REVOLUTION IN MATHEMATICS EDUCATION: CREATING NEUROSCIENCE-TECHNOLOGY SYNERGY IN THE CLASSROOM

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Revolutionary mathematics education is underway. The learning process is being transformed through state-of-the-art techniques based on current neuroscientific understanding combined with technological enhancement. Current research indicates two important factors that are changing students' learning and interaction with mathematics: brain-based learning strategies and strategic integration of computer technologies.

BBL is one of the new methods in teaching math, which harmonizes the methods of teaching with natural ways of processing and storing information inside the human brain. One study, for instance, is one conducted by Amjad et al. (2023). It was discovered that students have high intrinsic motivation to learn and perform mathematics if this BBL method is given to them. Thus, as long as educators align their learning activity with neuroscientific principles, this would create more exciting and effective environments for learning. At the same time, technological integration is profoundly changing mathematical education. For Wiest (2024), computers are not just add-ons but powerful helps that change mathematical thinking and insight. The technological demands of modern society call for a changed mathematics curriculum and pedagogy. Computers provide lively ways of exploring mathematical concepts, experiences that lecture methods cannot produce.

This synergy between brain-based learning and technology provides opportunities that are very exciting for educators. Teachers can use digital platforms to create customized, brain-friendly learning experiences to meet the unique needs of each

student. Interactive mathematical applications, virtual manipulatives, and adaptive learning technologies can be used in teaching to make complex concepts intuitively graspable to the students. However, implementation should be well thought out. Teachers should not mindlessly embrace technology; they should not use digital tools only as a distraction and not really enhancing the learning process. Professional development programs should concentrate teaching skills that will be necessary for effective implementation of new approaches.

This developing education landscape promises to make learning mathematics more exciting, personalized, and meaningful for students. With brain-based principles, strategic technological integration, and an emphasis on the processes of mathematics learning, we can turn the daunting character of mathematics into an interesting voyage of discovery and problem-solving. Research in education continues to develop, and inevitably, the connection among neuroscience, technology, and pedagogy will play a critical role in future mathematics education approaches.

References:

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