

*Bridging Neuroscience and Technology for Teaching and Learning Mathematics*

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*Teaching and learning may be viewed from two different perspectives. The conventional approach is based on the transfer of knowledge from instructor to student via verbal, visual, spatial, or other means. The neuroscience approach views teaching and learning as a sequence of processes aimed at structuring memory: it understands knowledge transfer as a direct impact on the human brain that forms domains which eventually act as knowledge centers.*

*This paper suggests that using technology in the mathematics classroom serves to implement the teaching tools suggested by the neuroscience approach. It presents evidence that technology contributes to the optimization of the process by which information is accumulated in working memory. In addition, technology sets the appropriate pace of information transfer from working memory to long-term memory. Technology allows for an increase in the intensity of knowledge transfer from instructor to student, while avoiding any overload on the students' working memory. On the other hand, absence of technology could likely lead to student overload and result in mathematical anxiety. It would also increase the workload for instructors trying to impart new knowledge in smaller portions with more frequent assessments. This paper considers the role of technology based on a partial implementation of this approach in a community college.*