Evaluation Report 2016-17

Widening Participation Outreach

UNIVERSITY OF BATH

Contents

1 **Introduction**

2 **Programme Summary**

3 **Evaluation Strategy**

3 Monitoring participant data

5 Process evaluation: improving delivery

6 Impact evaluation: analysing progression outcomes

8 Impact evaluation: analysing learning and experiential outcomes - the NERUPI Framework

10 **Evaluation of WPO Activities using the NERUPI Framework**

10 Aims 1 & 2 Social and Academic Capital/ Progression Framework/KNOW and CHOOSE

11 Case Study: Futures Days

13 Aim 3 Habitus/Student Identities/BECOME

14 Case Study: Year 10 Taster Day

16 Aim 4 Skills Capital/Skills Curriculum/PRACTISE

17 Case Study: Mature Students Pre-sessional

19 Aim 5 Intellectual and Subject Capital/Knowledge Curriculum/ UNDERSTAND

20 Case Study: Year 12 Summer Schools

23 Case Study: KNOW/CHOOSE/BECOME/PRACTISE/ UNDERSTAND: *On Track to Bath* programme

26 **Description of Activities**

29 **Targeting Strategy – schools and individuals**

31 **Number of participants on outreach activities 2016-17**

Introduction

This report summarises the outreach activity coordinated by the University of Bath's Widening Participation Office (WPO) during the academic year 2016-17.

The WPO works with academic and professional services staff across the University to deliver a varied programme of outreach activities both on and off campus. Many of these activities aim to raise students' attainment or support teachers to do so. Others offer information to students about higher education, encouraging their progression to Bath or other high-tariff universities.

The activities within the WPO Outreach Programme are delivered to students of all ages from primary school children through to mature students, with more than half of the age-specific activities focussed on students aged 16-18.

Activities range from low-intensity Campus Visits, to medium-intensity activities such as subject-specific Taster Days, and finally high-intensity activities such as Year 12 residential Summer Schools and sustained cohort programmes such as the University's *On Track to Bath* programme.

The characteristics of schools and students are monitored to ensure that activities are appropriately targeted and participants meet widening participation and academic criteria. Using the HEAT (Higher Education Access Tracker) database the progress of individual students can be linked to higher education destination data to assist in assessing the impact of outreach activity on progression to university.

The impact of activities on students is assessed against the NERUPI (Network for Evaluating and Researching University Participation Interventions) Evaluation Framework developed here at the University of Bath.

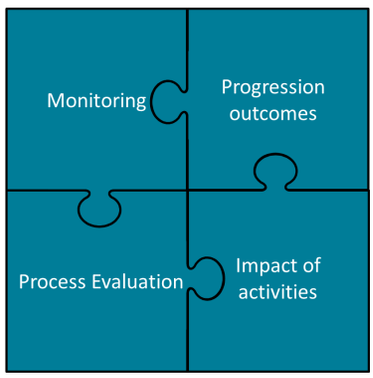
Programme Summary

Main focus of activity from NERUPI Framework	Key Stage (KS) and ages	Activity
 UNDERSTAND  PRACTISE  BECOME  CHOOSE  KNOW	KS5 16-18	*On Track to Bath* two year cohort programme
	KS5 16-18	*On Track to uni* BTEC students Maths programme
	KS5 16-18	Y12 Summer School - Science (residential)
	KS5 16-18	Y12 Summer School - Social Sciences (residential)
	KS5 16-18	Y12 Summer School - Engineering (residential)
	KS5 16-18	Nuffield Research Placements (4-6 weeks)
 UNDERSTAND	KS2 9-11	Bath Taps into Science Schools Fair
	KS2/KS3	Family Science Research Projects (6 weeks)
	KS4 14-16	In-class tutoring sessions
	KS4 14-16	KS4 After-school projects in local schools
	KS516-18	Yr12 Curriculum Enrichment/Revision Days
	All ages	Off-campus Bath Taps Family Science Fair
	All ages	Science and Maths Workshops
	All ages	Bath Taps Family Science Talk
	All ages	Minerva Lectures (public)
 KNOW  CHOOSE	KS3 12-14	Futures Days to support GCSE options
	KS4 14-16	Yr9/10 Taster Days
	All ages	Campus Visits
	All ages	Campus Visits for IntoUniversity
	All ages	Campus Visits – mini-residentials
	All ages	Off-campus HE events (ambassadors)
	All ages	Off-campus HE information events (WPO staff)
	All ages	Off-campus Language talks
	All ages	Off-campus schools liaison visits
 PRACTISE  BECOME  KNOW	Accepted mature undergrads	Mature Students' HE Study Skills Workshop (pre-sessional)

Evaluation Strategy

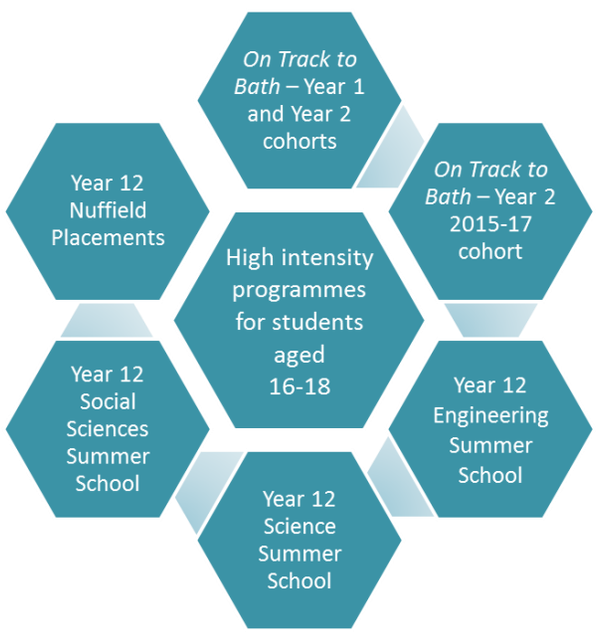
The WPO Evaluation Strategy has four main elements:

1. Monitoring participant data
2. Process evaluation – improving the delivery of the outreach programme
3. Impact evaluation – analysing progression outcomes
4. Impact evaluation – analysing learning and experiential outcomes

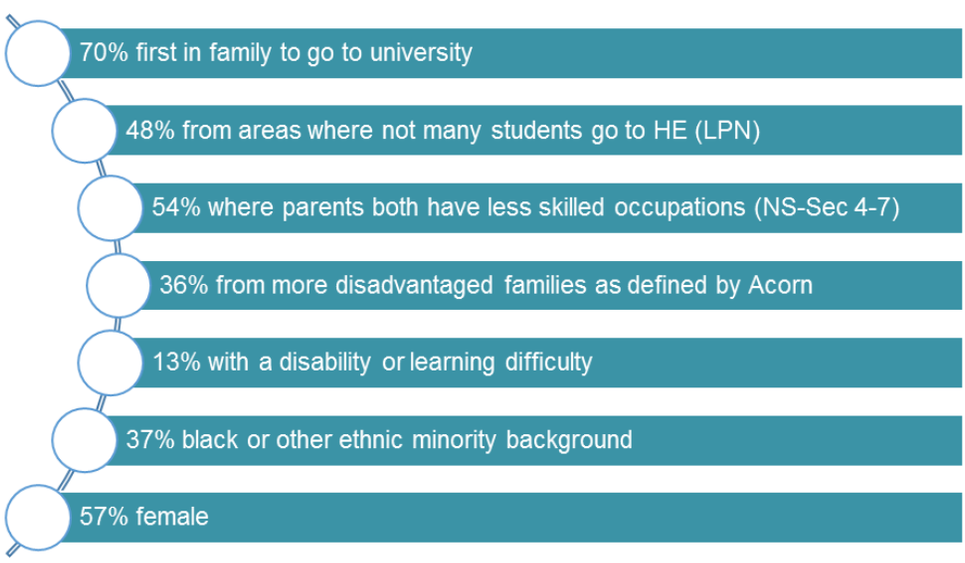


1. Monitoring participant data

Participant characteristics are monitored to assess and demonstrate success in attracting students who fulfil the targeting criteria. In 2016-17 the events targeting individuals were:



Participant data for events targeting individuals:



Participant data for events targeting secondary schools:

- 57% from areas where not many students go to HE (LPN)
- 31% free school meals or Pupil Premium
- 51% female

48%

of the 1,681 primary school children at the Schools Fair met at least one of the WP criteria

Events targeting primary schools:

14

schools in areas of high disadvantage had their transport to the Schools Science Fair paid for by the WPO

Having a high percentage of disadvantaged pupils on register it is wonderful that we are able to attend this event - thanks to the support in arranging for the transport for our children.

Teacher from Schools Science Fair 2017

2. Process Evaluation

Events are monitored to check that they meet the planned objectives, that the quality of delivery is high and that the organisation has been efficient and effective.

Observations are completed by an experienced Evaluator. A de-brief session is conducted with ambassadors to discuss the event at the end and staff also conduct their own debrief sessions for all medium and high intensity events. The evaluator summarises student feedback for staff and content is discussed again at this stage. This reflective approach with review before and after the event is encouraged by OFFA and is set out as a key principle in the recent standards and guidance report (OFFA 2017).

Celebration Event for Nuffield Research placement students

3. Impact evaluation: progression outcomes

WPO's first Higher Education Access Tracker (HEAT) dataset shows that:

Twice as many students from low progression neighbourhoods (LPNs) attending one of WPO's events or programmes went on to university compared with the average for students from LPNs in the counties surrounding the University.

High attaining, highly disadvantaged students who participated in WPO programmes were more likely to go on to HE than the same type of student attending programmes at other HEAT member universities.

Students who participated in Bath WPO activities were much more likely to go to a high-tariff university than disadvantaged students nationally, and more likely to go on to a high-tariff university than a medium or low tariff university.

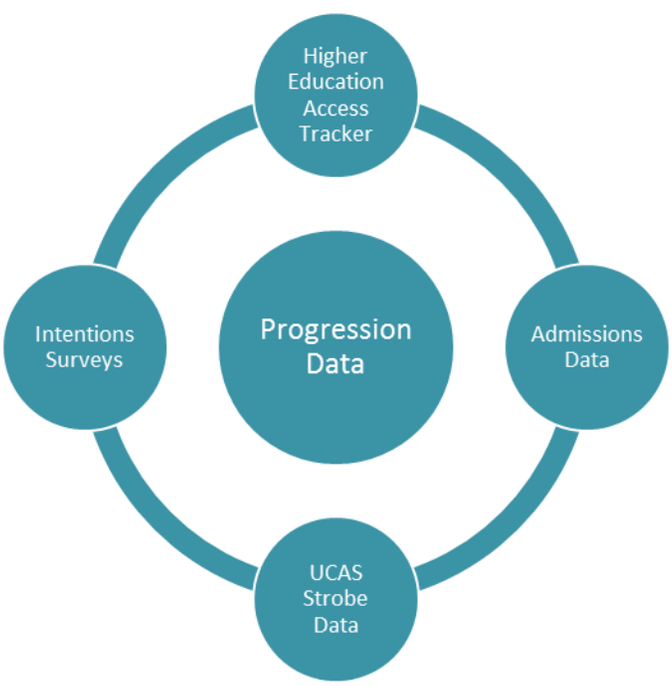
HEAT research data provided in 2017 showed that students who had participated in University of Bath events were awarded an average of two grades higher in their GCSEs *than students in the same schools who had the same attainment at KS2* who had not taken part. Although this does not demonstrate a causal link at the very least it shows strong 'value added' in the right direction.

Other analysis shows that most on the individual programmes apply to a high-tariff university. Eighty-six per cent of all students on our intensive Summer School and *On Track* programmes, who were tracked applying through UCAS, made at least one application to a high-tariff university.

Applications to Bath by students who attended the *On Track to Bath* programme have increased considerably in the past two years but small numbers actually become students here.

On Track students who did not apply to Bath were questioned about their reasons. Consistently the three main reasons given were course not available, grades too high, too close to home.

On Track students who applied to Bath but went firm elsewhere accepted offers at good universities e.g. Durham, RVC, Cardiff, Swansea, Loughborough and Bristol. Some went to Reading and Winchester on unconditional offers. OFFA is supportive of us if WPO can show that if students are not coming to Bath they are going to other high-tariff universities, so these data do provide evidence of that.



Bath has admitted 600 students who have participated in outreach with other HEAT member universities highlighting the reciprocal value of each other's outreach work.

Nearly half of the STEM Summer School students in the past two years have applied to Bath but converting those into enrolments is a challenge.

Competition for places on WPO intensive activities is high and successful participants have excellent academic attainment. As most high-tariff universities are under pressure to recruit more WP students there is competition amongst these universities for those high attaining students. Those on the STEM Summer School who did not come to Bath accepted offers at other excellent universities e.g. Oxford, Cambridge, Manchester, Exeter, York, Durham and Bristol. Birmingham made some unconditional offers to students who participated in Bath's programme.

Numbers on the Social Science Summer School applying to Bath are increasing but are small.

Academics contributing to the Summer Schools were surveyed afterwards and all thought that the students were capable of becoming successful students at Bath.

Quotes from academics working on WPO Summer Schools about the students they worked with:

They all grasped the concepts really well, and some of them went over and above that - showing knowledge I would associate with undergrads.

We commented between ourselves many times that as a group they were far more capable than our first year students.

I think all of the students in my group would have been more than capable of being successful students at Bath.

4. Impact evaluation: learning and experiential outcomes

Tracking provides data on progression into higher education, but it cannot capture the transformational impact of outreach on individual learners. In order to capture the success of individual activities additional tools are necessary. There are three areas which are key to success. First is the choice of curriculum (content) of the activity, second is the pedagogy (teaching approach) and the third is a product of the first two and reflects the experiential impact or learning outcomes of individual activities on the individual learners. These elements are captured through the NERUPI Framework, developed here at the University of Bath and now used by many universities nationally.

The Framework has been designed to provide a robust theoretical and research-evidence base for the aims of Widening Participation interventions, and a clear rationale for the types of programmes that are designed and delivered. It also encourages university staff engaged in Widening Participation activities to think more strategically and reflexively about interventions, as recommended by OFFA/ HEFCE (OFFA 2017), and rationalises evaluation processes across programmes of activities to improve the quality of data and demonstrate impact more effectively.

Academic research into the reasons for lower participation of some socio-economic groups has been examined to draw out the key five areas necessary for successful transition into higher education (see table below).

These five key aims are labelled in three ways but all describe the same concepts. Users are free to select the labels they prefer. The top level in the darker colour uses vocabulary taken from academic theories and papers. The second level uses labels most often used within the education sector. The third level uses simple verbs to summarise the concepts:

KNOW 

CHOOSE 

BECOME 

PRACTISE 

UNDERSTAND 

NERUPI Framework Top Level Aims

SOCIAL AND ACADEMIC CAPITAL		HABITUS	SKILLS CAPITAL	INTELLECTUAL & SUBJECT CAPITAL
PROGRESSION CURRICULUM		STUDENT IDENTITIES	SKILLS CURRICULUM	KNOWLEDGE CURRICULUM
KNOW	CHOOSE	BECOME	PRACTISE	UNDERSTAND
Develop students' knowledge and awareness of the benefits of higher education	Develop students' capacity to navigate higher education sector and make informed choices	Develop students' confidence and resilience to negotiate the challenges of university life	Develop students' study skills and capacity for academic attainment	Develop students' understanding by contextualising subject knowledge

Each key aim has been expanded to produce a set of sub-objectives in the form of learning outcomes for each of five broad age groups linked to the different Key Stages of the National Curriculum. For each age group there are around 25 learning sub-objectives – about five for each of the five key aims.

The NERUPI Framework provides a coherent scaffolding for displaying the aims and objectives of an entire outreach programme, allowing the reader to identify the interrelationships and commonalities between different activities and allowing activities to be located within that structure. Activities can then be evaluated against these aims and objectives.

Different outreach events will aim to cover one or more of these key aims. The highest intensity activities such as the cohort programme *On Track to Bath* and the three Year 12 Summer Schools set out to cover all of these key aims, but others like the Mature Students Study Skills Workshop pre-sessional focus on two areas – 'skills capital' and 'habitus'.

Benefits of using the NERUPI Framework include the following:

- it is a strategic tool which provides a cohesive structure for presenting and evaluating the aims and objectives of outreach activity for different age groups;

- it aids programme design as activities can be mapped against the Framework to identify gaps or duplication;

- it facilitates design of new activities as aims and objectives can be clearly identified;

- it provides a shared vocabulary for practitioners and evaluators and management to discuss the programme;

- it provides an easy structure for discussion of the programme with both internal stakeholders such as academics, ambassadors and management, and external stakeholders such as schools, colleges, other public sector bodies and employers.

- it provides the structure to evaluate programmes as aims and objectives are explicit and evaluation can be designed to establish the extent to which activities have met those objectives.

Evaluation of WPO Activities using the NERUPI Framework

Aims 1 and 2 Social and Academic Capital/ Progression Framework/ KNOW and CHOOSE

KNOW

Making the decision to progress to higher education (HE) and choosing a course is challenging for all students. Those from backgrounds without a tradition of HE study face a far greater challenge as they have less knowledge of HE or access to accurate 'hot' knowledge about HE within their social network of family and friends (Ball and Vincent, 1998). Even when students from more disadvantaged backgrounds have aspirations to progress to higher education they often have less developed capacities to realise them (Reay et al. 2005). Developing the 'navigational capacities' to make informed choices about university is also more challenging (Appadurai, 2004). These factors are addressed through the Framework's Progression Curriculum, (Paczuska, 2002) and the first of the Framework's overarching aims, to:

- **develop students' knowledge and awareness of the benefits of higher education and graduate employment (KNOW).**

The building blocks of the Progression Curriculum are the different aspects of knowledge about HE courses, and the longer term career and social benefits which HE can offer. The NERUPI Framework sets out these building bricks for each age group. Therefore at the Key Stage Two level (primary school) the key objective is to:

- Experience a positive introduction to higher education and the University of Bath campus

with sub-objectives to:

- Find out about higher education

and

- Explore the University of Bath campus.

For older age groups there are more sub-objectives and they become more granular. For example the key objective for Years 12 and 13 is to:

- Investigate course & placement options, and social & leisure opportunities at the University of Bath & other universities.

The more specific sub-objectives are to:

- Discover course and placement opportunities at the University of Bath and opportunities at other universities;
- Find out about research areas, expertise and facilities at the University of Bath and new areas of development;
- Explore social and leisure, and extra-curricular opportunities at the University of Bath;
- Discover career benefits of higher education and the employment opportunities for University of Bath graduates;
- Find out about academic and information services, facilities and resources at the University of Bath.

CHOOSE

Developing the capacity to apply information, navigate the system and make the right choice are the basis of the second Aim to:

- **develop students' capacity to navigate higher education and graduate employment sectors and make informed choices (CHOOSE).**

Using terms such as investigate and explore, encourages the use of active learning strategies to develop capacities. Many of the WPO programmes contain elements which contribute to the Progression Curriculum. An example of one of these programmes is outlined below.

Case Study for KNOW and CHOOSE
Futures Days:
Key Stage 3 ages 11-14

Social and Academic Capital

Evaluation methodology: end of event student knowledge assessment, end of event teacher questionnaire, ambassador feedback, staff de-brief.

Year 8 and 9 pupils, who are preparing to make their Key Stage 4 option choices, attend a Futures Day at the University of Bath. The event addresses the overall Framework aims for this age group which are to:

- Understand how GCSE study relates to higher education and future career opportunities (KNOW)

and to:

- Choose GCSE subject choices that correspond with personal and career interests (CHOOSE)

The evaluation of this event provides a useful example of the different ways in which knowledge acquisition can be measured. In the previous year (2015-16), at the end of the event, students were asked a series of questions. These included general questions, for example:

- The Futures Day has improved my understanding of the different qualifications I could study after GCSEs (Multiple Choice)
- The Futures Day has improved my understanding of the different qualifications I need for different jobs (Multiple Choice).

And some more specific questions, for example:

- Which qualifications can you study for after GCSEs? (Multiple Choice)
- Which of these GCSE subjects will you need to be considered for most jobs? (Multiple Choice)
- Which of these careers do not require a degree? (Multiple Choice).

A high percentage (83%) thought that the activity improved their understanding of the different qualifications after GCSEs, and three quarters (76%) thought that the activity improved their understanding of which qualifications you need for different jobs. However, when students were tested on their specific knowledge of qualifications and routes, the average correct response rate was only 64%. The aim was to improve this percentage for 2016-17. In 2016-17 the sessions were redesigned to reinforce the learning about higher education and there was a quiz (test!) at the end to measure the correct responses. This year the correct response rate increased to 82% compared with 64% the previous year. This reaffirms the importance of clear learning aims and identification of the most appropriate evaluation questions. The reflexive and rigorous approach to evaluation has resulted in an improved event in 2016-17 meeting OFFA's requirements:

"to see evidence of reflective practice in your access agreements demonstrating how you are using the lessons from previous activities and programmes to improve your future ones." OFFA (2016)

As well as testing the students' knowledge, teachers were also questioned about the value of the event. Feedback from teachers at the three Futures Days showed that all teachers enjoyed the day and all agreed that the Futures Day had the right content to make their students think more about their learning choices and options. Teacher comments included:

Definitely inspired our students to think about their futures.

I heard students reflecting and changing their options there and then based on the new information given

A real "buzz" about uni and lots of discussions about the future.

Some students said it had really helped them to think about choices, GCSE options etc. Most really animated and thinking about future.

Habitus/Student Identities/ BECOME

The next strand is concerned with *student identity* and preparing students for the experience of HE. It is theoretically underpinned by Bourdieu's concept of 'habitus', and research on how sociocultural factors shape students' perspectives and experience (for example, Archer *et al*., 2012; Bathmaker *et al*., 2013; Reay *et al*., 2009).

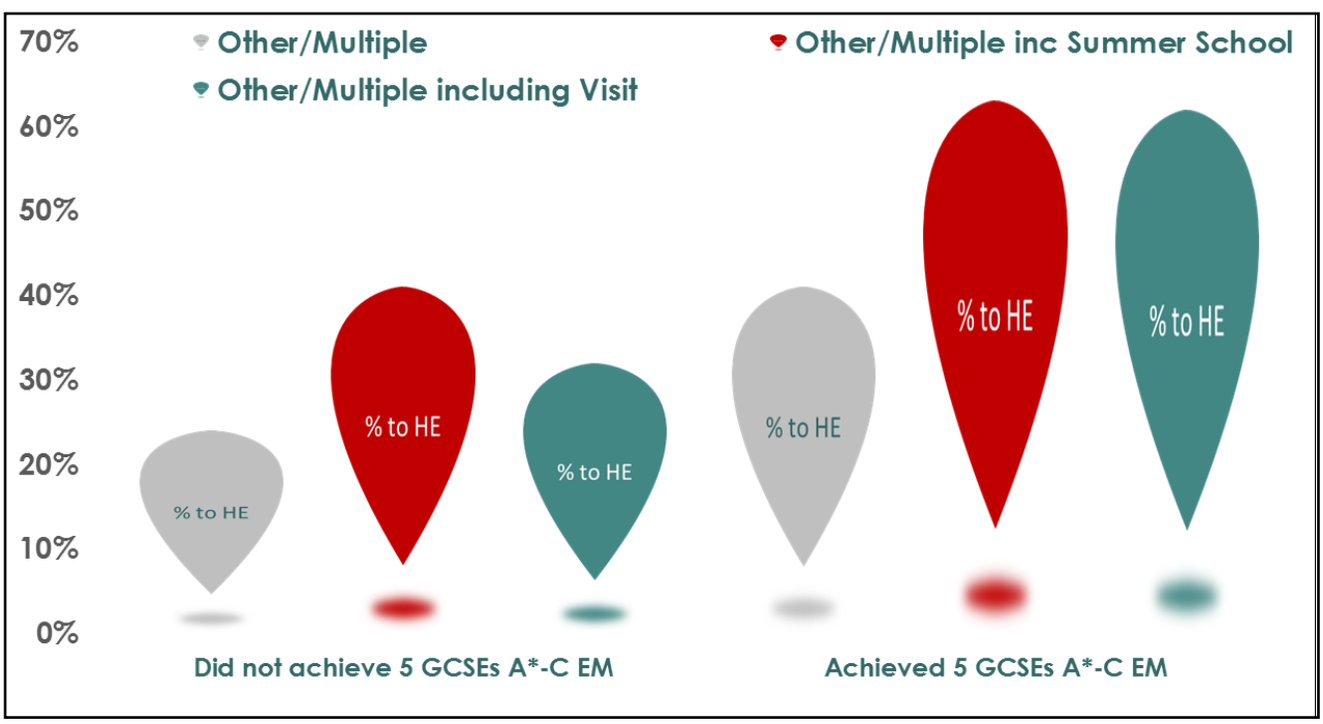
Developing student 'resilience' emerged as a key concern in the development of this strand of the Framework, in acknowledgement of the complex challenges that students from under-represented groups can face when accessing and experiencing an unfamiliar HE environment. It informs the design and delivery of interventions that enable students to overcome some of those challenges. Work on student identity and resilience also opens up opportunities for institutional reflection and challenging normative views and attitudes. The institution should be aiming for inclusion (the institution is a sum of its parts) rather than integration (where students are forced to fit into a rigid existing environment).

The student identity strand of the Framework is encapsulated within the Framework's third Aim, to:

- **develop students' confidence and resilience to negotiate the challenge of university life and graduate progression.**

Visiting a university has been identified as a key potential determinant for progression to HE. HEAT analysis (shown in the graph below) found that there was a correlation between students who participated in multiple outreach activities which included a campus visit and higher progression to HE; those participating in multiple outreach activities which did not include a campus visit had lower progression to HE. This correlation held both for those gaining 5 GCSEs or more at A* to C with English and Maths, and those not achieving those grades. All pupils were from the lowest progression areas (POLAR Quintile 1).

HE progression POLAR3 Quintile 1 Outreach Participants (HEAT 2016)



Case Study for BECOME
Year 10 Taster Days:

Key Stage 4 (ages 14-16)

Habitus

Evaluation methodology: post event teacher questionnaire (at least one teacher from all schools attending these Taster Days over the year completed a questionnaire at the end of the session (21 teachers). Questions were framed to measure elements of the Framework sub-objectives); ambassador feedback; staff de-brief; evaluator observation.

Year 10 pupils visit the university for a day. Students take part in lectures, practical workshops and group work sessions as well as having a campus tour and a session on student life. For this age group the main Framework objective for the Habitus/Student Identity section is to:

- **Increase confidence in their capacity to progress onto higher education**

Different elements of the programme are designed to meet different objectives from the Framework. The main elements which address the BECOME area of the Framework are the campus tour, the opportunity to have two academic sessions with University academics, and the opportunity to meet current students.

The following quotes from teachers encapsulate what the Taster Days aim to achieve:

Some students were really unsure about university before coming today …but after asking questions and the tour they were actually saying that university might be an option for them.

The students who were unsure about attending university were overheard discussing its benefits.

NERUPI Framework Sub-objective 1 for this age is to: **Develop confidence in their potential to progress onto and succeed at university**

All teachers thought that the event had helped their students develop confidence in their potential to progress to university.

Sub-objective 2 **Become familiar with a university setting and learning and teaching approaches at the University of Bath**

All teachers agreed that the Campus Tour had improved the students' awareness of the social and academic facilities at a university. This was reinforced by the students themselves (see student quote below). The only negative was the desire to see the university accommodation. All accommodation was full with students at the times of the Taster Days and there were no available rooms to show. The WPO is working with Hospitality to address this as it is a key factor in students believing that university is a place for them if they can imagine themselves in their rooms with their flatmates.

Seeing the actual department made the subject a lot more attractive.

Students also had two academic sessions in labs and teaching rooms, taught by academics at the University to become familiar with university teaching. A third (33%) of these sessions were rated as excellent and a further 62% were rated good. The remaining 5% were marked down for failing IT and occasionally pitched a little too high.

Sub-objective 3

- **Establish a positive association with the University of Bath and its community**

School students also interview current university students and evaluation always highlights the very strong role the current student ambassadors play in encouraging school and college students to go to higher education. Example teacher quotes:

Good idea to let our students to talk to your students without teacher intervention.

Pupils were able to ask questions and felt confident to do so as they were in small a groups. They found it informative.

Skills Capital/Skills Curriculum/

PRACTISE

The fourth aim in the NERUPI Framework is concerned with skills development and utilises the concept of 'skills capital', which is acquired and demonstrated through academic practice.

This includes WP interventions or parts of interventions that aim to:

- **develop students' study skills and capacity for academic attainment and successful graduate progression.**

The NERUPI Framework separates 'subject 'knowledge' from 'academic skills' and these two areas are incorporated under two distinct aims. A student may have good subject knowledge, but underdeveloped skills, and some students have had limited opportunities to develop the skills required for successful study and communication.

Skills are often similar across disciplines.

Skills which are identified as being important for student success include:

- academic writing skills such as essays/lab reports/referencing
- presentation skills
- critical thinking
- problem solving
- evaluation skills
- reflective thinking
- debating
- note taking
- analytical assessment of literature
- research planning and design
- group work
- working independently
- ability to access information through IT.

Case Study: PRACTISE

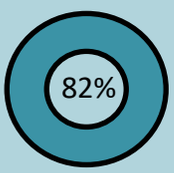
Mature students HE Study Skills Workshop (pre-sessional)

Skills Capital

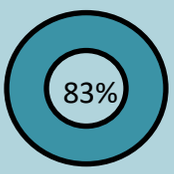
This pre-sessional is designed for students who had been outside formal education for some time. Students are aged 25 and over. Many have participated in HE Access courses and may have had limited opportunities to develop skills such as essay writing and independent research, which are essential for successful university study.

To address this need the University of Bath delivers a three-day residential pre-sessional held in September each year for those starting degrees in autumn. A key aim of this pre-sessional is to prepare students for academic study by delivering sessions focussed on study skills necessary for success at university. Sessions include: two academic lectures from academics in different faculties; an IT skills session introducing IT used across the University; a workshop on the importance of good academic writing; learning about plagiarism and referencing; an academic seminar practising skills of assessing large amounts of academic information and analysing that information for key points; and a session on how to engage with academics and making the most of feedback.

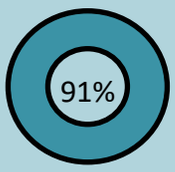
Evaluation after the pre-sessional showed that:



82% felt more confident about their study skills



83% had a better understanding of good academic writing and what academics were looking for



91% thought they knew what to expect from lectures and how to make the most of them.

Students also appreciated the sessions designed to help prepare them for making the most of lectures:

It was really helpful having lectures and talks regarding what to expect in lectures and with skills such as reflective writing and structure/grammar.

My least favourite lecture was on Parapsychology as I did not find this very engaging. However, I now understand that lectures may/ will be similar to this and have learnt how to make the most of them.

Students found the sessions developing skills on the internal university systems useful:

University IT – a lot of the stuff around computers I have never heard before – very helpful.

Some students said they would have liked more time to practise their IT skills. For example: *I would have liked a session on computers so we could play with Moodle, library etc. with support on hand.* A more interactive IT session was designed the following year.

The qualitative feedback included particular emphasis on the usefulness of the academic writing sessions and engagement with the University support services - in this case the Academic Skills Centre:

The session which was most helpful was the academic skills lecture with relation to the referencing and how to construct a good report/essay.

Academic writing on Thursday was very helpful including sources and plagiarism.

The good writing sessions were really helpful for me and I will use the Academic Skills Centre in the future.

I found the academic writing session especially useful as I felt I picked up a few tips. It's also comforting knowing there is a place to go if I need help with formal writing.

Intellectual and Subject Capital/Knowledge Curriculum/UNDERSTAND

The final strand of the Framework, the 'Knowledge Curriculum', relates to subject knowledge and developing students' intellectual capacity and attainment. A successful student is one who has good subject knowledge which, in its narrowest form, can relate to succeeding in exams. In its broader form the most successful students are those who have a wide and deep knowledge of their subject and who can apply that knowledge in different contexts and link it to knowledge located within other disciplines.

The key aim is to:

- **Develop students' understanding by contextualising subject knowledge and supporting attainment raising**.

The importance of raising attainment for student success has become an increasing focus of policy guidance over the past few years. Government has made it most explicit in the latest guidance from OFFA, released in February 2017. In their list of strategic priorities OFFA state:

'We want you to review and develop your access agreement so that it sets out clearly what you are doing and/or plan to do, to increase your work to raise attainment in schools and colleges for those from disadvantaged and under-represented groups, including through outreach and/or strategic relationships.' (OFFA 2017).

The WPO has subject knowledge at the heart of its outreach programme. The majority of events have a component of attainment raising activity within them.

Case Study: **UNDERSTAND**

Intellectual Capital

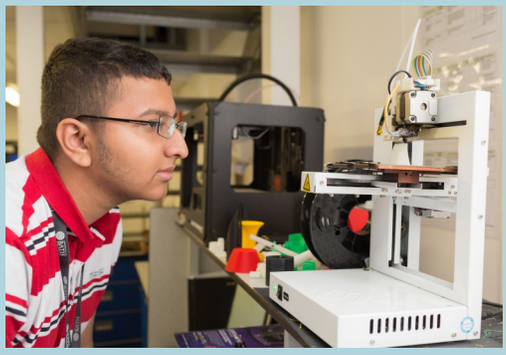
Key Stage 5: Year 12 Summer Schools

Evaluation: understanding and subject knowledge are evaluated through project assessment where academics mark the research posters produced. Further evaluation is undertaken through student questionnaires, evaluator observation, ad hoc student interviews, and staff and ambassadors de-briefs. Academics also complete a post-event questionnaire with the opportunity to feed back their reflections.

The University offered three five-day Summer Schools in 2016-17: Science and Maths, Engineering and Social Sciences. Students select a project stream before arriving at the Summer School and take part in 12 hours of project work. The projects were designed and run by academic staff in collaboration with the Summer School lead from the WPO, and were also supported by PhD students and ambassadors with subject knowledge. Students were taught in undergraduate facilities and on many occasions were undertaking first year undergraduate activities. All the projects were designed to support A levels and build students' knowledge of the subject through contextualisation of A level knowledge.

There were five science streams: Physics, Chemistry, Biology, Maths and Computer Science. Examples of projects in the Biology stream were:

- **Genetics** - How flies medicate against infection. Students undertake mating trials and trials to test whether females left overnight with different natural compounds are more likely to mate. As flies mate the data are collected and analysed.
- **Genomics** - The source of the Avian Immunodeficiency Virus (AIV) in the UK. Using the University's Tarr Lab, students collect DNA sequences from databases, assemble them into a multi-sequence alignment and then use those to infer an evolutionary tree that shows the country of origin for the UK AIV outbreak.



Projects in the Social Sciences included broad topics which students could address from any angle. The aim was to develop students understanding of, and skills in, research methodology. Through active learning within their chosen topic and utilising key steps in the process of research students learned to develop key skills for successful study of Social Sciences at university.

Topics included:

Education and Social Equality – students explored the relationship between education and various socio-economic factors; **From Barbie to Grand Theft Auto** – students looked at the range and type of games played by males and females and examined the relationship between this and the types of gender representations they portray; **Migration and its Consequences** –students explored factors behind various types of migration and looked at patterns of migratory movements; **The Future of the UK** considered the health of the United Kingdom as a political entity, investigating topics such as Identity, Nationalisms, Brexit and General Election Results; **The Politics of Representation** where students looked at how media representations of identities had an impact on perceptions of certain groups.

In the Engineering Summer School students undertook projects in one of four strands. Chemical Engineering projects included a range of options such as creation of **biofuels** and **purifying water**. The Civil Engineering students all designed a new **bridge** to connect two university buildings. Electrical Engineering students designed and produced a **heart beat monitor** and Mechanical Engineering students all designed and produced a **prosthesis for a dolphin's dorsal fin**.

At the end of the week the students prepared a research poster to present their work to their peers, academics and other members of the faculty. The posters were marked against an undergraduate mark scheme by academic staff and a prize given for the project with the highest marks. The students also voted for their favourite poster which also won a prize.

Academics were surveyed after the Summer School. All academics thought that the students on the Summer Schools were capable of becoming successful students at the University of Bath:

I was able to treat them as first year UG students. I'm glad I did that as the students responded the same way, behaving like UG students - they were incredibly committed to learn and explore their projects as much as possible.
Yes, as we did some of the theory and lab work that is taught during the first year of undergraduate study.
The students were very engaged and designed contemporary research projects that obviously reflect their interests and experiences (both in education *and beyond). The posters that were produced were fantastic and very engaging with all of them using academic sources to support their ideas.*

Evaluation includes students' assessment of what they have learned. Responses are full of examples showing an increase in knowledge of their chosen subject area.

Chemical Engineering student: *Project was completely different from any school projects and so this insight into engineering was really useful and furthered my interest. I also learnt new formulas and concepts that involved some of the chemistry from school.*

Electrical Engineering student: *During the making of the heart pulse monitor there were multiple aspects. Originally I thought electrical and electronic engineering was building and designing circuits but it consists of multiple things. Coding, designing, CAD, 3D-modelling and more. It was engaging and enjoyable.*

Maths student: *I learnt that conjectures can be proved in a multitude of different ways and that if I don't understand one way there is always another for me to try. Our coding sessions were very useful and interesting and has made me more confident for our compulsory computational models.*

Physics student: *(I learnt about the) Michelson interferometer – learnt how it can be used to find the wavelength of light. Learnt how to use some undergraduate equipment. Learnt extra content in optical Physics relating to my A levels.*

Social Sciences Migration project student: *I used my economics and geography knowledge and applied it to my project and I learnt a lot of key figures that provide evidence to my explanation.*

Social Sciences Education and social equality project student: *The project was very enjoyable and I have furthered my knowledge in the equality within education in the UK, which is really great for me as I am interested in all aspects of inequality.*

Case Study: KNOW/CHOOSE/ BECOME/PRACTISE/ UNDERSTAND

Social and Academic Capital
Habitus
Skills Capital
Intellectual Capital

Key Stage 5: *On Track to Bath* Programme

This cohort programme covers all areas of the NERUPI Framework. It is designed to develop the capacity of local students with the academic potential to progress to a high-tariff institution such as the University of Bath. It is a two year programme where students work in one of four subject tracks - Science, Computer Science, Social Science and Business. Year 1 consists of academic subject classes, an independent research project aligned to the Extended Project Qualification (EPQ), and a four-day campus residential. Year 2 consists of a series of application and transition workshops. Evaluation includes mid and end of event student questionnaires and reflective sessions, academic assessment of projects, evaluator observations, ad-hoc interviews, ambassador de-brief, and staff de-brief.

KNOW and **CHOOSE**

The two overall objectives for this age group from the Progression Curriculum are to enable students to:

- Investigate course & placement options, and social & leisure opportunities at the University of Bath & other universities and to: Evaluate course, student finance and graduate opportunities and make informed choices that align with personal interests and career aspirations.

A series of workshops is delivered so students are able to navigate their way through HE, that they are able to choose the right course to study and are supported to make a strong application to university. Previous evaluation of students undertaking *On Track* concluded that sessions had good content and 82% of students, when asked an open question on the impact of *On Track*, mentioned that it had made them better informed about HE and had helped them decide what to do. Also 97% of students thought that *On Track* had improved their ability to submit a strong UCAS application. In 2016-17 the focus was to learn more about why students were making certain choices and how their decisions about applying to Bath were changing. Students in Year 1 were asked at the beginning of the programme and at the end of the first year to outline their intentions for HE choices. Sixty-one per cent were planning to apply to Bath at the beginning of Year 1 of the programme which fell to 50% by the end of the year. A large proportion (42%) had changed their mind about whether or not they were intending to apply to Bath during Year 12; some changed from yes or unsure to no, some from unsure or no to yes. The three main reasons given for not applying to Bath were:

- course not available;
- grades too high; and
- too close to home.

BECOME

The overall NERUPI Framework aim for this age group is to enable students to:

- Anticipate challenges they will face in higher education and make a successful transition to university.

Sub-objectives include having first-hand experience of university life and having the opportunity to meet with academics, current students and other staff at the university. All contribute to the student believing that university is a place where they could fit in. The intensity of this programme with 14 visits to the campus as well as a residential experience means that students have considerable opportunity to become familiar with the idea of studying at university. When students are asked about the impact of the programme, many mentioned aspects of student identity which related to this area of the Framework. In addition all but one of the students found it useful to work with university academics and current students, and all but two that they had learned more about how learning and teaching works at a university like Bath. Example quotes:

It was great to have been given access to the whole university. It made me feel a lot more independent and like an actual student.

I really enjoyed having an ambassador... To help us along the way but not being too far away from my age - I think it meant we got on really well.

Confidence, both academic and social is also mentioned by the majority of students:

Originally I lacked confidence when in my group but through the group activity I gained in confidence. We created a poster, video and storyboard that I am really proud of.

The Summer School experience, especially the project, made me more confident about the idea of going to university.

PRACTISE

Students have the opportunity to develop their study skills during their project work and during the separate project undertaken at the residential. This year's residential project was focussed on Networking and involved interdisciplinary teams producing a video and research poster on their chosen theme linked to networking. The project was designed to meet the Framework's main objective for this age group which is to:

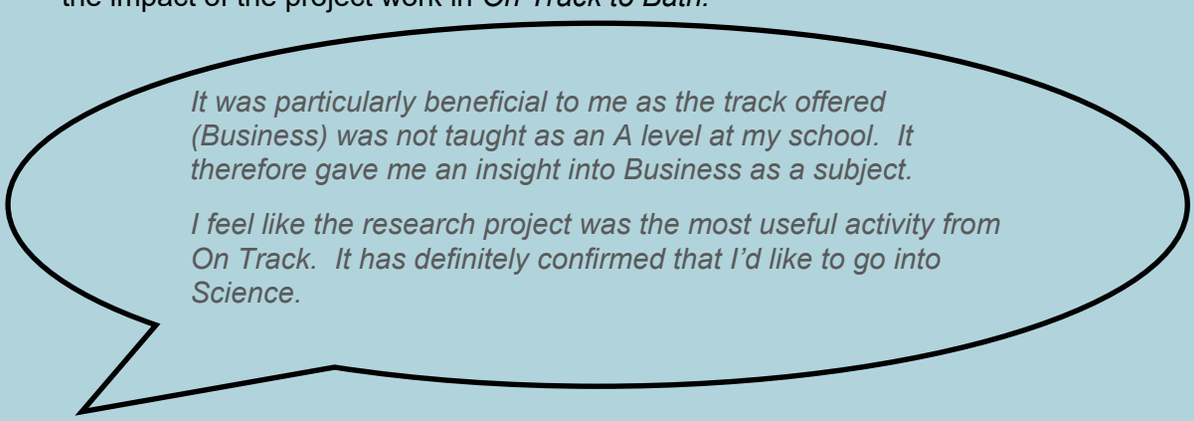
- Enhance academic skills through collaborative projects that develop capacity for critical thinking, independent research and self-directed learning.

Evaluation showed that: 96% of students thought that the task gave them a good opportunity to practise communication skills; 94% thought it was useful to work in a team with people they did not know; 82% thought they would use some of the tips picked up in the note taking session; 78% thought the opportunity to develop decision-making and problem solving skills was useful; 76% thought that evaluating the group's performance was useful practice in reflective thinking. Not nearly as many learned anything new about technology (used to make videos and presentations) - only 27%. The task did not stretch the knowledge of most students further in this area. Next year WPO should assess whether or not this is a crucial outcome for the task and if so provide equipment which students are less likely to have already used.

UNDERSTAND

Students spend the first year of *On Track to Bath* completing an independent research project which culminates in a 3,000 word project which is closely aligned to the EPQ qualification. Students choose their own topic and participate in various subject specific workshops which enable them to develop their research skills. The projects are assessed by academics from the associated departments using detailed assessment guides and marks are moderated to ensure consistency across the subject streams. Those students gaining an A* or A grade are then eligible for an alternative offer from the University of Bath. Of the 2015-17 cohort, 15 students achieved an A or above in their project, and 9 applied to Bath and were made an alternative offer.

Students gain a great deal of subject knowledge as a result of undertaking their project during Year 1. The following are examples of feedback from students about the impact of the project work in *On Track to Bath:*



It was particularly beneficial to me as the track offered (Business) was not taught as an A level at my school. It therefore gave me an insight into Business as a subject.

I feel like the research project was the most useful activity from On Track. It has definitely confirmed that I'd like to go into Science.

Description of Activities

All Ages:

Campus Visits

25 campus visits were organised throughout the academic year for students of all ages. Link Schools and Colleges were offered visits. Other schools requested visits. Those meeting WP criteria were accepted.

Campus Visits for IntoUniversity Programme

The University of Bath is a partner in the south Bristol IntoUniversity centre along with the University of Bristol, the University of Exeter and the Queen's Trust. The programme works with cohorts of students in primary and secondary schools.

In 2016-17 the WPO supported 8 on-campus events for IntoUniversity students, two of which were "graduation" ceremonies for primary schools students. Support included booking rooms and providing staff and ambassadors where required.

Campus Visits – mini-residentials

Two other mini-residentials were organised by the WPO in 2016-17. One was for 29 students from the Oxford and Southampton Into centres. who had a three day two night visit, and one was an Economics-focussed residential for pupils from a school in east London.

Minerva Lectures

A series of 18 lectures was held on campus. These lectures were aimed at members of the public of all age groups. Topics this year ranged from Black Death to Photosynthetic Architecture to Medieval Mysticism. The aim is to bring the local community onto the campus to utilise the university facilities and encourage learning in people of all ages. The University of Bath has small numbers of mature students and would like to encourage people of all ages to apply to study here.

Off-campus IAG events

42 off-campus Information and Advice events were organised or attended by the WPO in 2016-17. 16 were attended by staff and others by ambassadors. These included delivering talks on Choosing and Applying, Finance, UCAS Applications, Careers and supporting mock interview events.

Transition - Accepted University of Bath students:

Higher Education Study Skills (HESS) mature students workshop

This was a three-day residential pre-sessional held in September 2016 for mature students starting degrees in autumn 2016. It was designed to prepare students for the challenge of university. The HESS was coordinated by the WPO and included staff from the Department of Social and Policy Sciences, Academic Skills Centre and Student Services as well as the Faculty-based Student Experience Officers. Students could attend on a residential or non-residential basis in recognition that some had family or other commitments.

Key Stage 5: Years 12 and 13:

On Track to Bath

This intensive cohort programme is designed to develop the capacity of students with the academic potential to progress to a high-tariff institution such as the University of Bath. It is a two year programme for local students. Students work in one of four subject tracks - Science, Computer Science, Social Science or Business. Year 1 consists of subject master classes, an independent research project aligned to the Extended Project Qualification (EPQ), and a four-day campus residential. Year 2 consists of a series of application and transition workshops.

On Track to Bath: The BTEC Route

On Track to Bath: The BTEC Way is a one year supplementary programme in Level 3 Maths, aimed at preparing high performing

BTEC students in local FE colleges for higher education courses in Computer Science, Engineering and Sports & Exercise. The programme comprises 18 tutorials on key Level 3 mathematical topic areas, a campus-based Maths residential, a problem solving workshop, and general support and guidance for HE entry and the UCAS application process.

Year 12 Science Summer School

This is a five day residential Summer School for A level students planning to take a Science degree. It is designed to enhance the A level curriculum and develop research and study skills. The main element of this programme is academic study with school and college students working with University of Bath academics on academic work often adapted from the undergraduate curricula. Students complete a project in Biology, Chemistry, Physics, Maths or Computer Science. Groups present their findings to an audience of students and staff and each group produces a poster which is assessed by academics. The Summer School provides an immersive experience of university life combining academic lectures, project work, social and leisure activities.

Year 12 Social Science Summer School

This five-day residential Summer School is offered to A level students planning to take a degree related to Social Science, Psychology or Education. As with the Science Summer School, the main focus of this programme is academic study with students working with University of Bath academics on projects often adapted from the undergraduate curriculum. It is designed to contextualise subject knowledge and develop independent research and study skills. The residential provides an introduction to university life, including first-hand experience of lectures, note-taking, seminars, collaborative project work, and social activities.

Engineering Yr12 Summer School

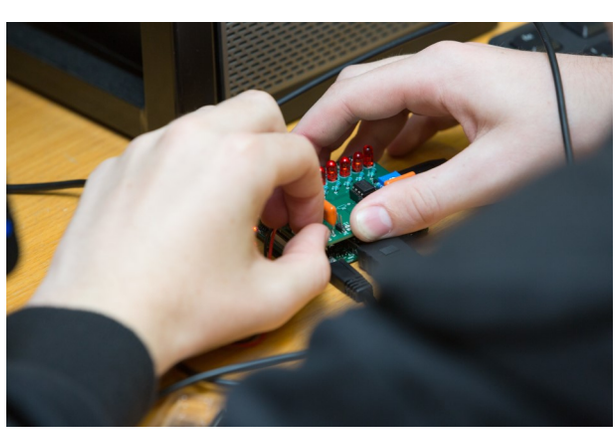
This five-day residential Summer School was new for 2016-17. It was designed to introduce students to Engineering. Students chose to undertake one of four Engineering strands: Mechanical, Electrical, Chemical or Civil.

Nuffield Research Placements

The Nuffield Research Placements scheme offers Year 12 STEM (Science, Technology, Engineering or Maths) students an opportunity to work alongside a researcher in either a university or an industry setting, for 4-6 weeks over the school/college summer holidays, and carry out their own research project. The aim of the scheme is to give students a hands-on experience of research in action illustrating what a career in STEM research might be like. WPO visited 27 schools and colleges to promote the scheme and placed 31 students at the Universities of Bath, Bristol and UWE (University of the West of England) and three industry partners, and delivered an Induction Event at the beginning for participants and parents, and a Celebration Event at the end.

Yr12 Enrichment Days

Discussions with teachers in 2015-16 suggested that Year 12 Taster Days with a specific subject focus where students develop their knowledge of A level Curriculum topics would be more useful than more general Taster Days. WPO therefore developed new A Level Enrichment Days for Year 12s for 2016-17. Three were held in 2016-17 on Chemistry, Psychology and Sport.



Key Stage 4: Years 10 and 11:

After School Projects

Projects are run as 6-week after-school clubs, delivered by PhD students and supported by undergraduate ambassadors. The aims are to enhance the GCSE curriculum and develop students' love of learning through projects, as well as to build transferable skills, such as debating, research, and presentations, which are so important for success at university. Three projects were delivered in 2016-17. One for a Year 9 group on Social Justice, one for a Year 10 group on Psychology (extended to 8 weeks) and one for a Year 11 group also on Psychology.

Tutoring

The student tutoring scheme is a collaborative intervention run by the University of Bath and Bath Spa University. The scheme has been running since 2012-13. Current university students are placed in secondary schools where they assist teachers in the classroom and support school students with their academic work. The programme involves training the tutors (each tutor receives around nine hours of training in our programme objectives, working in schools and safeguarding issues), securing schools engagement, placing students and managing those placements.

Year 10 Taster Days

Year 10 Taster Days give students the opportunity to find out about subjects they could study at university and the careers they might lead to. Students take part in lectures, practical workshops and group work sessions as well as having a campus tour and a session on student life.

Key Stage 3: Years 7/8/9:

Futures Days

Futures Days are designed for Year 8 or 9 students who are preparing to make their Key Stage 4 option choices. They provide students with information and advice about where GCSE choices can lead and also the different post-16 progression routes. Through interactive workshops students reflect on their strengths, explore personal goals and career options and examine which GCSEs and educational pathways would best suit their skills, interests and future goals.

Key Stage 3 Projects

These 6 week after schools projects are designed to lead students through the research process. Students are supported to design and undertake their own research projects. Students then present their research at a Science Fair and at the Bath Taps Schools Science Fair.

Key Stage 2: Years 5/6:

Bath Taps into Science Festival

Bath Taps into Science celebrated its 17th year in March 2017 with 60 events over seven days during British Science Week. (11th-18th March 2017). The festival reached over 8,300 people across schools and the local community. 46 events were run for schools across the region ranging from workshops in schools to a large science fair where 1,681 primary school students visited 42 exhibition stands. Public events included the Family Talk which this year was given by University of Bath academic Professor Saiful Islam (2016 RI Christmas lecturer). There was also a large Family Science Fair held in the centre of Bath with around 4,000 attendees. Fourteen Bath Taps events were organised in all for the public with six just for adults.

Family research projects were facilitated in areas with lower than average progression to HE. Scientists facilitated combinations of parents and primary school children from who worked together to undertake a piece of research suggested by the child. A programme of support was put in place to build scientific knowledge and confidence within the family unit, with the families presenting their research together at a local Science Fair and winners presenting at the Family Science Fair.

Targeting Strategy

WPO outreach is aimed at high ability students who are disadvantaged in some way. Disadvantage may be determined by economic or social conditions. Economic disadvantage centres on low income whilst social disadvantage refers to factors such as no history of HE in the family, extra challenges in education as a result of an educational or physical disability or other medical condition, a child in care, from a refugee or asylum-seeking family.

Targeting Individuals

For our highest intensity activities individuals apply and are prioritised by the number of criteria they meet. Our widening participation criteria for 2016-17 are set out below.

Economic indicators:

- various indicators of low income are used including free schools meals, Pupil Premium, parents receiving a means tested benefit, student eligible for a sixth form bursary; parents work in routine (non-managerial, non-professional, non-technical) occupations.

Social indicators:

- lives in 'low participation' neighbourhood (LPN) as defined by home postcode. This is based on progression data to higher education (POLAR data);
- neither parent attended university in the UK or abroad;
- is, or has been, a looked-after young person;
- has a disability or specific learning difficulty e.g. dyslexia;
- has experienced difficult family or individual circumstances that have affected their performance in exams or the likelihood of their going to university.
- is a refugee or asylum seeker
- gender or ethnic group can be relevant indicators where specific groups are under -represented in some subject areas.

Students must also meet academic criteria. *On Track to Bath* requirements are five or more A*-B grades at GCSE (including Maths and English at least a C but at least a B in Maths for *On Track* Business students) as well as some subject specific requirements, for example, the Computer Science *On Track to Bath* students must be studying Maths at A level. Summer School students must have achieved mostly A*, A and B grades at GCSE (including English and Maths), and be taking the relevant qualifications for the project strands. Data are collected on gender and ethnicity and these are used to prioritise students from underrepresented groups where they have met the other selection criteria, for example to encourage increased participation of females in Engineering.

Targeting Schools

For medium and lower intensity activities schools are targeted which have high proportions of disadvantaged students, but are above the national average in achievement. The focus is non-selective State Schools. Schools and colleges are identified from the HEAT Schools Planning Dataset using the following criteria:

- low progression to higher education (those with above the national average proportion of students living in LPN POLAR 3 Quintiles 1 and 2);
- low socio-economic status (those with above the national average proportion in socio-economic classes 4-7);
- low education/skills/training areas (those with above the national average proportions of students living in areas with the lowest Education, Skills and Training levels);
- low socio economic status (where students on free school meals/Pupil Premium cohort is 7% or more of the school population;
- high achieving at Key Stage 4 (the proportion of students achieving five or more GSCEs A* to C, including Maths and English, over the last five years is above the national average);

- high achieving at Key Stage 5 (the average tariff point score at A-level over the last four years is the equivalent of three Cs and above).

Schools must meet two or more criteria.

The WPO established formal Working Agreements with 15 local schools and colleges in 2016-17 which met the above criteria. These Link Schools and Colleges were prioritised in the promotion and targeting of locally-focused activities and recruitment of students onto sustained programmes like *On Track to Bath* and *Key Stage 4 projects* . This increases the likelihood of students attending several activities throughout the student lifecycle as encouraged by OFFA/HEFCE.

The WPO works with other local schools and colleges either within one hour's travel or which are located in 'cold spots' for example rural areas where accessing Higher Education Institutions (HEIs) is challenging. The Office also works with some schools regionally and nationally which have established links with the university. Schools are also advised that the majority of students they bring to general events should be disadvantaged.

The WPO has worked extremely hard to build excellent relationships with local schools and colleges. The value of this is recognised and encouraged by the Government.

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Number of participants on Widening Participation Office Outreach Activities 2016-17

On campus Events	Sessions	Participants
Mature Students' HE Access Study Skills Workshop (Pre-sessional)	1 x 3 days	13
On Track to Bath 2015-17 (Yr13 Year 2) – Cohort programme	1 x 6 sessions	43
On Track to Bath 2016-18 (Yr12 Year 1) – Cohort Programme	1 x 13 sessions	61
On Track to Bath the BTEC Route 2015-17 – Cohort programme	10 sessions	11
On Track to Bath the BTEC Route 2016-18 – Cohort Programme	10 sessions	14
Yr8/9 Futures Days to support GCSE options	3 x 1 day	170
Yr9/10 Taster Days to support KS5 choices	6 x 1 day	359
Yr12 Curriculum Enhancement/Revision Days	4 x 1 day	139
Bath Taps Schools Science Fair (KS2)	1 x 1 day	1,681
Science Yr12 Summer School (residential)	1 x 5 days	55
Social Sciences Yr12 Summer School (residential)	1 x 5 days	57
Engineering Yr12 Summer School (residential)	1 x 5 days	57
Nuffield Yr12 Research Placements (4-6 week)	20 sessions	31
Science workshops and talks	14	904
Campus Visits (incl. 8 for IntoUniversity)	25	996
Campus Visits – mini-residentials	2	53
Minerva Lectures (mostly adults)	18	1,260
Total on-campus activities	**17 programmes with 150 sessions**	**5,904**

Off-campus Events	Sessions	Participants
KS4 After-school projects in local schools	18 sessions	46
KS3 Research Projects	1 x 6 weeks	25
In-class tutoring sessions (delivered by 26 tutors)	864 hours	1,800
Off-campus HE information events delivered by ambassadors	26	1,300
Off-campus HE information events delivered by WPO staff	16	800
Off-campus Bath Taps Family Science Fair	1	4,000
Family Science Research Projects (6 weeks)	1 x 6 weeks	34
Science shows at other Fairs	4	300
Off-campus schools Science workshops	32	954
Off-campus Maths events at schools	7	177
Off-campus Language talks at schools	5	300
(STEM Van events	31)	
Total off-campus activities	**12 programmes with 121 activities plus tutoring**	**9,736**
Total on-campus & off campus activities/sessions	**29 Programmes with 271 sessions**	**15,640**

Enquiries about events:

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01225 384709

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