

S-T-E-M or STEM, which one and why?

Doctors practice the “art” of medicine; Scientists wonder “why”; Engineers figure out “how” - All are familiar phrases and all three are somewhat true. What is completely true is that doctors, engineers, and scientists need STEM to succeed. So what is STEM, who really needs STEM, why is STEM different, and why do you need to be engaged in STEM education?

STEM is our current societal acronym for Science – Technology – Engineering and Mathematics. By combining the S-T-E-M components it becomes a much more powerful and meaningful discipline with four strong and important elements that do not need to compete with each other for importance or priority. In this STEM construct, engineering or technology cannot stand alone without the foundations of science and math, and science and math cannot be applied or made relevant without engineering and technology.

Integrated STEM education is important to our society, but it is particularly necessary for manufacturing and technology endeavors. The integration of these four elements is the food for innovation, and innovation drives our economy. Manufacturing that survives this recession, and then thrives afterwards, does so because its workforce can utilize STEM driven innovation to locate and/or develop the technology required to make their manufacturing processes optimal, efficient, and profitable. Now is time to get engaged with STEM education initiatives to develop a strong workforce with the integrated technical skills and knowledge in science, technology, engineering and math.

This blended STEM background for our workforce will not happen if STEM is kept downgraded to its four individual components; science, technology, engineering and mathematics (S-T-E-M). We have a great opportunity to effect change now with the emphasis on STEM education, but let’s not stop at the easy level, S-T-E-M, let’s strive for the higher level of an integrated STEM education system.

It is at the confluence of these four disciplines that creative and analytical thinking, teamwork, and innovation grow and thrive. To get to that level you need to get involved. Please consider participating in MAF’s Workforce and Education committee, FLATE’s Industrial Advisory Council, your local high school or community college STEM program advisory board, or your Regional Manufacturers Associations’ Education Committee.