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

YEAR 4 EVALUATION FRAMEWORK (COVERING THE PERIOD <u>1 JAN 2016 TO 31 DEC 2016</u>)

SUPI project name: ENGAGING OPPORTUNITIES

Names of contributors to this report:

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Engaging Opportunities is a school-university partnership between the Open University (OU) and the Denbigh Teaching School Alliance (DTSA). Our core objectives in Year 4 remained largely the same as for the first three years of our SUPI: see our Year 4 Annual Report. Further, we proposed in our Year 4 Business Case to use part of this additional funding to consolidate the learning from our Year 1-3 activities to share them across the OU, within the SUPI network (including RCUK and the NCCPE) and across the HE sector. As such, the majority of the evaluation data we have collected assesses activities from Years 1 to 3. In the report that follows we have responded in detail to questions where we have something substantially new to say. For other answers, we have referred back to the Year 3 Evaluation Framework Report (available from: http://www.open.ac.uk/blogs/per/?p=6823).

AIM 1: INSPIRE THE NEXT GENERATION BY FACILITATING ENGAGEMENT BETWEEN SECONDARY SCHOOL STUDENTS AND RESEARCHERS TO BRING CONTEMPORARY RESEARCH INTO FORMAL AND INFORMAL LEARNING CONTEXTS TO ENHANCE THE CURRICULUM AND RAISE AMBITION

1) How is your SUPI supporting the introduction of contemporary research into formal and informal learning contexts?

As explained in our Year 3 Evaluation Framework Report, we have supported the introduction of contemporary research in schools thorough our flexible and adaptable framework of four types of activities: open lectures, open dialogues, open inquiries, and open creativity. Our approach reflects the diversity in how students could be inspired by research, recognising that not all students will connect with activities and subject areas in the same way.

Many of our Year 4 activities have been delivered in an informal learning context. In 2016 this changed a little through our work in support of the Extended Project Qualification (EPQ; see below for discussion). Through the EPQ work our focus has been to introduce students to the nature of research, new knowledge about contemporary research, and some of the skills that they would need to carry out their own study and make a successful transition into lifelong learning and citizenship.

Researchers' from the OU have also continued to support the open lectures, including the annual STEM Matters lectures hosted at the university's Walton Hall campus, and the programme of fortnightly Science Technology Engineering & Maths (STEM) lecture and the new Public Understanding of Science (PUS) lectures hosted by Denbigh School and St Paul's Catholic School, respectively. The learning context for these activities has, in effect, introduced school students to the context of a conventional university lecture. Further, we have organised a small number of research cafés at St Paul's Catholic School through the open dialogue programme. The learning context for these activities has, in effect, introduced school students to the context of a university tutorial discussion.

The physical location of our activities in 2016 has varied with events. The annual STEM Matters lectures were held at the Open University's (OU) Walton Hall campus. The location of the fortnightly STEM and PUS lecture programmes and research cafés have held been held exclusively in local schools.

The open inquiry activities have continued to offer students opportunities to investigate aspects of research, sometimes in authentic formal learning contexts. In 2016, we worked closely with EPQ teachers from six schools to explore how we could support students studying for the EPQ. This involved seven researchers contributing to visits at six local schools, with some of the schools also visiting the OU's library to make use of the facilities. The learning context for these activities has, in effect, introduced school students to the nature of independent study. Our work in support of the EPQ is discussed in more detail in one of our Year 4 Annual Report as one of the 'publishable case studies'.

We ran one open creativity <u>media training workshop</u> with 10 KS5 students from Denbigh School. Over a five-day workshop students gained a range of communication and project management skills, not least by giving them control over the direction of the production process, alongside the responsibility to deliver two completed films. Students successfully produced films about the EPQ visiting Lord Grey and Oakgrove Schools, respectively. In the process, they interviewed two teachers, 11 students and two OU researchers about their experience of participating in the EPQ activity. (A further postgraduate researcher was given training and experience as a Production Assistant.) The two films have been hosted online under Creative Commons licenses to promote re-use across schools in Milton Keynes, by our funders, the NCCPE, and across the SUPI network. (Links to the two films are included in our Year 4 Annual Report in one of the 'publishable case studies'.) The learning context for these activities has, in effect, introduced school students to the nature of workplace learning.

In summary, the activities carried out in 2016 have often been geared towards the transitional points for students, encouraging them to engage with research more independently, gaining skills and confidence in self-directed research.

2) How is your SUPI helping to inspire students and raise ambition or aspiration?

In Year 4 our SUPI has continued to help to raise students' ambitions and aspirations in the following ways:

- Following a student-centred approach university researchers have worked in collaboration with teachers to deliver scaffolded support for students. Through all our activities we have sought to enhance confidence and develop self-efficacy, to work with teachers to enrich existing school experiences so that students can fulfil their potential in ways that are relevant and meaningful to them.
- By providing students with opportunities to experience diversity in the roles played by researchers at different stages of their career and across disciplines (via the STEM Matters Lectures, media training), and in-class support for the EPQ where researchers have passed on knowledge of research experience, we have offered students insight into a range of possible roles in, and in support of, research.

- By allowing students the opportunity to engage in dialogue with each other and researchers' about the social and ethical value of pursuing careers and carrying out research into contemporary issues (via the research cafés hosted by St Paul's Catholic School).
- First, by allowing students to engage with researchers on a technical and social level over a period of time, OU researchers' have taught students information literacy skills. Second, OU researchers have worked with teachers to teach students how to plan and carry out research. Third, we have provided opportunities for conversations to develop about potential career trajectories and motivations for and against pursuing a university degree and careers in research. All three have been addressed via the EPQ training.
- By different types of Open University staff (i.e. not just researchers) training students in the different roles, transferable skills and competencies required in a professional workplace setting. Examples include: the media training workshop where media professionals taught students how to interview professional researchers, understand what key insights contemporary research projects offer their key stakeholders, and how to communicate these in a professional manner; or the EPQ where library staff have offered training in information literacy skills.

In each case, it remains that the depth of the engagement for the students has been improved if the activity extends over time, often requiring participation with smaller groups. This is a resource-intensive approach requiring justification to research funders (as we are asked to provide to RCUK to secure our Year 4 funding), for depth of engagement over reach (<u>Holliman and Davies, 2015</u>). We continue to argue that indepth activities have the greatest chance of increasing self-efficacy of students in how they interact with researchers and respond to contemporary research in meaningful ways. This requires that research funders have consistent and equitable measures to judge value-for-money in how researchers plan pathways to research impact involving school-university engagement with research.

3) How interested are students in the activities offered by your SUPI generally? Which of the activities offered by your SUPI are of most interest to students? What factors appear to influence these levels of interest?

To a large extent, this depends on how students are selected for SUPI activities, a process which is down to the schools. In relation to the EPQ, for example, these practices varied widely across the nine schools in Milton Keynes that we've supported in Years 3 and 4. Some schools were very selective, offering the EPQ to what they considered to be the best performing students, others were more inclusive. For the purposes of our SUPI work, we note that if students are high-performing, self-motivated, and interested in participating in an activity, the job of a university researcher (and teacher where appropriate) is considerably easier. This is not an argument for only working with high-performing, self-motivated and interested students, rather to observe that researchers and teachers are likely to need more time and resources to support less able, motivated and interest students.

Like the findings presented in our Year 3 report, the levels of interest also varied dependent on nature of the activity. Unsurprisingly, students have experienced the open lectures, inquiry, dialogues and creativity activities as opportunities to receive information, develop skills, engage in dialogue and create knowledge respectively. Including researchers at different career stages in the STEM Matters Lectures, for example, meant that students' expectations and interests were broadened from absorption of topic-related facts to include an appreciation of varied roles and careers in academic research. Although the EPQ training and the media training activities were not formally evaluated in 2016, students did informally feedback that the

deeper engagement with researchers increased their expectations of gaining insights into skills they would require for university or pursuing a career, possibly because they saw these activities as more authentic/credible experiences. This is apparent, for example, in the films about the EPQ.

4) Are there any changes to interest in subjects/topics among the students involved with your SUPI that you have recorded or noticed? If so, what are these? What factors may be influencing this change?

As explained in the Year 3 report, our evaluation questions have not explored changes in interest among students, nor have we collected the same volume of evaluation data in Year 4. From responses to pre- and post-activity evaluation forms gathered previously, however, what we can say is that the activities did appear to have some influence on the subjects/topics that some students were interested in.

Looking across the experiences of the students that took part in our activities the factor that appeared to have a great influence on changing students' interests was engagement with university researchers, staff and facilities over extended periods of time. The challenge, however, continues to be the short time period that is available to engage with students.

5) Are there any changes to aspiration or ambition among the students involved with your SUPI that you have recorded or noticed? If so, what are these? What factors may be influencing this change?

In Year 4 we did not conduct group interviews with the students as we did in previous years. However, by talking to the teachers involved in the EPQ training we can offer the following quotes as evidence that the training was a success:

"The support that the OU has given to St. Paul's Catholic School has been invaluable. Not only has it helped our students to succeed in their Extended Projects, it has also helped them to appreciate and hone the skills that will allow them to flourish as they begin their University careers".

Damien Sharp, Teacher at St. Paul's Catholic School

"I am happy to say that at Lord Grey the help from the OU has been invaluable in alerting students to the appropriate methodology for carrying out research. It has also highlighted the importance of the EPQ as a subject to be undertaken as a demonstration of research skills."

Penny Green, Teacher at Lord Grey School.

We also note the comments made by Joe Kendall (EPQ Teacher, Oakgrove School) in one of the videos we made (<u>Is the EPQ for you?</u>). To paraphrase his argument, EPQ teachers have to be prepared to give students the autonomy to fail in their EPQ projects if they are to truly gain the independent study skills they need to succeed. This is possible for schools because the EPQ is an additional qualification. As such, EPQ success or failure does not count towards League Table assessments.

AIM 2: REACH SECONDARY SCHOOL STUDENTS FROM A DIVERSITY OF BACKGROUNDS AND ABILITIES AND ENGAGE THE WIDEST POSSIBLE RANGE OF TEACHERS AND SCHOOLS IN WAYS WHICH HAVE MAXIMUM IMPACT ON TEACHING QUALITY AND LEARNING

6) How is your SUPI including and engaging with the widest possible range of schools/colleges, teachers and students?

In Year 4 the OU has continued to work in partnership with the DTSA. The PI (Holliman, OU) was (and continues to be) a member of the DTSA Strategy Board, whilst the Project Coordinator (Anthony Steed, Assistant Headteacher, based at Denbigh School) worked closely with OU researchers on the SUPI team, e.g. through our monthly meetings, but also with other OU researchers (see Question 14 and the discussion of sustainability). Anthony's role was crucial in developing new activities for 2017; see our Year 4 Annual Report and his contribution to Question 14. (We note that RCUK funded the Project Coordinator role from January-June 2016; Denbigh School continued to fund this role from July-December 2016.)

In 2016, the OU continued to partnership with Denbigh School to include as many schools across the DTSA as possible. We have used the same mechanisms to engage students from across schools in Milton Keynes as for Year 3 (please see that report), working with 11 schools (see Table 1). Further, the Denbigh-based Project Coordinator has organised meetings with teachers from schools across Milton Keynes, in particular in support of the work on the EPQ (see one of our 'publishable case studies').

We note that both the DTSA and the OU have sought opportunities to promote the work on the SUPI, e.g. through social media (mainly in Year 4 through @science_engage and @Denbigh_TSA). To our knowledge over the four years of our SUPI, RCUK (@research_uk) has never responded to our attempts to promote school-university engagement with research through Twitter; @OpenUniversity and @NCCPE rarely respond. This raises an important question about the priorities accorded with school university angagement with research Richard Holliman @science_engage - Jan 25 How do you sustain a school-university partnership? @drtrevorcollins open.ac.uk/blogs/per/?p=7... @OpenUniversity @Denbigh_TSA @nccpe @es5 #SLIPI



A recent tweet promoting #SUPI contributions to the NCCPE's 2017 Engage Conference.

priorities associated with school-university engagement with research. In short, is school-university engagement with research a priority for institutional research communication of funders, institutions and

other stakeholders?

7) With reference to the aims and objectives of your SUPI, please provide a measure of the extent to which your project has been successful in engaging with its target partners so far. If things haven't gone as planned, please tell us why.

Table 1 shows the Year 4 distribution of 11 participating schools. The data are displayed in terms of numbers of students, teachers and OU staff that have taken part in each of our four types of activity.

Table 1: Showing the distribution of participating DTSA schools and numbers of students, teachers and OU staff against 2016 activities.

1.) Denbigh; St Paul's; Sir Herbert Leon; Stantonbury; MK Academy; Walton High; plus three non-DTSA schools.

2.) St Paul's.

3.) Denbigh; Oakgrove; St Paul's; Lord Grey; Shenley Brook End; Hazeley; Slated Row; Walton High; Sir Herbert Leon. 4.) Denbigh; Oakgrove; Lord Grey.

Type of activity	Participating DTSA Schools	Key stages	School Students	Teachers	OU staff	Public
Open Lectures	9 ¹	KS3-5	856	326	18	39
Open Dialogues	1 ²	KS4-5	98	3	3	-
Open Inquiry	9 ³	KS3-5	334	40	36	3
Open Creativity	34	KS5	21	5	6	1
Total	10	KS3-5	1309	374	63	43

What the data in Table 1 demonstrate is that: 1) significant numbers of researchers are required for research-intensive activities (e.g. open inquiry and open creativity); and 2) that significant numbers of teachers attend open lectures.

We noted in our Year 3 report that our most challenging activity was the open dialogues. In the face of these challenges, as planned, we adopted a 'light touch' approach in 2016. We offered resources explaining how a research café could work (e.g. '<u>How to organise a research café</u>' and '<u>Possible topics for research cafés</u>'). In 2016, St Paul's Catholic School took up the challenge running a programme of three research cafés and we organised for OU researchers to facilitate these events.

8) How is your SUPI influencing teaching and learning in the engaged schools and colleges?

We are particularly interested in evidence relating to your SUPI's impact on:

- a) The confidence of teachers to engage with research
- b) Any transferable skills gained by students e.g. in research, communication, engagement, citizenship
- c) The content of learning activities
- d) Efforts by schools to build on SUPI input.

But please feel free to provide other evidence you have about the influence and impact of your SUPI on teachers, students and curriculum enrichment.

Point a: We worked with six schools in support of the EPQ. Teacher comments are listed in our response to Question 5 of this report.

Point b: We worked with six schools in support of the EPQ. Student reflections on the skills and confidence gained can be seen by watching the videos: <u>Is the EPQ for you?</u>; and <u>Is it a bug's life on Mars?</u>

Point c: We worked with six schools in support of the EPQ, offering support in developing information literacy skills. This relates to systematic, rigorous and resilient strategies for accessing and filtering information, then for analysing and responding to it. For discussion, see <u>Empowering Lifelong Citizenship</u>.

Point d: St Paul's Catholic School have built on our SUPI input to develop their '<u>Public Understanding of</u> <u>Science</u>' Lecture Series. Denbigh, Oakgrove, Radcliffe, Lord Grey, St Paul's and Walton High are also using SUPI resources and OU researchers to enrich their EPQ offering.

Teachers who accompanied Denbigh students to the STEM Matters Lectures in 2016 also expressed an interest in developing their own external links with the academic community.

AIM 3: PROVIDE RESEARCHERS PARTICULARLY THOSE IN THE EARLY STAGES OF THEIR CAREER), WITH OPPORTUNITIES AND TRAINING TO ENGAGE WITH SECONDARY SCHOOL STUDENTS AND DEVELOP THEIR TRANSFERABLE SKILLS AS OUTLINED IN THE RESEARCHER DEVELOPMENT FRAMEWORK (RDF)

9) How interested are researchers in the activities offered by your SUPI? What factors appear to influence these levels of interest?

As explained in Year 3, our evaluation questions have not explored how researchers varied in the relative level of interest. The data gathered in Year 4 has not changed our response. However, members of our SUPI (PI, Holliman) contributed to an STFC Working Group to explore how physical science researchers are responding to changing requirements in how they plan for research impact. This incorporates school-university engagement with research and physical scientists' views on cultures of engagement, communication and widening participation initiatives more broadly.



The final report of this project is available online (<u>PEACE Report</u>), with a blog post here: <u>Give PEACE a chance</u>.

10) How has your SUPI enabled researchers to acquire and apply relevant engagement skills? *Please explain this in terms of:*

- a) What training in engagement skills has been offered by your SUPI?
- b) To what extent does this training reflect any of the core transferable skills outlined in the RDF?
- c) How many researchers have undertaken this training since your SUPI started?
- d) What types of researchers have undertaken this training?
- e) How have researchers gone on to apply the engagement skills acquired through their SUPI training?

Point a: The activities referred to in the Year 3 Evaluation Framework (EF) Report have continued in 2016.

For further details of the engagement skills we cover through training, please see:

- Holistic planning for school-university engagement with research;
 - Holliman, R., Davies, G., Pearson, V., Collins, T., Sheridan, S., Brown, H., Hallam, J. and Russell, M. (2017, in press). "Planning for engaged research: a collaborative Labcast", in Kucirkova, N. and Oliver Quinlan, O. (eds.) *The Digitally Agile Researcher*. Open University Press, Maidenhead. Available from: <u>http://www.open.ac.uk/blogs/per/?p=7348</u>
- Engaged research and research communication;

Holliman, R. and Warren, C.J. (2017). "Supporting future scholars of engaged research". *Research for All:* Universities and Society, **1**(1), pp. 168-184. Available from: <u>https://doi.org/10.18546/RFA.01.1.14</u>

- Information literacy; http://www.open.ac.uk/blogs/per/?p=7197
- Further resources are available from: <u>http://www.open.ac.uk/blogs/per/?page_id=6074</u>.

In addition, we have routinely offered researchers bespoke advice and guidance of preparing Pathways to Impact plans within grant applications, and the OU works in partnership with the Brilliant Club, a small educational charity offering teaching opportunities to postgraduate researchers.

Point b: In the Y3 EF report we explained that the RDF formed the start and end points of almost all the training we have offered. For further details, please see:

Holliman, R. and Warren, C.J. (2017). "Supporting future scholars of engaged research". *Research for All: Universities and Society*, **1**(1), pp. 168-184. Available from: <u>https://doi.org/10.18546/RFA.01.1.14</u>

Point c: We do not have data for this. For practical and logistical purposes our SUPI training activities have sometimes overlapped with those organised through the OU's Research and Career Development Programme and work with two of our Doctoral Training Programmes (<u>CENTA</u> and <u>CHASE</u>).

Point d: We do not have data for this, but we have mainly supported postgraduate and early-career researchers.

Point e: We do not have data for this, but we routinely offer opportunities for researchers to apply their training and offer guidance on how to evidence, in job applications, the skills and competencies gained through engagement. Further, we are currently employing five PGRs who underwent engagement training in 2015 to support training for other PGRs in 2017. We also offered two PGRs opportunities to work with our SUPI on the Water Rocket Competition, and one PGR received training and gained experience as a Production Assistance through the Media Training Workshop. The PI (Holliman) is currently supporting two PGRs who are looking to develop careers in engagement beyond their PhDs. Further, Holliman has mentored five academic researchers (at various grades) working in STEM in Year 4, also offering informal advice and guidance on 13 promotion applications from across the Open University.

AIM 4: SUPPORT SECONDARY SCHOOLS AND HEIS TO WORK TOGETHER TO CREATE STRUCTURED, STRATEGIC, SUSTAINABLE AND EQUITABLE MECHANISMS FOR SCHOOL-UNIVERSITY ENGAGEMENT WHICH INCREASE THE BREADTH AND QUALITY OF INTERACTIONS BETWEEN RESEARCHERS AND STUDENTS

11) What specific actions have been taken by your SUPI to create and/or develop structured and strategic school-university partnerships?

This is discussed in our Year 4 Annual Report. Our vehicle for addressing issues of creating a structured and strategic SUPI that is sustainable involves a Memorandum of Understanding (MoU). The MoU, which is in draft form, outlines baseline activity for a sustainable school-university partnership with local schools across different Faculties within the university.

In December 2016 we contributed to the NCCPE Engage Conference; <u>The Dragons' Den of School</u> <u>Partnership Sustainability</u>.

In November 2016 Holliman led a workshop at the University of Otago, New Zealand, exploring sustainability: <u>Supporting Engaged Research Leadership</u>.

We will submit the Year 4 Annual Report and this Evaluation Framework to: the Pro Vice-Chancellor (Research and Academic Strategy); Director (Research and Academic Strategy); the three newly-appointed Executive Deans; the Director of the Graduate School; the Development Office; and to the Research and Career Development Team for their consideration.

12) What steps is your SUPI taking to ensure these partnerships are (i) equitable and mutually beneficial, and (ii) sustainable/resilient in the longer term, post-programme?

Holliman will continue to be a member of the Denbigh Teaching School Alliance Strategy Board.

Holliman has meetings arranged with Senior Research Leaders at the Open University to discuss the new Academic Strategy (where external engagement features strongly) to see where our SUPI partnership fits.

13) In terms of these partnerships, what key factors are (i) enabling progress, and (ii) challenging progress?

We have discussed challenges to progress in our Year 4 Annual Report and made suggestions for how progress could be enabled in our recommendations to RCUK.

COMMENTS FROM YOUR SCHOOL/COLLEGE PARTNER(S)

14) Please include comments from school/college partner(s) below.

Anthony Steed, SUPI Project Coordinator and Assistant Headteacher at Denbigh School

We have worked hard in Year 4 of our SUPI project to develop plans for sustainability beyond December 2016. We have developed plans to continue the Open Lecture Programmes and EPQ collaborations. Further to this, the links forged over the first three years of our partnership continue to bear fruit. Two examples are described below: the Open Justice Project; and the Managing My Money: Youth Project.



Anthony Steed, SUPI Project Coordinator

Open Justice Project

As part of The Open University's social justice mission, the Law School is currently developing a new pro bono initiative: Open Justice. It aims to provide OU law students with the opportunity to engage in pro bono activities, comprising an online legal advice clinic and the delivery of public legal education projects. My role has been to liaise with OU researchers on the relevance of this proposal for school students and teachers, and to organise a series of pilot workshops at Denbigh School to 'road test' and refine the activities.

Through this project, it is envisaged that the delivery of public legal education will include face-to-face workshops on legal issues of particular relevance to specific community groups. This will include offering tailored interactive seminars to school and FE students on areas of law that are of particular relevance to them. The topics and length of the seminars will vary depending on the needs and interests of the partner schools and colleges but could include exploring legal issues relating to online privacy, cyber bullying, human rights and Brexit. Presentations will be devised and delivered by OU second or third year law degree students.

Building on the existing partnership between The Open University and Denbigh Teaching School Alliance we have organised a series of pilot sessions to be delivered to Denbigh School students during March of 2017. The pilot project will then form the basis for the development of similar engagement activities in regions across the UK. The development and delivery of the Open Justice initiative will be the subject of academic research into public legal education by members of the OU law school.

It is envisaged that the project will have a number of tangible benefits for partner schools and colleges, such as Denbigh, including supporting student citizenship education through developing awareness and understanding of relevant legal issues. The aim is for the design and development of the pilot project to be shaped in partnership with Denbigh School colleagues to ensure the maximum benefit for students.

Managing My Money: Youth Project

The Open University Business School's Centre for the Public Understanding of Finance (PUFin), through the Managing My Money: Youth Project aims to provide accessible, relevant and free personal finance education to 16-18 year olds within and outside the school environment. Staff from PUFin approached Denbigh School through our SUPI partnership to work collaboratively on a successful proposal for philanthropic funding. This process was supported, in part, by the OU's Development Office. Initially, my role was to comment on the proposal and I am now involved in supporting the implementation phases of the project.

Through this work we will:

- Conduct focus group interviews and analysis with 16-18 year olds into their financial education needs and study methods, accessing what content is needed and how best to deliver it; and
- Undertake rigorous monitoring and evaluation of the resources and course materials from the perspective of students and teachers as end-users.

PROGRAMME CO-ORDINATION QUESTIONNAIRE

15) In the table below, please indicate your experience of the advice and support provided by NCCPE over the past 12 months from 1st January to 31st December 2016 by marking 'x' in the relevant boxes.

	Not used	Confirmed what we already knew	Enabled us to learn something new or improve our current work	Supported us to share our learning or work in this area with others	Unhelpful
Co-ordination Meetings				□ X	
SUPI website				□ X	
JISC mail list			□ x	□ X	
One-to-one support by phone or email			□ x		
One-to-one support in person			□ x		
SUPI Gathering				□ X	
Other (please state)					

If possible, please provide further comments or feedback to explain your answers to this question.