

*“Scotland’s economy needs a highly numerate, digitally skilled, capable, creative, entrepreneurial and empowered workforce with a global outlook. There is huge demand for STEM skills, knowledge and capability in Scotland’s economy today and this demand is projected to grow”.*

*(Scottish Government, 2016)*

The **Vertically Integrated Project: STEM Education & Public Engagement** aims to foster both interdisciplinary approach to learning and the development of enhanced communities of inquiry.

Within the project students create and sustain STEM Education Clinics in schools and Public Engagement events within related local communities in Scotland. In so doing, the project develops students’ own STEM domain knowledge and intra-professional skills sets and also seeks to promote the development of STEM literacies across stakeholder communities in which these clinics are set.

Although aspirations are towards developing all participants’ predicate socio-scientific discourse, it is also known that the subsequent associated specialist STEM knowledge and skills set acquisitions this activity promotes are considered a much valued commodity in wider political and economic spheres. It is envisaged therefore, that protracted iterations of the project will elicit these valuable STEM Literacies’ attainment across the longer term.

To this end, the current project has expanded a sustainable evaluative study of STEM Education enhancement within a local community schools. Emphasis here was placed on fostering confidence and development of participant reasoning within STEM through use of the Modified Toulmin Argument Pattern (ModTAP) Analytical Framework (Foong & Daniel, 2010).

Crucially, the study supports the University’s Vision Statement towards making a positive difference to the lives of students, society and the world. It is also aligned with much contemporaneous entrepreneurial thought regarding improving meaningful standards of STEM in Scotland generally and chimes with similar precepts of the UN’s Sustainable Development Goals in Education (2015) and Scottish Government’s STEM Strategy for Education & Training Consultation (2016).