

**RCUK PUBLIC ENGAGEMENT WITH RESEARCH:
SCHOOL-UNIVERSITY PARTNERSHIPS INITIATIVE (SUPI)**

FINAL REPORT - BRISTOL UNIVERSITY

SUPI PROJECT NAME: School-University Partnerships Initiative

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1: THE 'STORY' OF YOUR SUPI PROJECT

a) Please provide a narrative summary that describes the journey your SUPI project has taken from beginning to end.

Over the four years of this project we have generated a wealth of schools' engagement activity which has reached at least 40 secondary schools, 400 teachers and over 3,000 students. We have trained around 130 researchers through our schools' engagement training programme and our network of researcher volunteers has reached 200.

An initial mapping project provided a comprehensive illustration of the range of schools engagement opportunities already offered by the University. We aimed to plug the gaps in provision by creating a complementary programme of mutually beneficial activities through greater interaction between schools and researchers. With the emphasis on teacher-researcher collaboration, we were able to put research at the heart of our programme of activity as it developed. Our approach was driven by the needs of our two main stakeholders: schools and early career researchers (ECRs), which meant our remit was broad and the nature of our activities was varied.

Our SUPI is hosted by the University's Public Engagement team, the culture of which is supportive and encouraging of two-way engagement with research. The fluidity of the project has enabled us to respond to the fluctuating priorities of schools, and the range of opportunities provided allowed our SUPI to be inclusive, reaching schools beyond the core partners. We have developed activities within ten different models of engagement over the course of our SUPI (see Q3c), ranging from research-based workshops and teacher CPD to EPQ mentoring and off-timetable days. Across the four years of the project we have engaged with 80% of secondary schools in Bristol, North Somerset and South Gloucestershire and we have also worked with four of the five FE colleges in these areas.

Over the course of the SUPI project we saw some major political and educational changes starting with a decrease in the funding available to schools. From the school perspective, extra-curricula and enrichment activities became of a lower priority, as they are harder to justify if resources are already stretched. We have had to use a more flexible approach in our engagement activities and adopt more persistency to our communication. This was particularly the case with schools in more difficult circumstances. Schools in Bristol's high-participation areas regularly attended many activities, as they tend to have more capacity to support enrichment activity

and more resource to enable collaborations with the University. In many cases, such as some of the ESRC-funded Thinking Futures workshops (Schools Charity Challenge, Exploring Pandemics, De-coding Gender in the Media) the students who attended were self-selecting. This meant a proportion were looking for opportunities to increase their experience of university life in anticipation of the UCAS application process.

Our project's Steering Group has remained largely the same over the four years of our SUPI, consisting of 14 members (four teachers representing each of our school partners, seven academic staff and three members of the Professional Services team). This has provided continuity across the project, enabling relationships with schools and the development of the project to be maintained more easily. The representative from Cabot Learning Federation (CLF), Helen Angell, has been with the project since its inception, as has Richard Wheeler from St Mary Redcliffe & Temple School. The contact for North Somerset Teaching Alliance (NSTA) changed during the project due to staff changes but the level of investment in the project has been sustained.

The reach and the depth of our SUPI is considerable in light of the staffing challenges we've faced. We have had three substantive coordinators in four years, due to individuals' personal and professional circumstances. There were also two periods where there was no substantive person in post due to recruitment delays. The lack of continuity in terms of staffing has impacted – to a certain extent – on the momentum of the project, the partnerships and the project's nature and direction. However, each coordinator has brought a different approach based on skillset and experience which arguably enriched it overall.

The academisation of schools and the growth of the Multi-Academy Trust model has changed the educational landscape considerably. Although this has presented challenges, such as the loss of contacts within schools undergoing restructures as part of the academisation process, it has also presented an opportunity to work with a wider network of schools across the city. We partnered with the Cabot Learning Federation (CLF), a Multi-Academy Trust including nine secondary schools the North Somerset Teaching Alliance (NSTA), a network of ten comparatively rural secondary schools. At the outset of SUPI, the CLF consisted of seven secondary schools but this grew to nine in 2015 through the acquisition of The City Academy and Digitech Studio School. Most students in The City Academy are from minority ethnic backgrounds, the proportion of students who speak English as an additional language is well above the national average and three quarters of students are eligible for the pupil premium, again above the national average. The City Academy will play host to our secondary schools' conference in June 2017, a SUPI legacy activity. Digitech is a new school which aims to "teach through enterprise and real work experience", a relatively new concept in schooling attracting young people who may be more focussed on joining the workplace than pursuing higher education. Engaging these schools ensured the University continued to work with a diverse cohort of students.

Education secretary Michael Gove introduced a number of reforms to the educational system over the SUPI funding period. The GCSE, AS and A Level curricula went through an in-depth reform with significant changes to content from 2015 and some subjects being removed altogether. Opportunity came through teachers' need for new subject knowledge. We worked with schools to bring research into Continued Professional Development (CPD) or Subject Knowledge Enhancement (SKE) for teachers via Teaching Alliances' conferences and the Cabot Learning Federation's Federation Network Night (FNN) training for subject teachers led by 'Specialist Leaders in Education' (SLEs). This presented us with a means to use

current research to contextualise classroom teaching and a way to reach a wider network of teachers. With the Teaching Alliances' conferences as a platform, we have delivered a total of 21 CPD/SKE sessions across 12 disciplines.

The activities which have proved successful and sustainable are those for which there was clear demand from schools whilst meeting a need from researchers: for example, the EPQ library visits and Mentoring Fair, teacher CPD/SKE sessions and WW1 Day. These activities have been built into usable models based on formative evaluation and will be continued beyond the lifetime of SUPI, supported by core University funding. Many of the research groups will continue to deliver their research-based workshops to schools and the Schools Engagement training workshops will continue to be offered to postgraduate researchers through the Bristol Doctoral College (BDC) Personal and Professional Development Programme. The Public Engagement team will continue to champion future schools' engagement with research with an emphasis on engagement and partnership. This approach will be communicated through the training and cemented through web resources such as the Evaluation Toolkit and SUPI case studies alongside one-to-one support provided by members of the team.

2: KEY FINDINGS, LEARNING POINTS AND ENGAGEMENT ACTIVITIES

a) Please list the key findings from your SUPI project

One of the key highlights of our SUPI is the annual Extended Project Qualification (EPQ) Mentoring Fair and corresponding library visits. This model was built in partnership with St Mary Redcliffe & Temple School and fixed in their Year 13 calendar which enabled it to be sustained before being extended to other schools. We matched researchers to students according to their subject expertise which gave the intervention a bespoke nature, enabling a unique depth and quality to the engagement. Through the mentoring process, students are provided with both subject knowledge and research methodology, which can be outside the expertise of some teachers. For this reason, as well as a greater take-up of the qualification as a replacement to the abolished A/S level, the demand for our EPQ activity from local schools grew year on year. Interestingly, we saw a complementary increase in the number of volunteer researcher mentors due to the ease of taking part with little preparation required and a relatively small time commitment. The first iteration in 2013 involved 43 students and 12 mentors, which grew to 77 students and 32 mentors in 2016.

The corresponding EPQ library visit days were organised collaboratively with colleagues from the Library Services team and the Widening Participation and Undergraduate Recruitment team. We designed the format of the visit as an experience of the University as well as a means to access resources. Comprehensive schools and FE colleges were the target audience to be mutually beneficial for all teams involved. The three visit days over June and July proved very popular and we hosted an average of 200 students each year.

The teacher CPD/SKE sessions developed through our SUPI were well-received by teachers as a means to plug a knowledge gap. Following a session on Romantic Poetry delivered at the CLF's FNN in March 2015 by a researcher from the Department of English, teachers reported the value of being 'taught' by an expert and acquiring knowledge which could be used in the classroom to contextualise the curriculum. This intervention also served as an excellent springboard for teachers and researchers to develop other projects (such as Touching Shakespeare Live) or form relationships which may lead to future collaborations. The format of the annual Teaching Alliance teachers' conference served as an excellent opportunity for other researchers to present their research in the context of the school curricula. After the success of the

Romantic Poetry session, we developed and delivered six sessions at the CLF summer conference in 2015, another six at the same conference in 2016 and seven sessions at the NSTA conference in February 2016. Some of these were 'off the shelf' whereas others were the result of a collaborative process between the lead academic and the lead teacher (in most cases, this was the SLE). The Teaching Alliance teacher conferences are now built into the University calendar as a regular engagement opportunity for researchers at all career levels.

School engagement training is one of the main features of our SUPI. We have delivered a total of 18 workshops (see Q8a), in three different formats, reaching 130 researchers. By targeting Early Career Researchers (ECRs), we have generated a bottom-up approach to school engagement. The training has provided the skills and the knowledge to equip researchers to engage with secondary schools whilst acting as a channel through which we have been able to promote opportunities. The ECR journey into school engagement often starts with training, followed by easy-to-access activities such as the EPQ Mentoring Fair, before developing and leading more involved activities such as a research-based workshop. Embedding these training opportunities within the BDC's Personal and Professional Development programme has enabled us to recruit and train a wider pool of researcher volunteers. We will be continuing to fund two sessions per year as one of our core SUPI legacies.

Other highlights of our SUPI are the projects which equipped students to undertake independent research or to contribute to a current research project. We were involved in the AHRC-funded Know Your Bristol on the Move project, providing expertise on engagement with schools and support to the students in conducting their own research. Over the course of a year, we provided two schools with access to the Bristol Records Office and inspiration through a visit to the M Shed to carry out research projects in family history and WW1 history. The students made a unique contribution to the project with their findings which were used to populate a digital map. The Graduate School of Education also piloted a project called StAR (Students as Researchers) which equipped a group of nine students to conduct research into their own educational experience by exploring questions of their choosing, for example, "Does putting background music on in lessons affect learning?" Over a period of six months, students were introduced to qualitative and quantitative research and learned how to design a questionnaire in order to capture the relevant data. Although the time investment and the level of commitment (particularly from researchers) in running this type of activity creates an obstacle to its sustainability, we will use the learning to inform similar collaborations with schools in the future.

The model of the researcher-led workshop, for example the workshop on protein structures, decoding gender or quantum photonics, proved popular with research groups where one or two researchers could take the lead and the rest could input into the delivery or support the activities involved. We have supported the design and delivery of nine research-based workshops throughout our SUPI (see Q2c). The hands-on nature of these workshops created a more engaging experience and allowed students to explore concepts and learn independently. Flexibility was built into the structure so that it could be adapted to different year groups and used at different events, for example, the Quantum Photonics workshop was first delivered to Year 8 students and then adapted for audiences at the Cheltenham Science Festival.

Evaluation has been an important strand of our work. In the first two years of our SUPI we used a formative evaluation approach, collecting rich, qualitative data via stakeholder interviews. In years three and four we moved to collecting student feedback via a template questionnaire which asks some standard questions for

overall summative assessment and comparison between activities, and is tailored and adapted to capture the specifics of each activity. Additionally, reflections on students' interest levels and the factors influencing them have been collected from teachers (via questionnaires, interviews, and online surveys), and the UoB researchers and staff convening activities (via the same methods). Through these approaches we have been able to refine and develop our activities as well as to effectively evaluate the strengths and weaknesses of each of our three main strands of activity (school-led engagement, one-to-one mentoring and ad hoc models of engagement e.g. workshops and off-timetable days).

Relationships between teachers, researchers and University staff have provided the foundations to the project. The Steering Group has been instrumental in bringing together key players within the University and senior members of our partner schools and these relationships between individuals has helped to extend the partnerships across each institution. In order to service the wider network of teachers and researchers we introduced a Schools' Engagement Fair in 2016 to showcase what's on offer from the University and to support networking between teachers and researchers to help initiate other collaborations. We initiated a schools' engagement blog in 2015 which ran until the end of the funding period and launched the schools' newsletter in 2016, which will continue to be maintained. These communication channels have promoted events and opportunities to our network of over 100 teachers (from both within and outside of the partnership).

b) Please list the most important learning points from your SUPI project

With the impact of funding cuts and higher levels of monitoring, teachers have continually reported an increase in workload which has impacted on their ability to invest additional time in university collaborations. We have mitigated against this by offering schools opportunities with low levels of engagement, introducing more flexibility to our approach (for example, delivering workshops at schools rather than at the University) and providing logistical and financial support (for example, by booking and paying for transport). We have also extended the lead time for each of our activities so that schools can plan more easily. Time is the biggest single barrier to engagement so offering simple activities is an easier way to recruit teachers who may then become involved in more complex projects at a later stage in the project. Likewise, offering ready-made opportunities to researchers as a taster of public engagement has been a good way to build confidence and experience without the time investment.

The key activities from our SUPI have commonality in their delivery of mutual benefit. Our annual WW1 Day, hosted by the Graduate School of Education and attended by approximately 50 students from seven CLF schools, is a good example of this. This collaborative event supports students to work in groups (led by 30 PGCE students) on a particular aspect of local history and – using the city and the University's resources – to create an artefact and present the finished piece to the rest of the cohort. This event is successful on a number of different levels, not least in providing students with a greater knowledge about the city's history and providing a space for creative expression. In addition to this, students learn about the practice of research whilst developing skills such as team work, communication and presentation skills. The activity is equally valuable to the PGCE students who gain hands-on experience of working with school students. It also serves to cement the Graduate School of Education's relationship with local schools.

To create a robust structural partnership with schools, we have learnt that there is a need for three levels of input. Senior buy-in is key to lending weight to the project and providing strategic input; middle management is a key level for communication and initiating collaborations; less senior teachers are often

those 'on the ground' who help to coordinate activities and bring students to events. Within the middle management layer, we identified the Specialist Leaders in Education (SLEs) in our Teaching Alliances as the strategic points of contact within schools. The SLEs are tasked with subject networking across the alliances, so their role positions them to communicate opportunities to other teachers as well as identify areas for new collaborations. Their role also concerns sharing best practice which creates an interesting space for intervention. For example, the SLEs were the leads for each of the teacher CPD/SKE sessions we developed. The initial idea for these sessions came via the SLE for English (and main point of contact for the CLF), Helen Angell who worked with an academic from the Department of English on the Romantic Poets FNN event. The session delivered for a second time at the CLF summer conference the same year alongside five other sessions in Music, Art History, Modern Languages, Geography and Chemistry.

An important learning point with regard to raising aspiration amongst school students is the impact of the interaction between researchers and young people in itself. For example, one EPQ student spoke about feeling respected (*Student 3: "I don't know, when I think of Bristol University, it's a very good one, one of the Russell Groups isn't it? And so I didn't expect...I thought it was nice but they helped us and treated us like...as they would any other university student. Because I'm definitely not an A* student that would normally get into there, so I thought it was nice that he still talked to me in a respectful manner like that, and it made it seem a bit less scary"*). The experience of being at the University and having your views and opinions being heard and valued is clearly impactful, whilst personable researchers can challenge stereotypes. All of these elements are significant in terms of breaking down perceived barriers and the content of an engagement activity is arguably secondary to this.

The Steering Group, consisting of teachers, academics and Professional Services staff, represented a secure mechanistic structure through which we built and developed the project strategy. The representation and seniority of the group strengthened the partnership, ensured momentum, and encouraged buy-in from the members' respective institutions. Quarterly meetings enabled regular interaction between academic staff and teachers leading to the generation of new ideas, but also the resolution of issues. For example, at one meeting, a teacher expressed the difficulty their students experienced in accessing the University library for their EPQ research. The SUPI coordinator invited the Head of Student Engagement from Library Services to a subsequent meeting, the outcome of which was the introduction of a more flexible policy on school access to the library over the summer holidays.

Underpinning the partnership is the role of the SUPI coordinator, who drives and delivers activity whilst acting in a brokerage capacity, connecting teachers with the appropriate researcher according to the discipline or nature of the collaboration. Interestingly, some schools perceive this point of contact and the organisational support provided by the role as more valuable than financial resource. In our Year 4 Evaluation Framework, Helen Angell cites "*communication and a good working relationship between people acting as key links between the two institutions*" as key to the project's success whereas she lists "*spending the money*" as one of the challenges. The SUPI coordinator's role also promotes awareness of the project through opening up communication channels, identifying promotional platforms and attending key meetings such as the SLE forum, the Post-16 network, the Bristol Heads of Sixth Form and the Bristol Schools History Forum. In anticipation of the termination of this role, we aim to sustain the network of schools and encourage engagement through the continuation of the schools newsletter whilst the support and expertise will be retained within other roles amongst the Public Engagement team.

Schools engagement activities continue to depend partly upon enthusiastic researchers who believe in their importance and value to students. However, we have been able to highlight the professional and personal benefits to researchers through our ECR training workshops, whilst encouraging more 'seasoned' engagers within the University to act in a mentoring capacity.

c) Please list all engagement activities that were developed and run during your SUPI project

For information on SUPI training activities please see Q8a.

Model	Name of activity and Faculty/School lead	Date & frequency	Participants
Collaborative research projects	StAR project (Graduate School of Education)	10 fortnightly sessions from Sept 2013 to June 2014	1 school; 9 students
	Know Your Bristol on the Move (Department of History)	NSTA: User testing, June 2014; Visit to Bristol Archives, Nov 2014; Digitising and uploading, March 2015 SMRT: Research skills workshop, Oct 2014; Digitising and uploading, Feb 2015	2 schools; 61 students
	Touching Shakespeare Live (Graduate School of Education)	Nov 2016 as part of the ESRC-funded Thinking Futures Festival	3 schools; 86 students
Competitions	Berlin Wall (Department of German)	Oct 2015	10 schools
Exhibitions	History of Art schools exhibition (Department of History of Art)	March 2015	3 schools
	Art of Science (Faculty of Biomedical Sciences)	Nov 2015 and 2016	4 schools; 100 students
Fair	Schools engagement fair for teachers (Public Engagement)	Nov 2016	40 schools; 42 teachers
Festival	Festival of Neuroscience (School of Experimental Psychology)	Oct 2013 and March 2016	40 schools; 1700 students
	Bristol Bright Night research fair (Public Engagement)	Sept 2014 and Sept 2015	10 schools; 299 students
	MRC Festival of Medical Research (MRC Integrative Epidemiology Unit)	July 2016	4 schools; 84 students
Lecture/talk	Lunch-time TED talks at SMRT (Department of Philosophy,	3 separate talks over 2013 academic year	1 school; 90 students

	School of Clinical Sciences, Department of History of Art)		
Mentoring	EPQ mentoring fair and follow-up meetings (Public Engagement)	Nov 2013, 2014, 2015 & 2016, with follow-up events in Jan 2015 and 2016	12 schools; 236 students
Off-timetable day	WW1 Day (Graduate School of Education)	June 2014, 2015, 2016	7 schools; 150 students
Teacher CPD/SKE	CLF FNN session on Romantic Poets (Department of English)	March 2015	7 schools; 45 teachers
	CLF summer teacher conference (Department of English, School of Chemistry, School of Modern Languages, School of Geographical Sciences, Department of Music, Department of History of Art)	July 2015	7 schools; 81 teachers
	NSTA teacher conference (School of Geographical Sciences, Department of History, Department of Economics, Department of History of Art, Department of English, Department of Religion and Theology, School of Modern Languages)	Feb 2016	10 schools; 100 teachers
	CLF summer teacher conference (School of Geographical Sciences, Department of History, Department of Religion and Theology, School of Biological Sciences, School of Physics, School of Chemistry)	July 2016	7 schools; 45 teachers
	Philosophy of Science knowledge sharing workshops (Department of Philosophy)	Nov 2016	3 schools; 7 teachers
Workshop	Schools Charity Challenge (Department of Economics)	Nov 2013 as part of the ESRC-funded Thinking Futures festival	7 schools; 25 students
	Exploring Pandemics (Department of Archaeology and Anthropology)	Nov 2014 as part of the ESRC-funded Thinking Futures festival	4 schools, 19 students

	De-coding Gender in the Media (School of Sociology, Politics and International Studies)	Nov 2014 and 2015 as part of the ESRC-funded Thinking Futures festival	8 schools; 95 students
	Climate Change Negotiations (School of Sociology, Politics and International Studies and School of Law)	Nov 2015 as part of the ESRC-funded Thinking Futures festival	7 schools; 43 students
	Protein Structures (School of Chemistry)	Jan 2015 and July 2015	1 school; 45 students
	Cotham in Blossom (School of Biological Sciences)	Jan 2015	1 school; 4 students
	Quantum Photonics (Centre for Quantum Photonics)	Delivered as part of the Future Brunels programme in March 2015 and 2016	4 schools; 24 students
	Exercise, Nutrition and Health (Centre for Exercise, Nutrition and Health Sciences)	July 2015	1 school; 5 students
Other	Oral History project (Department of History)	Six separate sessions over Autumn term, 2013	1 school; 10 students
	Tangible Networks (Engineering Faculty)	Focus group and three separate events at schools from Jan-July 2015	3 schools; 62 students
	Library Visit Days (Professional Services)	June/July 2014, 2015 and 2016	20 schools; 600 students

3: THE IMPACT AND INFLUENCE OF YOUR SUPI PROJECT

a) Please summarise the impact(s) of your SUPI project across its lifetime

As well as the reach of our engagement activities (see metrics in response to Q1), we have also focused on the quality of engagement for participants and researchers and particularly on building sustainable relationships between teachers and researchers to ensure their duration beyond the funding period.

Impacts on local schools, teachers and students include:

- EPQ Mentoring Fair: This has been one of our most successful engagement activities, reaching a total of 236 students from 12 schools. It was been co-developed with teachers and shaped by formative evaluation. The evaluation demonstrated the impact on students with one commenting *“I think that it gave a very friendly impression of the university as a whole, certainly my mentor – and I think most people’s mentors – were just very engaging and genuinely interested in what you had to say.”* One teacher also commented that *“Some of things they could have got from school they didn’t and took from the university mentor....we are the day to day norm of their lives and we become just noise”*. We have also seen the positive impact of the EPQ programme in the increase in uptake each year from local schools (see Q2a).

- **Teacher CPD:** We have run a total of 21 sessions across 12 disciplines, reaching a total of 278 teachers. This activity has run with several of our school partners and our wider network, particularly as “Subject Knowledge Enhancement” (SKE). The impact of the SKE sessions was highlighted in evaluation: 78% teachers surveyed at the NSTA conference were able to relate the research information to their own teaching practice. The resulting relationships between academics and teachers have also been a springboard for further activities. The collaboration between the CLF and an academic in the Department of English on a CPD session about romantic poetry has since led to a workshop for Year 11 students on “Unseen Poetry”, a key part of their GCSE exam, which will be repeated each year. Similarly, an academic in the School of Earth Science’s work with teachers on Climate Change at NSTA has resulted in a continuing collaboration.
- **Partnerships with teachers:** A key element of our SUPI has been to maintain good relationships with the teachers via Steering Group meetings, regular emails and individual face-to-face meetings. We have built up a network of 114 teachers with whom we communicate regularly, 15 of which are SLEs and therefore regarded as strategic contacts. We have been able to tap into this network to establish teachers’ needs and priorities, plus discuss new ideas or reflect on previous activities. For example, we have worked with Louisa Aldridge (Science Senior Network Leader at CLF) on several activities, starting with teacher CPD. She subsequently became involved with our ECR training programme and then acted as key advisor on the EU-funded Synenergene project in the Public Engagement team. Moving forward into 2017, she is now co-authoring philosophy of science resources with philosophy researchers at the University as part of a new schools’ project. Similarly, we have facilitated relationships between researchers and our partner teachers. For example, Helen Angell (English Senior Network Leader at CLF) collaborated with researchers in the Graduate School of Education to coordinate the WW1 Day activity for Year 9 students. Following this, CLF students were then involved in an activity for Thinking Futures 2016, “Touching Shakespeare Live”. Since then, the Graduate School and CLF have worked together in promoting creative writing amongst young people via the charity First Story. To help cement this partnership, they are also applying for Helen to become an honorary fellow of the University. These examples particularly demonstrate the impact of the relationships we have developed throughout SUPI and how nurturing these have led to a variety of engagements.
- **Schools Engagement Fair:** This event came out of conversations with teachers who described the challenge of working with the University as not knowing what was on offer or who to contact. Both academics and engagement staff were invited to run interactive stands with information about their activities. Over 20 different departments or research groups from within the University were represented, with 42 teachers attending from a wide variety of schools and locations. As a result, we increased our SUPI network of teachers. The event also increased SUPI’s presence within the University, expanding our network of researcher and engagement contacts. Finally, researchers reported a rise in take up of their activities. For example, the “FAB Kids” engagement programme about health and nutrition has been booked up to the end of the academic year due to its promotion at the event.

Impacts on researchers and University departments include:

- **ECR training programme:** Throughout our SUPI a key focus has been on upskilling and recruiting researchers through a varied training programme. The sessions have reached more than 130

researchers, enabling them to develop skills and knowledge in schools' engagement and providing a forum to develop their activities. We were also able to promote SUPI activities this way and create a network of engaged researchers. In our recent evaluation of training attendees across the SUPI programme, the impact of the training is clear as 64% of correspondents had gone on to be involved in one or more public engagement activities with schools' projects, with a further 18% taking part in public engagement activities not involving schools.

- **STEM Lecturette Training:** To support STEM researchers who were keen to work with schools using tried and tested models, we funded outreach expert Tim Harrison (School of Chemistry) to train ECRs in delivering a "STEM Lecturette" (a short, engaging research talk). Since then, several trainees have gone on to deliver these talks in schools. One researcher returned to provide a sample talk as part of the training, having delivered it successfully in several schools. Another researcher applied the skills gained during the training to her winning entry to the University "3 Minute Thesis" competition.
- **Training follow up:** A key part of the training programme is follow up sessions for participants to continue to develop their ideas. This included a "SUPI Next Steps" session for researchers who had previously been trained to work on their activity ideas, as well as individual meetings. This has led to a wide variety of activities, many of which will continue into 2017 and beyond. For example, a Health Sciences student created a workshop for secondary school students about healthy eating to feed into her research project, an engineering PhD student now leads a programme of "Women in Science" workshops for primary schools, and one researcher who attended the SUPI Next Steps session is now organising the "Big Bang Bristol" which will involve approximately 50 PhD students from the University and engage hundreds of secondary school students.
- **Bespoke training sessions:** In addition to open training sessions, we also provided bespoke training to research groups such as the Quantum Photonics group who then developed a workshop for Year 9 students as part of the ss Great Britain's Future Brunels programme for Year 9 students. We have since offered bespoke training to researchers in the wider Quantum Engineering Technology (QET) Labs, consisting of 30 postgraduate and postdoctoral students to support their growing engagement programme, Quantum in the Crowd. A subgroup of QET Labs researchers developed the annual "Quantum Summer School" for Year 12 students and many more will be involved in the 2017 Cheltenham Science Festival and the Royal Society Summer Science Exhibition. This demonstrates the impact of the ECR training sessions in identifying and supporting willing researchers, but also shows the importance of these researchers as "multipliers" in their groups/departments, to encourage others and influence the culture of the University.
- **EPQ mentoring programme:** Part of the success of the EPQ programme was that it didn't only benefit students and teachers but also the researchers who were mentors. It remains one of the few public engagement opportunities at the University that is open to any researcher of any career stage and discipline. Over the course of our SUPI, approximately 70 researchers have participated in this activity and the evaluation shows the impact on the development of their skills and knowledge of working with young people. For some, it also influenced their undergraduate teaching: *"I think it was probably valuable for me to be thinking actively about what advice/suggestions help bridge that little gap between A level (or IB or whatever) up to uni."* The activity has also provided an easy stepping stone for researchers to get involved in schools' engagement via a structured activity, giving the confidence and support to continue to do other activities. For example, since their

involvement in the EPQ mentoring fair, one researcher organised several biochemistry workshops for Year 10 students based on his research in protein folding.

- Schools engagement seed fund: We were keen to ensure sufficient support was offered to researchers who were interested in schools' engagement and had their own activity ideas. We offered a seed funding scheme of £500 for schools' engagement activities but this was conditional on meeting with the SUPI coordinator to help shape ideas and ensure SUPI learning was embedded in the activities. We particularly encouraged two way engagement projects based on research at the University (which also supports the impact agenda) with a strong evaluation element. We funded a total of 6 projects which were diverse, from collaborative research projects workshops with local schools, to creative events at the University such as an Art of Science exhibition. The fund has been particularly important in the legacy of SUPI, as in many cases the initial funding allowed projects to continue beyond the lifetime of SUPI funding by enabling them to leverage further funding from other sources based on the evaluation of activities.
- Evaluation and impact: Our support for academics is not limited to the organisation of activities; we also provide advice on evaluation and measuring impact. A particular example is supporting the FAB Kids research team on evaluating their activities to generate more meaningful data about the impact of their project. The team are now applying for further funding and will use evaluation data to support their application. We recognised that evaluation was often a challenge for researchers and that sometimes it was overlooked in the process of developing an activity. We have produced the Schools' Engagement Evaluation Toolkit (which will be published on the Public Engagement website) as a valuable resource for researchers developing future schools' engagement activities.
- Supporting funding applications: Throughout SUPI we have supported academics to apply for other funding streams for schools' engagement. We supported the Centre for Science and Philosophy to apply for the University's Enterprise and Impact Development Fund that supports academics in funding projects to generate impact from their research. The Centre was successful in securing funding to collaborate with science teachers to engage secondary students in the philosophy of science. Through SUPI input the project was refined to focus on the creation of resources for science teachers to use in lessons. An initial "knowledge sharing workshop" was organised through SUPI for philosophers and science teachers. Partner teachers have since been recruited via the SUPI network to co-develop resources whilst teacher CPD sessions have been organised to support teacher knowledge. The project has involved academics and students in the Centre for Science and Philosophy at all levels, thus increasing awareness of the value of schools' engagement in the Centre.
- Young people participating in research: We have worked with researchers for whom engaging with young people is essential to their research, for example in health or education. We encouraged them to go beyond engaging young people just as participants but in ways that can benefit students, raise aspirations and increase their experience of University and research. For example, a researcher in biomedical sciences was looking at computer games that can help to assess young people's peripheral vision. They are now partnering with a local Sixth Form college who will test the games and design new ideas. We also supported a clinical sciences researcher looking at mental health in young people. They are now collaborating with a school in the NSTA network who were particularly interested in the project as students' mental health is a focus in their Sixth Form.
- Support for the MRC Integrative Epidemiology Unit (IEU): We supported the unit significantly in the development of their schools' engagement programme. When SUPI started, there had been no

schools' engagement in the MRC IEU but they have since gone on to form lasting relationships with eight local schools. We facilitated the relationship between the MRC IEU and one school, where researchers now run bi-annual sessions in the Sixth Form about research techniques. We also supported their activities for the MRC Festival of Medical Research 2016 which was attended by 84 students from 4 schools. Will Hunter, Engagement and Communications Associate at the MRC IEU commented that: *"SUPI was incredibly useful in the recruitment process for schools groups to attend our series of events. Using these contacts we were able to advertise to a wide variety of school groups and were signposted to relevant networks and online resources to increase the reach of our advertising. Using SUPI we were able to consult with teachers on the content of the event and whether it was suitable for the groups and linked well enough to the curriculum. This was really useful in the development [of the activity] as a whole."*

Impacts on other schools' engagement activities include:

During the lifetime of SUPI, the University's Public Engagement team worked on several other initiatives involving local schools. The impact of SUPI has been clear on these projects:

- **PERFORM:** This Horizon 2020-funded programme supports collaboration between performers and university researchers to engage secondary school students in contemporary science research and Responsible Research and Innovation. Three schools out of the four taking part were recruited through the SUPI network and Ellie Cripps has been an advisor to the project at several stages, including the coordination of a training session about schools' engagement for the ECRs involved. In the project's first year it has involved 75 pupils and 8 researchers. Ellie will continue to work on the PERFORM project going forward, using learning from the SUPI project.
- **Bright Night:** This event was also funded through Horizon 2020 and aimed to inspire publics about current research. We worked in partnership with the University of the West of England (UWE) and the Bristol Natural History Consortium (BNHC) to deliver a programme of events across Bristol, featuring a hands-on research fair which played host to an exclusive 'schools day' attended by 299 students from 10 schools. As part of the build up to the event, a schools competition was coordinated and promoted through the SUPI network and some of the schools attending the fair were also recruited via this route.
- **Synenergene:** A major work package of this FP7-funded project involved engaging the public and young people about ethical and societal issues around synthetic biology. As part of the project, a local theatre company and researchers from BrisSynBio, the University's research centre for synthetic biology, collaborated to develop a participatory theatrical performance to explore this debate. Every school that attended was recruited via SUPI and the activities were heavily informed by SUPI learning. Additionally, one of our partner teachers acted as a teacher advisor for the project, to ensure the script and follow up discussion of the performance would resonate well with young people.
- **Know your Bristol On the Move:** This AHRC-funded project aimed to enable people to explore, research and co-create Bristol history, heritage and culture using digital tools. Through working in partnership on eight separate community projects, we explored, tested, re-designed and deployed tools and resources that facilitate the co-production and dissemination of place-based historical research – research that was co-designed with, led by and specifically tailored to the different communities that engaged with these projects. Through the involvement of the SUPI coordinator,

one of these eight strands worked with two partner schools and 61 students to develop tools to supplement their curriculum-based activities, including the students user-testing the Map Your Bristol app.

b) Please summarise any influence your SUPI project has had on your institution, its culture, or that of any other institutions, cultures and projects/initiatives.

Due to their success, our flagship SUPI activities have now become embedded within the University's calendar. The EPQ mentoring fair and the Graduate School of Education's WW1 day now run annually; the Schools Engagement training workshops run biannually. The knowledge and expertise held by both SUPI coordinators has been retained within the team: Chloe Anderson and Ellie Cripps are both now employed in different capacities within Public Engagement but schools engagement continues to fall within their remits. Ellie remains the point of contact for teachers and other SUPI stakeholders. The Cabot Learning Federation has been recognised as one of the Public Engagement team's strategic partners and will work on both established and ad-hoc engagement projects going forward. Their summer conference will continue to serve as a platform for researchers to engage with teachers. Other platforms, such as the ESRC-Thinking Futures festival will continue to be a potential platform for exploring and engaging schools in University research.

We have worked extensively with University researchers through our training programme and other engagement activities. We have also worked at a department level and engaged senior staff (e.g. via the Steering Group) to lend weight to the project. A combination of these approaches has meant we are starting to see impacts at an institutional level.

The ECR training has been particularly important in building a culture of schools' engagement at the University from the bottom up. Throughout the training we were particularly keen to improve the quality of two-way engagement and move away from the "dissemination" outreach model. During training sessions, we emphasised how schools' engagement could benefit research and focused on high quality case studies from across the University. The movement away from outreach to engagement is something we have seen throughout the SUPI project which has been facilitated by funding and advice plus support with evaluation and impact (see Q3a).

The ECR training has also become a forum to share learning from existing successful schools' engagement projects. Some training sessions included spaces for researchers to present case studies. These researchers have not only become informal champions of schools' engagement in their faculties but were also able to support new trainees after the session. We were keen to highlight the variety of possible activities in schools' engagement, and encourage researchers to think creatively about their research and methods of engagement. With the ECR training programme continuing, we hope this will allow experienced engagers to keep supporting new trainees as this is key for institutional impact, particularly as the SUPI coordinator role is not able to be supported in its current form due to lack of funding. Although short term contracts of ECRs still present a problem for bottom-up culture change at the University, we hope that by supporting ECRs we still retain skills and a positive attitude towards engagement across the HE sector as ECRs move to other universities.

A common barrier often faced by ECRs doing engagement is the lack of support from academic supervisors. We have tried to address this problem in several ways. Firstly we ensured that all training and events,

although often primarily aimed at ECRs, were still open to all researchers. Over time we increasingly found researchers from all career stages were attending and responding well to the training. This suggested that there was willingness from across the University to engage with schools. This was cemented via the senior academic staff represented on the Steering Group. Since the project's inception, the Engaged University Steering Group has implemented a change to the University's promotion and progression criteria to include public engagement. This has helped to provide a stronger case for ECRs to integrate engagement into their work and for senior staff to acknowledge the benefits. We have also been keen to work at a research group or department level as this supports culture change and also ensures activities can continue without relying on individuals. The positive impact of this has been particularly clear in the Quantum Photonics example detailed above.

The other key institutional partners in SUPI have been the schools. The SUPI project aimed to challenge the conventional view of the University as a paternalistic institution to one which is open and collaborative. Teachers were often surprised to be asked about their needs or ideas and to be asked for input and expertise which might inform the nature of an activity. SUPI has helped to present the University as a 'listening institution' and a place where research is accessible and relevant. Teacher CPD, for example, has been a successful platform for presenting research in a context where it could be useful to classroom teaching. The project has demonstrated the diverse range of activities on offer but also the flexibility of the institution and researchers in how this is available (for example in activity format, timing and location). This was highlighted in the evaluation of the Schools' Engagement Fair where teachers commented that the most useful part of the event was: "*[the] range of contacts to support curricular delivery and inspire students*" and "*Seeing a huge amount of what's on offer – lots of exciting ideas!*" By engaging with a variety of teachers, including senior staff members who are able to make decisions about funding and activities, this has contributed to the positive impact on schools. Communications with schools such as the regular newsletter will continue beyond the funding period and key activities and relationships will be maintained by the Public Engagement team. This will ensure the University continues to be the open and collaborative place for schools which SUPI has encouraged it to be.

We have also had the opportunity to share learning from the SUPI project with the wider public engagement sector and other institutions. For example, in 2015 Chloe presented at an event on research engagement with schools as part of the University of Bath's programme of Public Engagement Conversations. More recently, Ellie attended the Engage Conference (2016) and the ASE Conference (2017) to present findings from the SUPI project, particularly the impact of the EPQ mentoring programme. Ellie and one of our partner teachers, Helen Angell, were also quoted in a recent article about School-University Partnerships for the Guardian Teacher Network.

4: PUBLICATIONS AND PRODUCTS

a) Please list any publications that have resulted from your SUPI project

Current publications

Bickers, R, Cole, T, Carstairs, J, Nourse, N, McLellan, J, Insole, P, Piccini, A, Miller, K, Skinner, R, Jones, M, Gulliver, M, Williams, J, Thomas, M, Anderson, C, Warren, J, & Eisenstadt, N, (2015) *Know Your Bristol On*

The Move, available: <http://knowyourbristol.org/files/2015/08/KNOW-YOUR-BRISTOL-ON-THE-MOVE-BOOKLET-final.pdf>

Timmis, S, Bent, E, Papafilippou, P, Walters, P, Oyewole A & Jones, S, (2014) *Research Briefing 24: Students As Researchers: The StAR Project*, available: <http://www.bristol.ac.uk/media-library/sites/education/documents/research-briefings/research-briefing-24.pdf>

University of Bristol Public Engagement team (2016), *Schools engagement training*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2016/schools-training.html>

University of Bristol Public Engagement team (2016), *Decoding gender in the media*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2016/decoding-gender.html>

University of Bristol Public Engagement team (2015), *Climate change negotiations*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/climate-change.html>

University of Bristol Public Engagement team (2015), *ENHS show girls the science behind sport*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/enhs.html>

University of Bristol Public Engagement team (2015), *Working with schools: EPQ mentoring*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/epq-mentoring.html>

University of Bristol Public Engagement team (2015), *Girls making history*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/girls-making-history.html>

University of Bristol Public Engagement team (2015), *Summer school in quantum photonics*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/cpq.html>

University of Bristol Public Engagement team (2015), *Schools Workshop – Proteins: What are they, what do they do and how do they work?*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/protein-workshop.html>

University of Bristol Public Engagement team (2015), *Cotham in blossom*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/cotham-in-blossom.html>

University of Bristol Public Engagement team (2015), *FAB Kids*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/fab-kids.html>

University of Bristol Public Engagement team (2015), *Reach for the StARs*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2015/stars.html>

University of Bristol Public Engagement team (2014), *Considering Commemoration: a collaborative English and History PGCE project with the Cabot Learning Federation*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2014/considering-commemoration.html>

University of Bristol Public Engagement team (2014), *Inspiring Future Brunels: the magic of science research*, available: <http://www.bristol.ac.uk/publicengagementstories/stories/2014/future-brunels-.html>

b) Please list any products e.g. artistic, creative or educational material outputs that have resulted from your SUPI project.

- Training materials developed with Ed Drewitt to support ECRs with schools engagement
- Artwork and leaflet produced in relation to the “What would you have painted on the Berlin Wall?” competition
- A number of materials were produced through the Know Your Bristol on the Move project including a postcard and a banner featuring the schools involved in the project. A ‘roadmap’ was published describing the mapping process conducted by each community group in the project including the two schools involved, with illustrations of some of their independent research.

In progress:

- An Evaluation Toolkit designed to support researchers in evaluating their schools’ engagement activities, particularly with reference to the Impact agenda.
- Philosophy of Science resources for science teachers which are being developed by Ellie Cripps in collaboration with philosophy researchers and teachers.

5: AWARDS AND RECOGNITION

Please list any awards or recognition associated with your SUPI project

- FAB Kids, a SUPI-supported schools’ engagement project from the Centre for Exercise, Nutrition and Health Sciences, were highly commended at the University’s Engagement Awards in 2014.

6: COLLABORATIONS AND PARTNERSHIP

Please provide details of any significant collaborations and partnerships that have resulted from your SUPI project

Throughout the development and delivery of SUPI we have built and maintained relationships with several partners. For example, we have worked closely with other teams and departments in the University to develop, deliver and evaluate activities. We also collaborate with several cultural and educational partners operating at a local or national level to support activities for students and teachers or contribute to ECR training. These partnerships will extend beyond SUPI funding to ensure activities can continue.

7: FURTHER FUNDING

As part of our support for schools’ engagement projects in the Public Engagement team and in other departments, SUPI has contributed to securing funding from several sources to fund internal activities or contributions to external activities that are closely related to SUPI’s aims.

8: SKILLS AND PEOPLE

a) Please list any skills related developments that have taken place as part of, or as a result of your SUPI project

We have delivered a total of 18 schools engagement training sessions across three strands:

1. **Schools Lecturette training delivered by Tim Harrison, School of Chemistry**

We funded outreach expert Tim Harrison to deliver five ‘STEM Lecturette’ training sessions over the course of our SUPI. This involved advising STEM researchers on how to condense and present their

research in a 20-minute window. This traditional model is popular within local schools as a STEM club activity or as part of a programme of events for British Science Week.

2. **Tier 1 & 2 (introductory and advanced) schools' engagement training delivered by Graphic Science**

These tiered workshops were designed and delivered for the SUPI programme, using formative evaluation to inform their development. The Tier 1 workshop focussed on communication, presentation skills and practical advice on working with schools; the Tier 2 (experienced) workshop focussed on planning and sharing best practice. Both of these sessions were designed to correspond to the Engagement, Influence and Impact domain of the Vitae Researcher Development Framework. We ran a total of six Tier 1 workshops and three Tier 2 workshops over the course of our SUPI.

3. **Schools' engagement training sessions, delivered by Ed Drewitt**

Through the SUPI funding extension, we worked with Ed Drewitt (School of Biological Sciences) to design and deliver a training session as part of the SUPI legacy. This training session covers practical advice for engaging schools and features case studies and top tips from five academic staff (representing four faculties). So far, Ed has delivered four of these workshops and core University funding will support up to two annually through the Bristol Doctoral College depending on demand.

The Public Engagement team has introduced a new series of lunchtime talks exploring different types of engagement. The programme, entitled 'Engagement Bites' will feature SUPI as one of the talks, which will involve an overview of the project and an opportunity to share learning.

b) Please list any secondments placements and internships to or from other organisations associated with your SUPI project

- As part of the legacy from SUPI, we have worked with colleagues in Knowledge Exchange at the University to develop a pilot honorary fellowship scheme for community partners (including teachers), funded by the ESRC Impact Acceleration Account. The scheme is being piloted by the Faculty of Social Sciences. Helen Angell, in partnership with the Graduate School of Education will be one of the first to receive an honorary fellowship as part of this new scheme. If successful, the pilot may roll out to other faculties and we hope other teachers and partner academics will benefit.
- The Undergraduate History programme at the University is looking to introduce placements as a credit bearing unit. One of our lecturers at the Department of History is in discussions with the SLE for History at the CLF regarding opportunities for undergraduate placements at secondary schools within the Teaching Alliance. This would create another mutually beneficial and sustainable strand to the partnership which would provide our undergraduates with valuable teaching experience whilst providing school students with an inspiring insight into higher education.

9: OTHER

Please state here any other information associated with your SUPI project that you would like RCUK to know as part of final reporting.

Many of the researchers involved in SUPI activities have formed links with the wider Public Engagement team through involvement in other initiatives. This has become a network which will continue to be maintained by the Public Engagement team to enable these researchers to tap into other opportunities in the future, schools-related or otherwise.