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Abstract

A rumination on dance and STEAM

Keywords

STEAM, dance, physical geometry, problem-solving, spatial awareness, physical intelligence, mathematics

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Dance – a healthy gateway to STEAM practice

Kenneth Walker

Why is dance important? Dance is the physical manifestation of all that STEAM embodies. Dance is a physical geometry, it is problem-solving, spatial awareness, physical intelligence, and mathematics encompassed in one activity. As we become more invested in analytical and creative jobs oftentimes we become less understanding of our physicality. The older we get this becomes a detriment to our overall health. It has been generally recognized that good health combines the wellness of the body, mind, and spirit Good health in today's era goes beyond just physical wellbeing. It is important to stay active through exercise, to positively impact the body, especially as we get older. Dance allows us to move our physical bodies while also connecting our minds and spirits to the activity.

How does dance touch upon math, design thinking and problem-solving? The arts provide an avenue through which STEM can be interpreted. Music can be understood as audible math. The dancer must stay in time with the music in order to execute steps with ease and coordination. Understanding how time is subdivided and accented allows the dancer to problem solve how to execute each step within the given parameters of the music. Further enhancing the participant's comprehension of math is the use of geometry. In many forms of movement, it is not only steps and feelings that need to be emulated or recreated. For forms of dance like ballet and many older cultural dances, accurate positions must be achieved. To attain these specific positions the practitioner must understand the angles and shapes that their body is attempting to replicate. All of this helps the student to work on math without having to think of numbers. For some, where just the thought of word

problems or complex equations is enough to induce flop sweat, this could be a gateway to getting them to think of math differently.

Additionally, as we become more entrenched in the thought economy we become less in touch with our physical and primal selves. To evolve past our primal self is a good thing. It moves us past tribalism creates more egalitarian societies. To understand our bodies less is really to understand ourselves less. We are not just minds, not just bodies, and not just spiritual entities. We are a combination of all three. To lessen our understanding of one is to lessen our understanding of the others.



Dance is a social activity, especially social dance, duh! Dance always has been and always will be a social activity. It bound us as tribes and helped us appreciate the world around us. Dance will help the next generation interact and recognize other humans better. Social media, online games, and more can help us interact with each other in a digital world but we're educating a whole generation of people who rarely interact with each other in person or the world around them outside of a digital universe.

We accept that people learn differently but we have not strived to make that reality happen in any meaningful way in education. Movement, dance, coming away from a completely stationary desk system could help some of our students (especially those who have a hard time sitting still) understand and learn. Dance touches upon other intelligences that we should be fostering including spatial, inter-personal, musical, and bodily-kinesthetic. Really the whole crux of STEM or STEAM is to create design thinking and analytical professionals. I can't think of a better way to help them with this than the 3D problem solving and creativity of dance. Dance is a healthy way to create risk-taking and creative problem-solving professionals. Using dance or any of the other arts to socialize, teach, motivate, and even treat our student bodies doesn't have to take the focus off of Science, Engineering or Math. Dance can be a point of physical manifestation and understanding of STEM. Dance has always been a part of the human experience and as long as we are moving and mobile species will continue to be. Let's not ignore those things that make us human but use them and celebrate them.