 70(7), 70-72*

This article highlights Burlington High School. In the fall of 2011, Burlington High School became the first school in Massachusetts to give every student an Ipad. The school established a student directed resource center which they support with Tony Wagner's five essential practices as keys to educational innovation. They also believe that teaching citizenship includes digital citizenship. The article also list the benefits of using social medias such as Twitter to distribute information to media, students, and parents. The author, Patrick Larkin, is the newly appointed assistant superintendent for learning for Burlington Public Schools. He was the principal at Burlington High School for the previous five years. Administrators and those in leadership positions would be the intended audience for this article.

Larson, L. C. E-reading and e-responding: new tools for the next generation of readers. *Journal of Adolescent & Adult Literacy, 53(3), 255-258*. doi: 10.1598/JAAL.53.3.7

This study concentrated on features and functionality of e-books. The author uses J. Evans definition of text from "Literacy moves on: Popular culture, new

technologies, and critical literacy in the elementary classroom” which defines text as something written down but also a chunk of discourse. The author studied the impact of e-books due to the multimodal features on 10 fifth graders with no prior e-book experience. All the fifth graders reported a preference of e-books over traditional books. The authors points to Rosenblatt’s (1938/1995) transactional theory of reader response because of the personal experience and engagement with the text the students could create because of the e-reader tools. The audience of the article would be teachers and parents.

Mayer, R. E. & Johnson C. I. Revising the redundancy principle in multimedia learning. *Journal of Educational Psychology*, 100(2), 380-386. doi: 10.1037/0022-0663.100.2.380

The authors are part of the University of California, Santa Barbara’s department of Psychology. Richard Mayer is part of defining the redundancy effect through previous studies which concluded that redundancy hindered learning. Mayer (2001, 2005a) developed the cognitive theory of multimedia learning which stated that when words and graphics registered in their sensory memory then meaningful learning could occur. In this study sponsored by a grant from the Office of Naval Research, Mayer wanted to modify the redundancy effect to aide in the first step in his cognitive theory. The study used 90 undergraduates from the University of California with a mean age of 18.29 years. He discovered that adding a short text next to narrated graphics showed an improvement in the retention of verbal material but not on transfer. Consequently, he concluded that using a smaller amount of words next to the graphic aided in the first step of the

cognitive theory. The audience for this study would include researchers and presenters.