



Parliamentary and



Scientific Committee

Established 1939

Bringing Science and Parliament together

STEM Education and Skills

STEM, STEMM, or STEAM?

Across STEM today there are a large number of initiatives in place, but are they currently making a positive impact? Its clear there many issues surrounding STEM, including coherence, stereotyping, and funding, that are preventing the progress in these academic disciplines. This month's discussion meeting raised suggestions and ideas, from schooling and OFSTED to the apprenticeship levy and upskilling, about the future of STEM Education.

Many societies, industries and organisations have strategies surrounding STEM education, but there is currently no coherent plan. The Governments first task must be to establish a body who can create a framework which can be followed across the UK. This body not only needs to set short term goals, but also a target of where STEM Education will be in the long-term. However, a key step towards coherence is the use of clear and consistent language, for example, the main cause of confusion: is it STEM, STEMM or STEAM?

Attached to STEM subjects and careers there are certain stereotypes which are still present today. For example, less than 30% of the worlds STEM researchers are women. Fortunately, we are slowly seeing positive changes in the statistics, however, there is still a long way to go. Changing the current out-dated views of STEM careers needs a large publicity campaign, for example showing underrepresented minorities in a broad range of STEM careers. Also, an action plan needs to be implemented across schools to prevent stereotypes being formed, which usually occurs at Primary age.

An increase of enthusiasm for STEM careers all begins with the schooling. From a young age it's vital that STEM subjects are taught to a high

standard, but in order for this to happen more support and training must be available to teachers. It was wholly agreed that Secondary School, teachers should have either a degree or two years specific training in their respective subjects in order for students to get the most from STEM. Teachers and other support staff also must be knowledgeable about the wide variety of STEM career paths. All of these aspects should be a priority for OFSTED. Schools who do not have excellent STEM teachers, facilities and career advice should not be awarded an outstanding rating.

Once in a STEM career, the option for further education should always be open. Companies are crying out to increase up-skilling and re-training, but this of course requires funding. There is no doubt that the apprenticeship Levy creates fantastic opportunities for young people across the UK, however why not put the excess money to good use? Remaining funds could be used to send current employees on courses to obtain new skills and complete qualifications. It was also suggested that the unused levy could go to the NHS to increase their training budget.

From Primary School pupils to mature students, the future of STEM Education and Skills has a lot of promise. Increasing the uptake of STEM careers will require both the undertaking of new initiatives and continuing with current effective strategies. By taking the right action now, we could see the students of today being the leading scientists, doctors, and engineers of tomorrow.

*Charlotte Hall
P&SC Discussion Meeting, 'STEM Education and Skills', 8th July 2019*