

1086-VE-2771 **Alexander G. Atwood*** (atwooda@sunysuffolk.edu), 533 College Road, Selden, NY 11784.
*How Can Cardiovascular Exercise Change the Brain and Improve the Learning of
Mathematics?* Preliminary report.

Recent research at the University of Illinois at Urbana-Champaign by A.F. Kramer and collaborators shows that cardiovascular exercise significantly increases the volume of a key region of the human brain involved in learning, the hippocampus, and improves cognition related to long term memory encoding, storage and retrieval in children. What are the possible biochemical and physiological mechanisms of this change in brain structure and in cognition, and how can cardiovascular exercise improve the way in which students learn mathematics? (Received September 25, 2012)