



People don't often associate movies, gaming and television with STEM, but it is at the very core of the industry. Though only a few crew members are actual engineers, the problem-solving engineering mind set is a constant – especially with intricate stunt work.

Science, technology and mathematics enter into all phases of the entertainment industry: pre-production, production and post-production. This is obvious with computer generated imaging but extends far beyond.

Real-life stunts and special effects where explosives, weapons, stunt rigging, pneumatic launchers are commonly used, are designed by experts in the fields of biomechanics and technology. The STEM foundation provides credibility in fulfilling the legal, as well as safety requirements deemed necessary by insurance rules and regulations.

Movie and television stunts must be safe, exciting, novel, repeatable and on budget. This requires tremendous collaboration between the various disciplines in film production – writing, directing, acting, camera work, lighting, sound, makeup, costuming, set design, electrical power, stunt work and more. All problems and ultimately solutions must be clearly communicated to maintain the integrity of the production while satisfying stringent requirements for safety and worker agreements. Critical thinking is vital to finding innovative workable solutions. This is every single day of production.

Key participants of a production have numerous meetings to discover immediate solutions to problems. This typically involves creative thinking and innovation, using materials, people and the environment in strange and unusual ways - the magic of cinema!

If you walk around a set and listen to conversations, a common thread is quickly found. They seem preoccupied with talking about deals and opportunities. When asked why, they look at you askance before realizing that you are probably a salaried employee of a company.

They are not. Every job is viewed as a process that inevitably will finish. This realization of the nature of the entertainment industry drives every participant to be creative in their approach to create future projects or work towards. They are true entrepreneurs!

So the next time you sit back, relax and enjoy a movie or television show, consider the host of STEM experts applying the 4C's (Critical thinking, Creativity, Communication and Collaboration) of 21st century learning to bring you the best in entertainment value. If you are a student, think about how the STEM education can help provide you the skill set necessary in finding satisfying employment in this growing, recession-proof industry.

