

**ROYAL SOCIETY PARTNERSHIP GRANTS SCHEME
EVALUATION 2025**

ADDENDUM

by

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INTRODUCTION

The Royal Society Partnership Grants Scheme

The Royal Society Partnership Grants Scheme is the Society's flagship programme in Schools Engagement and its only funding scheme for UK schools and colleges. Open to primary and secondary schools (including colleges), the scheme has now been running for over 25 years, annually allocating grants of up to £3,000 to teachers for investigative project work with STEM professionals, with up to 100 grants awarded each year currently. Its aims are to: support student STEM skills; empower teachers; foster sustainable school-STEM partnerships and inform policy.

Although not a focus for this evaluation, the Scheme has recently sought to increase and diversify its coverage by piloting an expansion, Seed Grants, which provided grants to STEM partners working with clusters of schools in areas with most need; this involved 50 under-represented schools in 2023 and was extended to 195 schools in 2024.

The independent evaluation

This independent evaluation investigated the nature of activities and outcomes supported by the scheme and the degree to which they have influenced various audiences (students, teachers, schools and STEM partners/professionals) toward outcomes, as well as stage-appropriate indicators of medium and longer-term impacts under development. The evaluation also explored the scheme's value to stakeholders and its relevance in supporting practical science in schools and colleges, in so doing providing the Royal Society's work in public engagement with informed evidence regarding practical science and original investigative research project work in education. Evaluation findings flesh out the scheme's Theory of Change, which links the various intended audiences with actual activities and outputs, toward desired outcomes and longer-term impacts.

EVALUATION APPROACH

Integrated through use of a common Framework of Core Questions, the evaluation was grounded by qualitative and quantitative evaluation methods that gathered multiple perspectives. Methods included: document analysis; semi-structured interviews (42, including lead teachers, STEM partners and overview perspectives); nine case studies for in-depth illustration of generation of impacts; and questionnaires. Questionnaire responses were received from a total of 279 individuals: 141 lead teachers (54% response rate); 50 head teachers/senior management (22% response rate); 88 STEM Partners (37% response rate).

This triangulated approach, across methods and perspectives, ensured insights from both quantitative and qualitative evidence. Although due to the brevity of this summary many of the highlights included are quantitative, it should be noted that, through thoughtful free text survey responses and interview deliberations, individuals contributed substantial qualitative input of significant value to the full evaluation.

KEY FINDINGS – OUTCOMES AND IMPACTS

Considering the scheme overall, it successfully addresses its key strategic aims as laid out in its Theory of Change:

'The Partnership Grants scheme has the aim of enabling young people and their teachers to carry out original STEM investigative projects with STEM professionals across multiple disciplines, often addressing local challenges. Through these practical activities young people learn key skills and that everyone, irrespective of background can benefit and contribute to scientific and technological progress.'

In the last seven years alone, some 400 original STEM investigative projects have been enabled. These have been conducted with STEM professionals across disciplines ranging

from engineering to ecology. Many projects, particularly those related to climate change and/or biodiversity, dealt with local challenges, often capturing attention or even support from the community.

Outcomes and impacts are captured in more detail below, by stakeholder group. In terms of the scheme's broad strategic aims, it is clear that the scheme has led to young people benefitting through participation in practical science projects. Vast majorities of teacher respondents reported impacts on participating students that were clearly aligned with the scheme's strategic aims. Students gained a clearer understanding of:

- the project's subject area(s) (99%) and
- the investigative scientific process (i.e. 'how science is done') (97%)

while also increasing:

- key skills (e.g. investigative skills, soft skills – communication, presentation, teamwork) (96%)
- students' willingness to get hands-on with STEM subjects/concepts/skills increase (96%)
- confidence about their STEM ability (94%).

Importantly, in terms of young people seeing scope for everyone within scientific and technological progress, the great majority of teachers (87%) felt that 'the diversity of students engaged by the project reflected the school's diversity'.

Indeed, the scheme also led to enhancement more widely. Among teachers, for example, the project increased confidence when running practical science lessons for over two-thirds (68.8%) of teacher respondents. Nearly all STEM partners overwhelmingly (93.2%) agreed that participation in the project had a positive impact on themselves, with well over three-quarters (80.7%) of STEM partner survey respondents gaining skills in engaging students and communicating about research, as well as the great majority (89.7%) gaining new insights into school-level education and the practicalities of running engagement projects. Schools have been enhanced, as well, with the great majority of teachers (82.8%) and head teachers (81.6%) reporting some stage of the embedding of elements of the project, including practical elements, in their school's wider curriculum.

Outcomes and Impacts – Students

In summary, Partnership Grant projects have had deeply positive impacts on participating students.

- 99% of lead teachers reported students gained a clearer understanding of project subject matter.
- 97% said students improved their understanding of 'how science is done'.
- 96% observed increased student willingness to engage hands-on with STEM.
- 94% reported students became more confident in STEM ability.
- Students attending Royal Society events showed immediate positive effects, specifically strong gains in confidence and enthusiasm.
- Increased enthusiasm, confidence and awareness of STEM careers were seen in participating students. 93% reported students gained a greater understanding of STEM career opportunities. While understandably more than half the respondents (many of whom teach primary school) did not know or found it impossible to say, around 43% of teachers noted an increase in students considering STEM careers or continuing in STEM subjects beyond GCSE. Three quarters (75.3%) of STEM partners saw interest in pursuing scientific studies beyond GCSE level or equivalent and more (82.9%) saw interest in learning about STEM careers.
- Lead and head teacher replies make it clear that projects have taken place in schools with different levels of advantage and attainment, with a quarter of replies from schools reporting high levels of disadvantaged pupils. The vast majority of lead

teachers and STEM partners saw students actually participating in the projects as reflecting their school's diversity.

'It was interesting to see how our actions impact our planet.'

'I liked science before but now I love it.'

'It was fun.'

(Primary student comments gathered by case study lead teacher)

'Inspiring a lot of students that science is for them is the true legacy of having a sustained project.' (case study teacher)

'The impact is that the students get to experience the scientific method pretty much from beginning to end.' (case study lead teacher)

Outcomes and Impacts – Teachers

In summary, teachers benefited in different ways from participation in the scheme as it provided them with an important opportunity to integrate investigative science into the curriculum.

- Overall, teachers (for a quarter of whom this was their first STEM engagement project) reported:
 - Increased confidence in running practical lessons
 - Renewed - or continuing – enthusiasm for teaching STEM
 - Legacy effects include sharing with colleagues and STEM practices often being strengthened in the school beyond the project
- Noting that the number of responses increased dramatically with career stage (5% had 1-5 years teaching experience; 13% had 6-10 years; 82% had over 10 years), benefits from the project were felt at both ends of the career spectrum, yet they were different. Early career teachers showed a greater increase than later career teachers in confidence (71% versus 30%) and passion (57% versus 44%). Higher proportions of later career teachers reported STEM becoming embedded (44% versus 0%) and further school support for STEM (50% versus 14%). For teachers with 6-10 years' experience, the strongest impact was increased passion for STEM education (72%).

'We'd been locked in our bubbles for such a long time. I think teachers had fallen into a bit of a pattern of using more worksheets and doing more chalk and talk, because we had to. It wasn't their fault, but I think this kind of thing reminded them how children really learn and the wonder of children. I think it was really impactful because we have now moved back to that kind of real quality, enriching learning.' (post-Covid case study lead teacher)

Outcomes and Impacts – Schools

In summary, Partnership Grant projects have stimulated broader 'ripple effects' on schools, colleagues and curricula.

- Many schools reported lasting use of equipment purchased with grants (e.g. 3D printers, weather stations, biodiversity kits)
- Projects from across the years have often led to curriculum changes (e.g. embedding ecology fieldwork, introducing GCSE Astronomy)
- *By far*, most teachers report some stage of 'embedding elements of their projects in their school's wider curriculum'.
- Most teachers have shared learning from the project with others in the wider school community and for many projects collaboration with other schools is also developing.

- Participation in Partnership Grants led to an increase in support for STEM or practical science in participating schools. About half of the lead teachers saw this as having happened already, with another quarter seeing preliminary steps or plans.
- Extracurricular STEM activities (clubs, fairs, eco-committees) emerged and continued after funding.

About a project which involved all the school's staff alongside the wider community, and was blended into the curriculum for numerous subjects including the sciences, languages, mathematics, technology, history, geography, cooking, art, physical education, wellbeing, British values and diversity:

It's really invigorating. We are all working in education for a reason so seeing everybody come together with a shared focus – it was fun, it was interesting, and a change to the routine curriculum – it's re-energising. (case study lead teacher)

Outcomes and Impacts – STEM Partners

In summary, STEM partners have 'grown' individually so that, with the same school or others, in future they will be even better in engaging students with practical science and inspiring them regarding careers. The prestige of collaborating with the Royal Society was appreciated.

- 68% of STEM partner respondents came from academia; 22% from business and 6% from the public sector. 84% served as the lead STEM partner. Over half (53% worked with a primary school; just over a third (36%) worked with a secondary school and the remaining tenth (10%) worked with FE colleges/Sixth Form.
- 93.2% of STEM partners reported positive impacts on themselves from participating in the project. Despite most (80.7%) having had prior experience in STEM engagement, due to the scheme the great majority gained new insights into school-level education and practicalities of running engagement projects (89.7%), with well over three-quarters gaining new skills in engaging students and communicating about research (80.7%).

'I think I'll just carry on engaging with that school for the foreseeable future Personally, it was by far the most interesting project I've done for STEM activities ... This was the first really in-depth project I participated in, one that represented much more than a two-hour session visit.' (case study STEM partner)

PARTNERSHIPS

In summary, partnerships were generally genuine and successful so that all concerned – including students – benefited.

- Partnerships were generally successful and sustained, though challenges arose due to Covid disruptions or staff turnover. Nearly all teacher respondents (95.7%), STEM partner respondents (93.1%) and head teacher respondents (95.9%) viewed the partnership between their school and the STEM partner as a success. Similar vast majorities believed that both teacher/school and STEM partners contributed what was intended (94.3% of teacher respondents, 90.9% of STEM partners; 93.6% of head teacher respondents).
- Over half of the respondents (56.4% of lead teachers, 52.8% of STEM partners, 62.5% of senior school management) expected the partnership to last, essentially repeating the project, while even more expected the project to last through collaborating on other projects or engagement opportunities (61.4% of lead teachers, 62% of STEM partners, 68.8% of senior school management).
- Tellingly, in terms of future activity, as a result of the project both lead teachers (86.4%) and STEM partners (77%) are personally more willing to participate in other STEM partnerships (even with other partners), with 89.6% of senior school management believing that their schools are more likely to do so. (In contrast, only

43.6% of STEM partners believe that, due to the project, their organisation is more likely to participate in STEM partnerships with schools.)

The engagement between partners is, however, encapsulated in the visit of a group of post-16 pupils and their teaching assistants to the University. None of the pupils had visited a university before and they were hugely impressed. The three postgraduates who gave short presentations about their work and who were used to groups of reserved sixth formers, were really put of the spot by some uninhibited questioning. For their part, the students, having experienced practical science, enjoyed learning about postgraduate research and, as one of them said, '*being treated seriously and treated as an adult*'. (case study excerpt, STEM partner)

RELEVANCE AND DISTINCTIVE VALUE

In summary, the Royal Society Partnership Grants scheme plays an important role within the UK landscape of STEM engagement efforts.

- The scheme shows strong alignment with Royal Society aims (embedding practical science in schools, developing key STEM skills, widening participation in STEM subjects/opening eyes to STEM careers).
- The scheme complements but does not duplicate other STEM school engagement activities in the UK.
- Respondents and interviewees highlight the scheme's distinctive features: direct teacher funding; STEM partner involvement; and the prestige of the Royal Society.
- Belief in the value of the scheme is high, with virtually universal support for continuing the scheme across all types of survey respondents (e.g. 100% lead teachers; 97.7% STEM partners; 97.9% head teachers) and interviewees. Many encouraged increasing the reach of the scheme to disadvantaged schools and underrepresented regions.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- The Royal Society Partnership Grants Scheme is a successful, **highly valued** 'flagship' for the Society.
- The scheme:
 - is **relevant and** distinctive within the broad landscape of STEM engagement efforts in the UK
 - has led to **a range of many positive outcomes** for students, teachers, schools and STEM partners.
 - has led to **impacts that have developed over time**, ranging from short-term, immediate impacts such as enthusiasm through medium-term indicators of development on to long-term embedded practices such as curriculum changes or enduring partnerships.

Recommendations

This independent evaluation puts forward eight key recommendations for the scheme's future, in consideration of the wider engagement landscape in the UK.

1. **Continue the scheme** as a unique and effective programme
2. **Focus on long-term legacies**, particularly at a school level, e.g. with actions such as embedding curriculum changes and engaging headteachers early and continuously
3. **Celebrate successes** through case studies, media coverage and workshops
4. **Expand peer support and sharing of best practice among teachers, STEM partners and schools** (this could be both online and in person, perhaps with regional Society events or 'piggybacking' on other events, e.g. for teachers)

5. **Use the Theory of Change** as a framework for continuous learning and reflection (and seek reflective input from stakeholders, e.g. through interactive workshops as well as surveys)
6. **Seek expansion of the scheme** particularly in terms of distribution; increase inclusivity, with targeted efforts to reach disadvantaged schools and regions
7. **Develop lessons from the SEED pilot** to enhance scale and cluster-based approaches, considering both big-picture goals and practical mechanisms
8. **Explore strategic partnerships** with other organisations to extend reach and impact (for example, working with organisations already targeting disadvantaged schools and/or organisations committed to STEM engagement in schools)

This independent evaluation has demonstrated that the Royal Society Partnership Grants scheme is successful. It delivers on its objectives in ways aligned with the Royal Society's strategic aims. It has created lasting legacies and is catalysing the interim development of many more. Impacts are richly varied, as befits a scheme which is deliberately open to new ideas. Students, teachers, STEM partners and schools have benefited from the scheme. Upcoming challenges are to facilitate even further 'embedding' and sustainability within schools while still balancing teacher/time workloads and to increase inclusivity so that the scheme's benefits are felt more widely across more schools. Through such continuing evolution, the scheme can continue to play a distinctive and vital role in UK STEM education of the future.