

11.03 Rationale of the proposal and method statement

Rationale of the proposal and Method Statement – Theory of Change [ToC]

Bidders should submit their proposed Theory of Change – an exemplar is supplied for guidance Appendix 8 Theory of Change.

Bidders must also populate **Attachment Submission E - Volumes Financial Spreadsheet**.

The reasoning for asking for both is that the Authority encourages Bidders to use their own style and format for the ToC submission. However to ensure rigorous objectivity in the evaluation the Authority is likely to need to undertake comparisons.

Please explain the relationship of the works proposed to the outcomes sought and the basis of evidence as to why your stated outcomes will be achieved.

1200 words maximum words maximum

+ Attachment Submission A Theory of Change

+ Attachment Submission E - Volumes Financial Spreadsheet

Your response should set out the justification for your proposal linking the activities ('outputs') with the goals of TLIF ('outcomes'). The "Why"– related to the aims of the fund?

- At a minimum your submission should include the event chain:

- Issue(s)
- Input(s)
- Output(s)
- Outcome(s) short / medium long term
- Impacts(s)

Evaluation will be against:

- How and why your interventions will drive the event chain and TLIF's outcomes across the ToC.

Evidence should be supplied for the connection of each stage of the event chain and will be evaluated and weighted based on the type and quality of relevant evidence will be crucial to the evaluation.

In response to recommendations set out in the Quinquennial Review of the National Network of Science Learning Centres, June 2012, STEM Learning developed a clear perspective on the whole school system which sought to “articulate causal connections between CPD and the environment in which it occurs and desired key outcomes.”¹ In developing this approach, the role and impact of STEM Learning has been clearly articulated in our Model of Change <https://www.stem.org.uk/model-change>, allowing a more focussed and targeted approach to our strategic and operational priorities, set within a wider picture of influence and delivering measurable impact within the ‘school system’.

Whilst our organisational Model of Change sits at the heart of our business, our bespoke **AtS** Theory of Change (Diagram 1) provides a clear, coherent framework within which **AtS** interventions can be assessed, from the perspective of a range of key outcome measures and areas of impact. Our **AtS** Theory of Change model aligns well to the recent OECD report, *Equity and Quality in Education: Supporting Disadvantaged Students and Schools* which states “*Reducing school failure pays off for both society and individuals. It can also contribute to economic growth and social development. Indeed the highest performing education systems across OECD countries are those that combine quality with equity. Equity in education means that personal or social circumstances such as gender, ethnic origin or family background, are not obstacles to achieving educational potential (fairness) and that that all individuals reach at least a basic minimum level of skills (inclusion).*”²

Research

Our **AtS** Theory of Change highlights extensively our research base and body of evidence which underpins all stages in the development of this approach. (refer to Attachment E, and www.stem.org.uk/impact-and-evaluation) detailing:

- the range of issues/barriers (from the perspective of students, teachers, schools and communities) limiting young people’s ability to achieve the very best outcomes. (issues)
- the rationale and basis upon which we have developed the **AtS** programme of support (drivers/outputs)
- short and longer term outcomes
- longer term impact

AtS Theory of Change

A complex landscape, consisting of many independent, and interconnected issues, hampers the ability of many schools, particularly those in disadvantaged areas, to achieve the very best outcomes for young people. The **AtS** Theory of Change highlights those currently known issues across our core target groups (inputs) – students, teachers, schools, communities – and details the expected outcomes and impact which we will deliver through **AtS**. **AtS** drivers (outputs) define the individual elements of support – CPD, resources, enrichment/enhancement activities, community engagement. Based upon the specific needs of our priority schools, these interventions will be flexed locally to offer a bespoke and ‘customer driven’ **AtS** solution. Our Theory of Change thereafter highlights a series of outputs leading to key outcomes – both short and long term – and sustained long term

¹ Quinquennial Review of the National Network of Science Learning Centres, June 2012

² OECD (2012), *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*

impact; to help us reach our vision: *to ensure a world-leading STEM education for all young people across the UK.*

In drilling down into our **AtS** Theory of Change, (Diagram 2) we focus on the specific issues of our core target groups (inputs) – students, teachers, schools and communities. Each input is considered separately, assessing the unique and particular constraints at play, and are fully referenced. Challenging schools in the most challenging areas often struggle to overcome complex and interdependent issues, whether student, teacher, school or wider community related. Our **AtS** interventions seek to break down such issues where they exist to ensure we offer and deliver a solution focused, and impact driven programme of support. **AtS** interventions will seek to:

- improve school leadership of STEM subjects
- improve priority schools' climate and environment for learning
- support and retain high quality STEM teachers
- implement effective classroom learning strategies, particularly for those most disadvantaged students
- prioritise linking schools with parents, employers and the wider community

All strands of our Theory of Change focus sharply on delivering sustained and long term impact, with a key outcome of our 'system model' being student aspiration, progression and attainment.

Evaluation and Measurement of Impact

We place the evaluation and measurement of impact as critical underpinning requirements for all our interventions, evidenced by a unique and growing body of independent evaluation and research.

STEM Learning views the impact of our support as a key differentiator in the sector – our unique selling point. Our theoretical framework of embedding evaluation processes and reflective practices into CPD (and other support) and measuring impact remains at the core of our offer, supported by our Impact Toolkit (ITK) process. <https://www.stem.org.uk/impact-toolkit>

With a clear, straightforward process embedded into all teacher development and practice we capture the impact of all our interventions, which triangulated with external evaluations and analysis of student achievement data enables us to present a strong evaluation of our impact.

Maintaining the quality and impact of our work is a priority, and a comprehensive range of mechanisms are in place to support this, including:

- Teachers and STEM Ambassadors engaged in **AtS** will use our Impact Toolkit (ITK), recording their engagement with our support and its impact, including outcomes for young people. This provides direct feedback, enabling us to ensure quality and impact of the offer and respond to changing needs;
- All engaged partners – teachers, school leaders, STEM Ambassadors - reflect regularly on their own impact through impact assessment reporting, driving their own constant review and improvement;

Key to our success is delivering an evaluation and impact process, which teachers and schools own, which they embed into their teaching practice, which provides a natural extension to their teaching and school development plans. STEM Ambassadors and communities will play a critical role in supporting this wider perspective, supporting our ambition of creating an inspirational, 'community' approach to improved student outcomes well beyond the classroom, driving social mobility and wellbeing.

Impact of AtS – how we will measure our success

In *measuring* the longer term impact of **AtS**, our analysis shall include, but not be limited to, the following evidence sources:

- Evaluation data and self-reported data (e.g. ITK) – from teachers, school leaders, STEM Ambassadors. Impact on teachers, colleagues, students, school(s), wider community
- National pupil database:
 - increase of uptake and attainment of STEM A-levels, degrees, T-pathways, vocational pathways, apprenticeships
 - Increase in student outcomes in STEM subjects at GCSE/A-levels/T-levels and pathways/vocational pathways
 - Increase in students taking Triple Science
- Ofsted reports
- Retention data of teachers
- Government and other data (e.g. CBI) on employment statistics and vacancy data
- Wellcome monitor, Public perception surveys – BEIS, HEIs, Employer and sector bodies- Regional CBI/ Local Chambers of Commerce business surveys on STEM uptake.
- International study comparison data from 2010/2013/2015– PISA, TALIS, TIMMS, etc.
- Increase in community and STEM Ambassador engagement with schools
- Increase in website engagement and access to resources/support via www.stem.org.uk