

Impact of SLP and NSLC CPD, January 2022

In 2022, STEM Learning commissioned the [Centre for the Use of Research and Evidence in Education](#) (CUREE) to evaluate the impact of two major strands of Continuing Professional Development (CPD) teacher training provided by STEM Learning:

- The National Science Learning Centre programme (NSLC) provides intensive CPD at the National STEM Learning Centre in York. Since the pandemic, the programme has also offered support remotely. Teacher subsidies (funded by ENTHUSE Charitable Trust and DfE) support access to the NSLC offer for schools.
- The network of Science Learning Partnerships (SLPN) is a DfE-funded, school-based [curriculum hub network](#) located throughout England, which offers local science CPD.

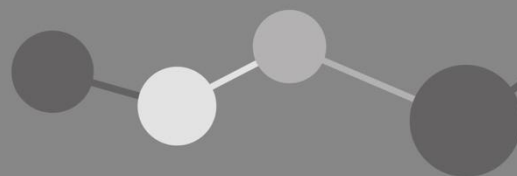
Both these strands of provision seek to provide participants with improved knowledge and confidence to teach science subjects, engage students more with science academically and as global citizens, and potentially pursue careers in STEM in the future, along with more specific goals for developing capacity of teachers to support their colleagues' and organisations' ongoing development over time in regards to science practice. Key findings from CUREE's research are provided in the Executive Summary compiled by STEM Learning.

Method

CUREE analysed qualitative and quantitative evidence from STEM Learning's in-house evaluation and impact surveys (c. 20,000 participant evaluations completed immediately after CPD and 5,000 impact surveys completed 6-8 months after the CPD has taken place). In addition to analysis of the surveys, CUREE conducted a series of one-to-one interviews with a structured sample of CPD participants and a focus group discussion to explore more detailed specifics about the nature of their experiences and perspectives.

Key Findings

A wide variety of positive findings emerged from the data in relation to the overall strategic goals of both strands of provision:



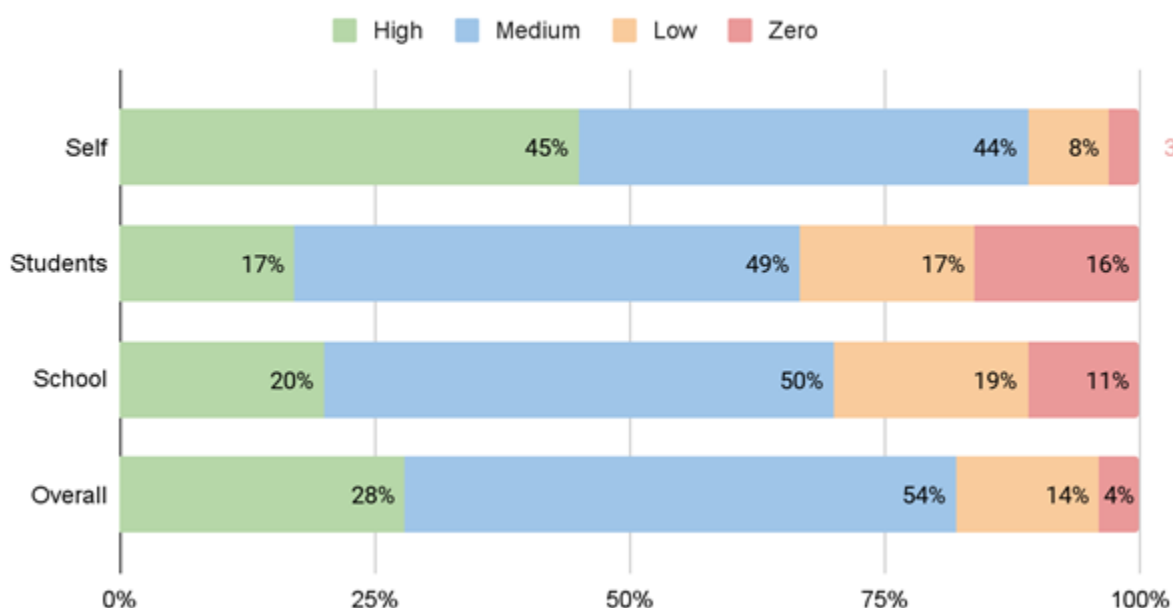
- There is **extensive evidence of positive direct impacts on CPD participants for both programmes**, as well as emerging, more indirect impacts for pupils and schools.
- The key distinction between the two programmes is that **SLPN responses generate higher ratings of impact for respondents' schools and overall impressions**, while **NSLC responses generate higher ratings of impact for respondents' own practice and outcomes for their students**, therefore highlighting the complementary nature of the two programme streams.
- Analysis indicates that **face-to-face delivery, remote delivery, and a blend of the two all have the potential to achieve medium or better impact for various stakeholder groups**, at least as assessed by recipients of CPD. This suggests that the nuances of specific learning needs and CPD providers' approaches to them are at least as powerful, if not more powerful, a driver of the impact of CPD than questions of delivery structure.
- Qualitative data collected through interviews reflected the positive impacts reported in surveys for both programmes, which is outlined below.

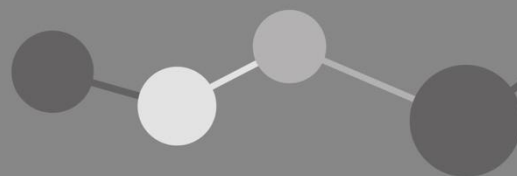
83% of participants in SLPN and NSLC CPD report positive overall impact

Science Learning Partnership CPD

When asked to give an assessment of **overall impact**, 82% of respondents report positive impacts (of which 28% are high). The overall distribution of impact ratings for SLPN is presented in the chart below:

Distribution of Impact ratings from SLPN programme



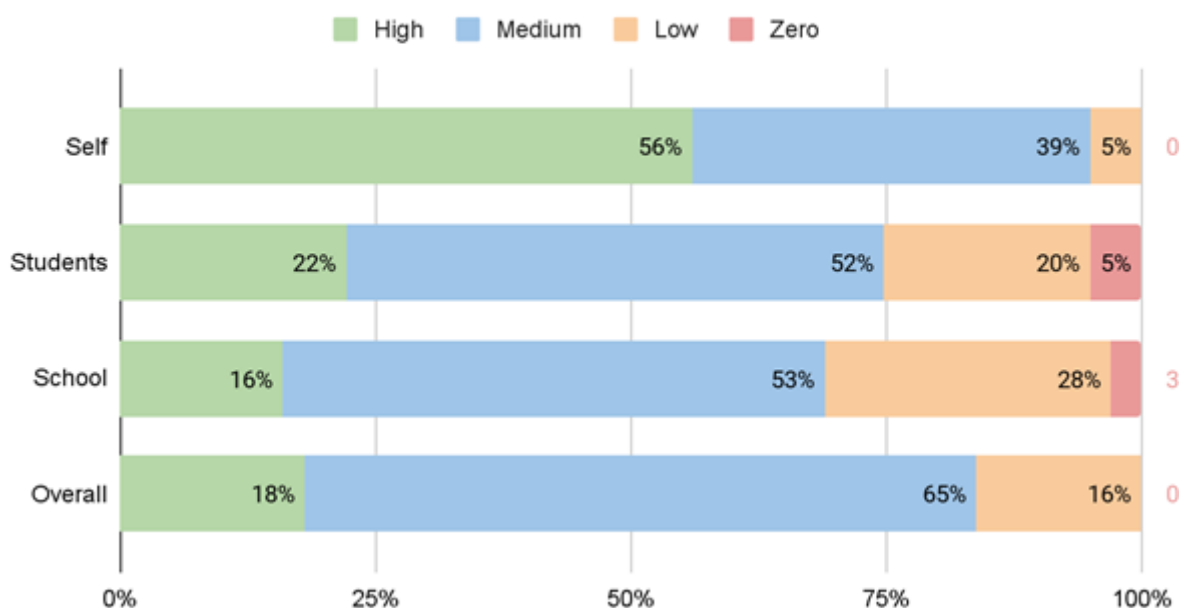


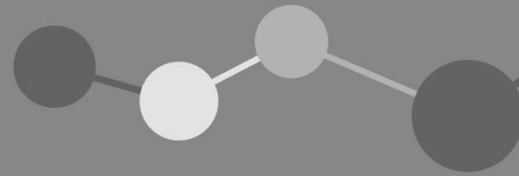
- 89% survey respondents report **positive impacts on themselves**. As many as of respondents reported medium or high impact, of which 45% reported as high impact.
 - Positive impacts for CPD for participants are spread fairly evenly between the **quality of teaching and/or learning in STEM** (58%), participants' **confidence, motivation and enthusiasm for STEM subjects** (57%) and the **quality of STEM subject knowledge and understanding** (57%).
- 66% of respondents report **positive impacts on students**, of which 17% are seen as high.
 - The impact of SLPN CPD on students was broadly distributed but predominantly related to improvements in **motivation and engagement** (54%) and **progress and attainment** (45%). There were also impacts on **behaviour and safe working** (23%) and a similar number of "other" impacts (23%).
- 70% of respondents report **positive impacts across the school**; of these, 20% are reported as high impact.
 - At school level these translated into reports of positive impact on the **quality of teaching of STEM subjects** (54%). There was also a significant proportion of respondents highlighting improvements in pupils' **progress and attainment** (30%), the **profile and priority of STEM subjects** (28%) and **STEM enrichment activities** (24%).

National Science Learning Centre CPD

When asked to give an assessment of **overall impact**, **82% of respondents report positive impacts of which 18% are high**. The overall distribution of impact ratings for SLPN is presented in the chart below:

Distribution of Impact ratings from NSLC programme





- 95% of respondents report positive (i.e. medium to high) **impact on themselves**, with 56% reporting a high impact.
 - There are consistent reports of positive impacts on participants' **enthusiasm and confidence** (87%), **subject and pedagogic knowledge** (86%), and the **quality of teaching and/or leadership of STEM subjects** (76%). There are more variable reports of improvements in teachers' **awareness of STEM careers** (40%). A quarter of participants (25%) report increased **prospects for career progression and motivation to stay in the profession**.
- 74% of respondents report positive **impact on students**, with 22% reporting high impact.
 - The biggest impact is seen on students' **motivation and engagement with STEM subjects** (79% of respondents chose this impact statement). The next biggest impact is on students' **progress and attainment** (53%). These headline areas of improvements related to learning outcomes for students can be unpacked further, as 45% of reports also identify positive **impacts on wider STEM skills** (such as problem solving, numeracy and technical). There are improvements in learning conditions too - 41% identify a positive impact on **behaviour and safe working**. The lowest area of impact was that relating to students' **aspirations for further STEM education and careers** (30%).
- 70% of respondents report positive **impacts for colleagues** and 69% report positive **impacts across the school**. Of these, 15% and 16% respectively are reported as high impacts.
 - At school level there is a particular emphasis on STEM teaching. This is impressive given that impacts across a school inevitably take quite a bit longer to feed through compared to the impact on a single teacher: 77% of respondents reported improvements in the **quality of STEM teaching across the school**; and 44% reported an increased **awareness across the school of the importance of STEM subjects**.
 - In addition, 36% reported improved **progress and attainment in STEM**; and 30% reported improvements in **attitudes towards STEM-based CPD support**.