

Overview

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Learning, Teaching, and the Brain

The toolkit for making discoveries about the human brain has included dynamite, photographs of the ghostwriter in the brain, and the art of Zen.

Modern brain science presents us with profoundly challenging findings about how our brain works. The human brain is alive with such competing activities as beliefs vs. rational thoughts, imaginary stories vs. realistic perceptions, and avoiding the unknown vs. taking on challenges. This brain deals with reality by making stories about it. Moreover, nearly all of its activity lies outside our conscious awareness.

These findings ask us to reimagine how to design ways to help our students develop such STEM skills as recognizing, analyzing, and evaluating, and then integrate these skills for complex problem-solving and effective action in the technological world in which they live.

In light of these findings, what does an environment look like that enhances our learners' abilities to acquire and retain complex knowledge and skills? How do we accurately assess the knowledge and skill development going on deep inside the minds of our learners?

Our consideration of the mysteries of the learning brain will guide us towards powerful methods and practices we can use to help our learners reach their potentials.