Invitation to Tender: External evaluation of the Polar Explorer Programme

1. Summary

STEM Learning Ltd. is seeking an evaluator to examine the effectiveness of the Polar Explorer Programme (PEP) which aims to engage young people in science, enable them to understand the scientific process and enhance their understanding of STEM (science, technology, engineering and maths) concepts. The programme uses the commissioning, construction, launch and operational role of the polar research vessel ‘Sir David Attenborough’ as a focal point and context in which to develop and deliver an inspiring enrichment programme across the UK.

The targeted element of the programme has, over a 3 year period, supported teachers in 500 schools for which focused support aimed to help address issues of low achievement, attainment and engagement in STEM subjects, particularly of under-represented groups. Such schools have been able to draw upon the capacity and support of local Polar Ambassadors to engage across the PEP. Teachers have access to relevant learning resources to boost engagement with PEP and lead to positive student outcomes.

Key objectives of the programme are:

- Increased engagement, achievement and STEM literacy of students
- Increase in pupils’ knowledge and aspirations towards STEM education and careers
- Improve teaching and learning of science through developing staff STEM subject and career knowledge and pedagogical understanding

The evaluation should cover the period October 2016 to July 2019.

2. Background

Funded by UKRI, The PEP capitalises on the public interest generated by the commission of the new polar research vessel, ‘Sir David Attenborough’, due to be launched in 2019. The programme seeks to increase awareness and understanding of the importance and relevance of STEM subjects to UK society, culture and the economy. It aims to raise awareness of the many career opportunities for young people who attain knowledge and skills in STEM subjects.

All schools across the UK are encouraged to engage with the PEP leading to increased awareness and interest. In addition, a more targeted element of the programme supports teachers in schools for which more focused support could help address issues of low achievement, attainment and engagement in STEM subjects, particularly of under-represented groups. Such schools are able to draw upon the capacity and support of local Polar Ambassadors for a period of one year, to engage
across the PEP. Better access to relevant learning resources, particularly for those teachers with no science background, aims to boost engagement with PEP and lead to positive student outcomes.

The programme commenced with a regional roll-out to 100 primary schools in October 2016 in the ‘Northern Powerhouse’ regions of the North West, Yorkshire and the Humber, Derbyshire, and the North East, aimed primarily at schools with low attainment in STEM subjects (using National KS2 pupil data record), with an additional 400 schools across the UK joining the programme in 2017 and 2018.

Interim, year-end internal evaluations of the programme have shown it to be high quality and impactful, with evidence to show that the programme has met or will meet the key objectives outlined below.

Key objectives are to increase:

**For pupils:**

1. Increase enjoyment and engagement in STEM subject lessons and extra-curricular activities
2. Increase confidence in learning science and in scientific enquiry skills
3. Increased appreciation of the importance of STEM skills
4. Increase attainment and progression in relevant STEM subjects
5. Increase awareness of the importance and relevance of science to society, and the role this plays in relation to helping people live with and adapt to climate change
6. Increase knowledge of the work of the Polar Research Vessel
7. Increase knowledge of career opportunities available to those who study STEM subjects
8. Increase STEM career aspirations

**For teachers:**

9. Increase confidence in the quality of science teaching in schools
10. Enhance subject and pedagogical knowledge
11. Encourage sharing of info and resources
12. Increase access and use of high quality resources for enrichment activities
13. Increase knowledge of STEM careers and how to embed it curriculum teaching

The programme aims to achieve this by providing teachers with:

- The dedicated support of a Polar Ambassador (recruited and trained by STEM Learning). Polar Ambassadors are all STEM Ambassadors and are a mix of educationalists and STEM Industry professionals. Polar Ambassadors provide teacher CPD, guidance and support in organising classroom and whole school activities, arranging visits to sites of interest, and signposting to other opportunities for STEM Ambassador to engage with the schools.
A Polar Explorer activity booklet comprising of a collection of curated resources (grouped into the PEP themes of Engineering, Climate change, Animals, food chains and adaptation, Exploration, and Oceans).

A Polar Explorer Programme school 'starter kit'. As well as the Activity booklet, the starter box contains a range of physical artifacts and items for schools to use as part of their activities and to create classroom displays.

A dedicated Polar Explorer Programme area on the STEM Learning website has been developed as a widely accessible service. The Polar Explorer webpages provide a portfolio of support for schools – primary, secondary and FE – as well as information and resources for those interested in polar science. A range of resources, tools and guidance (catering for all age ranges) is openly available for teachers, STEM Ambassadors, outreach organisations and other interested parties to freely use with their students, youth groups and wider network.

An online community discussion group where engaged schools are encouraged to share ideas, experiences, and resources. The group is open to anybody who is registered on the STEM Learning website, although it is engaged schools who are the most active in this group, sharing details of their activities and school events.

A range of data collection and reporting tools for schools to monitor impact of the programme

3. Purposes of the evaluation

The purposes of the evaluation are to:

- Investigate how successful the programme is at achieving the key aims and objectives
- Assess the level of impact the PEP has had in terms of the teacher, the pupil, the school and the community
- Assess the longer-term impact of schools’ engagement in the programme on teachers, pupils and schools, particularly to what extent the short-term impact (as presented in the aforementioned internal evaluation) has been sustained.
- Assess the efficiency of the project delivery model and provide recommendations on how to improve management, delivery and impact of the programme, especially if adopted for other similar projects or programmes.
- Provide engaged schools with feedback on impact which they can share amongst their community and with funding and assessment bodies.

4. Methodology

The evaluation will be expected to use the available data and combine qualitative and quantitative methodologies. The evaluator will make full use of the programme
monitoring information as well as evaluation and impact data, which STEM Learning has collected internally.

This data consists of Action Plans and Impact Surveys collected from schools, completed in conjunction with their Polar Ambassador. Schools were asked to provide a copy of their action plan – ca. 500 responses were collected via an online action plan survey. At the conclusion of the project, teachers completed an impact survey (ca. 200) which allowed them to report on the impact their engagement had on pupils, teachers and the school as a whole, with relevance to the overall aims of the project.

After reviewing the existing data and identifying further evaluation needs, the evaluator will collect and analyse additional quantitative and qualitative information to complement the programme data. Case studies (of teachers/schools and Polar Ambassadors) must form part of the methodology.

Your tender response should set out a description of the methodology you propose to use for this evaluation; including evaluation models that you feel are particularly suitable for a programme of this kind.

5. Intellectual Property Rights

All intellectual property arising from any work will be vested in STEM Learning Ltd.

6. Deliverables and Audience:

The main deliverables will be a clear, succinct report highlighting emerging findings and a final report that sets out the key findings and makes recommendations for improvements.

The principal audiences for the reports will be STEM Learning's leadership, who will consider the reports so that lessons can be learned and implemented for future programmes using a similar model. The final report will also be shared with the programme’s funders, UKRI, the programme engagement group, and other key stakeholders as required.

7. Timeline:

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<tr>
<th>Activity</th>
<th>Milestone</th>
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<tr>
<td>Open, competitive ITT issued</td>
<td>11 June 2019</td>
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<tr>
<td>Last date for the submission of any queries</td>
<td>19 June 2019</td>
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<td>Deadline for receipt of submissions</td>
<td>21 June 2019</td>
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<tr>
<td>Independent evaluator appointed and evaluation started</td>
<td>W/C 1 July 2019</td>
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8. Costing and pricing

Proposals should include a full budget plan for the whole costs including any anticipated travel, expenses and VAT. All costs should be clear and transparent, clarifying the number of days of each individual working on the activity that they provide. Decisions will be based on perceived value for money, rather than the lowest cost proposal.

**Within the region of £15,000 including vat for the contract period**

9. Tender content

Tenders should show, as a minimum:

- How the aims and actions of the evaluation will be addressed to ensure effective and ethical completion of the evaluation across the UK – Scotland, England, Northern Ireland and Wales.
- The timeline for development of instruments, data collection, analysis and reporting.
- The roles, responsibilities and brief CVs of personnel in the research team.
- A breakdown of costs by staff and non-staff categories, office costs, travel and subsistence costs.
- Risk assessment and mitigating actions.
- Contact details of two referees.
- Where possible links to recently published reports should be included.

The intention is for there to be one group of researchers undertaking the external evaluation. If two (or more) institutions wish to jointly tender, that is permissible, but the responsibilities of members of the research group need to be made clear.

10. Submission and format of proposals

The deadline for receipt of submissions is **12.00 noon on Friday 21 June 2019**.

Late submissions will not be accepted. All submissions will be acknowledged with a notification of receipt.

An electronic copy of the proposal should be received in PDF format by this deadline. This is an electronic only submission process; therefore all documentation

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<tr>
<th>Progress updates to STEM Learning Programme team</th>
<th>Fortnightly updates throughout the contract period</th>
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<tr>
<td>Emerging headlines</td>
<td>30 September 2019</td>
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<tr>
<td>Final report</td>
<td>5 November 2019</td>
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must be submitted in PDF format as a single zipped folder if the size of the submission is greater than 10Mb.

Proposals should be no longer than 10 sides of A4 (excluding CVs of people involved) and typed in Arial size 12 font. If the proposal exceeds this limit evaluators will be advised to disregard any information outside the limit.

Proposals with the subject line “Polar Explorer Programme Evaluation Submission” should be emailed to: d.watson@stem.org.uk

STEM Learning reserves the right not to award a contract.

A decision will be made as soon as possible after receiving the tenders, with a telephone clarification meeting if needed.

11. References

Tenderers should indicate the names of two current or recent customers for whom similar evaluations have been carried out and who would be prepared to act as referees.

12. Selection criteria

Proposals will be evaluated against the following criteria which are not listed in order of importance:

- Compliance with, and understanding of, requirements outlined in this tender document.
- Understanding of the educational landscape, STEM education and the background and context of the STEM Learning network.
- Effectiveness of the proposed methodology for undertaking the evaluation.
- Clarity and feasibility of the programme of work, work plans and risk assessment.
- Relevant experience of the tendering team.
- Ability to meet the required timetable.
- Management of any existing or potential conflict of interest identified by the bidder.
- Value for money.

13. Enquiries

These instructions are designed to ensure that all tenders are given equal and fair consideration. It is important therefore that you provide all the information asked for in the format and order specified.

Please contact Dianne Watson (d.watson@stem.org.uk) if you have any difficulty in providing the information requested. Pre-tender negotiations are not allowed. If you have any questions relating to the requirements then please contact Dianne Watson.
as above. We will aim to respond to any queries within 5 working days. If we feel that the query relates to an issue of which all prospective bidders should be made aware we reserve the right to communicate our response to all those who have requested tender documentation.

If you consider any point you raise to be confidential to your own proposal please make this clear. Please note the last date for the submission of any queries is 12.00 noon **Wednesday 19 June 2019**.