The Benefits of Taking a Kinesthetic Approach to STEM

"The greater the duration of time in the chair, the greater the depth of student despair."
—Eric Jensen

We were made to move—the younger we are, the more we want and need to move. Research has found that a student's learning process, not their level of intelligence, is the most important indicator in determining learning abilities. According to an article from Edutopia, kinesthetic learning takes the multi-disciplinary approach to learning to another level by connecting the different ways in which we learn, enabling a more effective understanding and increasing retention of information. With this approach, movement and action replace more passive forms of learning, fostering curiosity and creativity, and allowing students to confidently and actively absorb concepts while connecting them to real life.

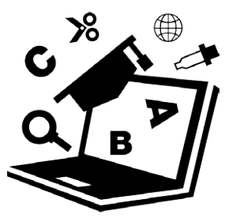
What is Kinesthetic learning and why is it so important?

Kinesthetic learning connects the different ways in which we learn and enables a more effective understanding and retention of information throughout a STEM-focused curriculum.

The same way that movement shapes the muscles, heart, lungs, and bones, it also strengthens key areas of the brain and fuels connections between neurons.

Movement & active learning replace passive forms of learning.

Kinesthetic learning occurs as students engage in a hands-on activity: learning by doing, exploring, and discovering.



According to educational researcher William Glasser, we learn:

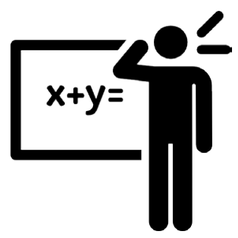
10% of what we read,
20% of what we hear,
30% of what we see,
50% of what we both see and hear,
70% of what we discuss with others, and
95% of what we teach to someone else.

Simple movements that students do when carrying out a lab or other activity-based learning can raise the heart rate by up to **10%** and send a little extra fuel to the brain.

STEM is increasingly shaping our future. When integrated with STEM-focused curriculum and activities, kinesthetic learning excites and encourages students to further explore their interests in STEM fields by breaking down mental barriers associated with certain lessons or concepts.

SHINE for Girls, utilizes kinesthetic learning by combining math with dance. It produced:

273% improvement in math scores, **10%** improvement in confidence as measured by before and after testing.



Today's employers want people who can work together to build things, solve problems, and get things done. Studies show the average employee spends **more than 75%** of his/her time on team-based tasks.

Research (Donevan & Andrew, 1986) shows that students who are more actively engaged on a daily basis display:

- **Better academic performance**
- **Better attitude toward school**
- **Increased baseline of new neuron growth**

According to researcher and Harvard Medical School professor Dr. John Ratey (2008, p. 10), hands-on activities "provides an unparalleled stimulus, creating an environment in which the brain is ready, willing, and able to learn."

24% increase in student scores in kinesthetic based learning over traditional sit & get model.

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