Part 2 BRLSI Researchers Project in Action

We'll now tell you how the idea translated into action with brief details of how the other participants became involved, the approach taken to planning the sessions, and what happened in them and at the Bath Taps into Science event and the mini conference. There will be a future publication detailing what happened subsequently.

2.1 Inviting Participants

Paul S recruited the PhD students and agreed to lead the project from the point of view of the University. Paul T invited BRLSI member and volunteer, Marie Huxtable, who had previously developed APEX[1] and had been part of the Young BRLSI Programmes since the beginning, to join the project team. Paul T and Marie worked up a short paper dealing with the terms of reference and associated tools such as evaluation, feedback procedures, planning, investigation and recording formats.

Paul T contacted parents of teenage members of the Young BRLSI programme to tell them about the project and invite them to apply. The details circulated to potential participants are shown below:

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[1] [1] APEX (All are Able Pupils Extending Opportunities) was an inclusive educational 'gifted and talented' project that was run by Bath and North East Somerset Council until 2012. Details in APEX Living Legacies: Stories creating futures (Henon, A. (Ed) 2012, freely accessible from http://www.actionresearch.net/writings/apex/livinglegacies2012.pdf

BRLSI Young Researchers Project 2014 -2015

The project is linked to the University of Bath's Department of Architecture and Civil Engineering research programme. It will deal with aspects of the built environment in the centre of the city of Bath.

The 6 month project aims to: enable 13+ [years of age] young people to learn from and with doctoral students what it is like to be a researcher by completing a meaningful research project which might contribute to a post graduate research thesis.

The project will provide the young researcher with opportunities to:
- Create and research a question
- Develop an ability to enquire in a disciplined and creative scientific manner and have the opportunity to learn to work within a time frame
- Acquire and improve skills in the formation and identification of hypotheses
- Acquire and improve skills in observation
- Accept responsibility for practical research tasks
- Learn to record results and also record progress in learning
- Improve skills in presentation
- Reflect on their own learning, the research process and what they have learned for themselves
- Make a valuable contribution to the learning of other people by sharing the research by, for instance creating a public artefact such as a 'Bath Geology Trail,' (paper or web version), an article for a magazine, a poster, an oral presentation to BRLSI children's workshops, BRLSI members
- Make an action plan of what they wish to research next

The project also aims to enable postgraduate students to:
- Further develop an awareness of the processes of research and learning
- Further develop skills in the communication and presentation of research information by communicating effectively the contents or part of the contents of their own research projects
- Reflect on their own learning and research skills
- Acquire academic supervision skills by working with 13+ in meaningful and realistic research

Several young people indicated an interest and they recruited some friends. A room was booked on the BRLSI premises and participants enrolled and paid a small fee. All the sessions ran on the second Saturday of the month alongside the Young BRLSI workshops.

The rooms used were large enough to accommodate the whole group and had tables and chairs that were easy to rearrange during the session for small group supervisions and whole group discussions. Rooms also had good Wi-Fi connection, a laptop, projector and screen, flipchart and A4 paper, pencils and pens. Research Portfolios were printed ready for each Young Researcher and Supervisor.

2.2 Approach to Planning

Paul T, Paul S and Marie met prior to each session to prepare. They reflected back on the previous sessions and reviewed the feedback sheets to see if there was anything they could learn from what had happened. The conversation focused around what might be done in the next session to enable the young people to experience what it was like to be 'real' researching scientists in a research group, as well as assessing where they were in developing their research, what would help them progress, and what skills might be useful to them. The conversation didn't follow a set agenda but rather flowed between the three project team members so they were able to draw on their different perspectives and experiences to develop a programme for the afternoon that provided a balance of active 'hands-on' fun, time for conversation between young researchers and their supervisor and team, reflection, planning, and engagement with the whole group.

From the discussion, Paul S developed an outline schedule (Appendix 3) to provide a reference point for Paul S and Marie during the session. Rather than serving as a constraining script, it was used creatively and changed depending on the educational needs of young people during the session. Paul T developed and provided feedback sheets, and additional planning and reflection sheets for the young people to complete and add to their Research Portfolio.

Data was collected in the form of video and photographs. Permission was secured from all involved (and the parents of the Young Researchers) for video and images to be used as part of the project research.

2.3 What Happened

Session 1 - 8th Nov 2014

The focus of the 1st session was to introduce all participants to each other and the opportunity the project offered for them to enjoy learning, and creating and contributing knowledge by researching something that was of energising interest to them. We were aware that learners, irrespective of age or experience, could feel nervous when they go somewhere new physically, socially, intellectually, and/or personally. This was an important consideration throughout the project, and particularly in this introductory session. We were also aware that the form of learning and research that we wanted to engender through the project might be unfamiliar to both the Young Researchers and the Supervisors. From experience we anticipated that some might find the expectation that all participants accept responsibility for contributing to and benefiting from their own learning and that of others challenging. We were also aware that the notion of research we were introducing, that of creating and contributing to knowledge rather than simply finding out what is already known, might be novel and therefore also challenging. Finally we kept in mind our intention to provide an opportunity and support for young people to develop

their knowledge as expert researchers and learners in the process of investigating a question of personal interest, within a time frame and with a valued outcome.

We began with an introductory exercise to enable participants to begin to get to know one another and feel at ease moving, talking and listening in an unfamiliar space in the room. We also wanted them to begin developing cooperative educational relationships with other researchers (including their supervisor/supervisee relationships), rather than the hierarchical relationship they were probably more familiar with, which can stifle or suppress creative, productive research as this story illustrates:

> 'The recent Nobel prize in chemistry was won by an Israeli - Dan Schechtman for his discovery of quasi-periodic crystals. When he "noticed" this first - about 30 years ago - he couldn't believe it, and when he announced his work, Linus Pauling - who had by then won TWO Nobel prizes, in different fields - essentially called him a fool and a charlatan. And he was then asked to leave the research group in which he had been working. But he was convinced he was right, and persevered - and the rest is history. (Personal email from Michael Neugarten, 4th January 2012)

All participants were asked to form two concentric circles with Young Researchers, their prospective Supervisors and the project team mixed together. Those in the inner circle faced outwards and those on the outer circle faced inwards. The instructions were for each person to introduce himself or herself to the person opposite and find one thing they had in common. Each pair had just one minute to speak before the people in the outer circle moved around one place and the exercise was repeated until all introductions were complete.

The activity proved to be a good, energising 'icebreaker', with the use of humour around some of the more obscure things in common helping to bond the group as a whole. After a break we moved onto a small group activity so the young people could learn more about the research the students were engaged in and find with whom they shared an interest. This gave the Supervisors an opportunity to communicate their research; the Young Researchers a taste of what 'real' research is like, to begin to talk with the university researchers as potential supervisors and the other young people as potential fellow researchers.

The students each moved to a table and the young people were asked to join one table, avoiding friendship groupings. The Supervisors had 5 minutes to introduce their research topic to a small group of Young Researchers before the Young Researchers were asked to move to another table to listen to and talk with the next Supervisor.

Figure 5 Session 1 - Getting to know each other and research interests

When the Young Researchers had spoken with each of the Supervisors they were then asked to move to a table with the Supervisor whose work they would most like to work with. They were also asked to have a second choice in case the numbers needed to be more evenly balanced, but in the end the students serendipitously distributed themselves equally amongst the Supervisors.

The practicalities of the project were then explained, including the time-line, the schedule of meetings, possible outputs, and the mechanics of contacting the supervisors and project team via email or web forum. The research journal/portfolio were given out, together with BRLSI planning and observation sheets, to Introduce participants to issues concerning recording as a researcher. The young people worked in their small research group with their research Supervisor to learn more about recording as a research scientist before feeding back to the whole group.

Attention was draw to the TASC (Thinking Actively in a Social Context) wheel (Wallace, 2000) that was in the back of each Research Portfolio (see Figure 6), and which is also used by children who attend the BRLSI Youth Activities workshops. The TASC wheel was used as it presents a simple and elegant summary of the research processes in many disciplines, including science, technology, engineering and maths. It has been used successfully in schools with children and young people over many years. Joy Mounter demonstrates in her Masters unit (Mounter, 2008), *'Can children carry out action research about learning, creating their own learning theory?'*, how even very young children can understand and critique TASC to produce their own learning theories. Sally Cartwright (2007) in her Master unit, *'How can I help my students understand and develop the skills of independent learning?'*, demonstrates the use of TASC with secondary age learners. Marie (Huxtable, 2012) demonstrated that TASC can also be used by doctoral researchers.

Figure 6 TASC (Thinking Actively in a Social Context) Wheel by Belle Wallace.

The Young Researchers were encouraged to use a variety of methods, such as videoing, sketching and keeping a journal and/or diary, to record their research

and learning journeys during the project. They spent time working in their small groups with their supervisors to begin asking and answering questions such as: What is your possible topic? What do you already know about your topic? What do you want to find out? What do you hope to do next? Recording their thoughts in their Research Portfolios.

Figure 7 Young researchers learning to record their thinking

As the rest were working in their groups, each participant was asked individually to speak to camera for just one minute to record why they had come and what they hoped for by participating in the project. You can hear what they had to say at:

https://youtu.be/IyN4a7bjgXs?list=PLUAuUrjrSdqbpXH38LPxS_7Uec786iyEA

The http://www.brlsiyouthgallery.org website was demonstrated as a source of resources and communication between meetings and how to email questions. Child protection issues meant that Young Researchers and Supervisors were not allowed to email each other directly, so they were shown how to email a generic email address - coolbookings@brlsi.org - with 'BRLSI Young Science Researcher' in the subject line so it could be easily identified. After anonymising the email it would be passed to the person who might best answer it and/or it would be posted on the website so anyone (Young Researchers included) might be able to help. Ideas about the feasibility and appropriateness of other sources of support and knowledge, such as family, were shared.

The session concluded with 'planning ahead' with participants completing as best they could the planning sheets, agreeing the format for each future session;
1. Review what has been done.
2. What needs to be done?
3. What skills need to be learned/practiced?
4. What support/equipment is needed over the next month?
5. Any suggestions for next time and completing feedback sheets.

And finally they all completed feedback sheets (Appendix 2di and 2dii).

Session 2 - 13ᵗʰ Dec 2014

In planning the second session we took what we had learned from Session 1, continuing to give attention to enabling the young people to gain confidence to talk about their research and contribute and benefit from conversations in small groups. We also wanted to revisit what they had done before, referring to their research files, to introduce a research skill in a fun and active way and enable them to work with their research group to progress their research. We decided that the research skills of most relevance at this early stage were those they possibly thought they already knew about and took for granted – the skills of observation and recording. We wanted to keep a connection between the fun activity introducing research skills and real research, so Paul S suggested using bricks, since the common theme was the built environment, and he could provide bricks used in a real research project on the thermal performance of historic masonry.

An observation sheet (Appendix 2a) was developed for use with the hands on activity, as was a review sheet (Appendix 2b) for encouraging reflections on learning, a planning sheet (Appendix 2c) for the period of Christmas and New Year to capture ideas on the way in which the participants will present what they have done at the beginning of the third session. Feedback sheets (Appendix 2di and 2dii) for the Supervisors and the Young Researchers were used again.

After a brief introduction to the second session we help a catch-up 'icebreaker' in supervision groups as would happen in a real research group, with each participant invited to talk briefly about anything interesting they had found out during the preceding month, what they had done on their research, and what their expectations were for the session and the project.

Figure 8 Learning to work with other members of supervisory groups

The Supervisors were also expected to take their turn and to facilitate the group so everyone had a chance to speak, to be listened to and to listen to others. There were a number of purposes for this activity: to give an opportunity for the Young Researchers to develop their confidence in speaking (albeit in a small group); to hear their own voice and realize that they are active contributors to their own learning and the learning of others. Time was spent in the supervision groups discussing in detail the individual projects and helping each Young Researchers, drawing on their notes in their research file, to begin to form a solid idea of what they might like to research and what that might practically involve. The

Supervisors facilitated the discussions and contributed, drawing on their knowledge of scoping a research programme and the design of experiments.

We wanted each participant to feel part of the whole project, as well as their supervisory group, so we rearranged the room to sit everyone around a single table where each researcher and supervisor was encouraged to talk for just a minute to the entire group about their project and expectations. After having practiced speaking in their small group, speaking to the whole group did not seem so daunting and everyone was able to contribute.

After a short break we changed the form of activity to demonstrate the importance of observation and recording as research skills and practice them.

Figure 9 Young researcher learning to notice and record

Each Young Researchers and Supervisor was given a small brick from a real research project, an observation sheet (Appendix 2a) and 10 minutes to record what they noticed about their brick and the context within which their observations were made.

Figure 10 Supervisor as co-learner

Supervisors took part in the activity as co-learners, modelling learning as experienced researchers by revisiting research skills they were familiar with.

All the bricks were then gathered together and mixed up and observation sheets swapped around so that nobody retained their own sheet. Each person had to find the brick described on the sheet they had been given, and add new observations to the sheet that may have been missed. Most people easily identified the brick fitting the description they had, but two people were convinced that one brick was their brick. This helped to illustrate how important, and at times difficult, it is to observe and record in sufficient detail.

Figure 1 Learning to work together

The whole group discussed the similarities and differences in what was recorded and what helped them to find the 'right' brick. We discussed subjectivity, the difficulty and need to observe carefully and record precisely, and we learned not just to 'see' but to 'notice'. We shared ideas about different ways of recording and the importance of clarity in written and general communication.

Figure 2 Learning to reflect and record

Each researcher completed the 'what I have learned' sheet as a reflective device and to serve later as an aide memoire.

The supervisory groups were reconstituted for the Young Researchers to revisit and revise their plans and to decide how to spend the coming month developing their research. Supervisors facilitated the groups and provided guidance, advice and suggestions.

Since the on-line forum had been inactive during the month, the last few minutes were spent re-introducing it for asking questions, and we also shared individual hopes for next time and completed feedback sheets.

When we planned the third session we were told that a couple of young researchers (brothers) had dropped out of the project. We decided to bring this situation to the fore in the upcoming session, as it is a real issue for many research groups in universities and business, but a research or project group is more than just a collection of self-serving individuals. Each person's presence contributes something unique and the whole, the group, is truly more than simply a sum of its parts. Individuals have a responsibility to contribute to, as well as benefitting from, other people's learning as well as their own. We wanted to show that by foregrounding problems in a non-judgmental way, productive and mutually satisfying ways forward can emerge. We decided on a post-it activity, as this would enable everyone to 'have their say' and learn what other people were thinking without identifying themselves. It was hoped this might make them feel more confident to be 'honest' rather than saying what they think other people might want to hear.

We also wanted to build on the observation and recording skills introduced in Session 2 by highlighting the importance of developing communication skills as a researcher. As the first part of the session might be quite intense, we wanted to do this in a light-hearted but still productive way. We developed an activity used to develop language skills, and instead of writing they would be asked to draw a picture that only their partner could see. Again the subject matter was chosen to have some relationship with the build environment to encourage the connection between an abstract activity and some 'real' research.

Finally we wanted to make sure we allowed time for the Young Researchers to work with their Supervisors and research group to progress their research.

When we began Session 3 our decision to address the issue of missing members proved to be even more appropriate, since our turnout was smaller than anticipated.

After the initial welcome we told the group that two of the Young Researchers had withdrawn and that we wanted to identify any issues there were for the remaining members of the project and find joint solutions. We asked each person to write on post-it notes why they were involved in the project and/or what they hoped to get out of it. They were to write one thought per note and stick them up on the wall. The notes were to be anonymous and they could write as many or as few as they wanted. When everyone had finished we asked that they look at all the post-its and discuss, negotiate and come to an agreement with others about how to group them. As a whole group we looked at the groupings, the overlaps and differences, and discussed how we might try to make each goal happen. We made the point that in real research groups, students and supervisors have different payoffs, such as PhD students wanting a thesis and their supervisors wanting journal papers. We also discussed individual and group social responsibilities to the project and the members.

After a break we used a light-hearted activity to extend the communication skills we had introduced in session 2 and relate that to the shared responsibility of listener and speaker to improve the clarity of understanding and description. Everyone, Supervisors and Young Researchers, participated as equals. They found someone to work with and sat in pairs back to back. One person in each pair was given a picture (Build Environment Research themed), which they had to keep hidden, and had 10mins to describe to their partner verbally what it looked like so the other could draw it accurately. They were told the 'drawer' could ask questions and once, half-way through, could show their sketch to the 'describer' so they can see where the 'drawer' was going wrong and try help them correct it. It was made clear that success would come from the shared responsibility of describer and drawer for clarifying the communication and it was the pair's performance that would be judged. Roles were then swapped and the exercise was repeated using a different picture so everyone had chance to draw and have a sketch to put in their portfolios.

The whole group was then brought together to discuss how they got on, how they felt, what helped and what didn't. In the discussion it was acknowledged that listening is an active process requiring concentration, that the use of questions is crucial and that we can learn from another's questions, even when they have limited knowledge of the subject. Each researcher was encouraged to fill in a 'what I have learned' sheet as an opportunity to reflect on what they had discovered about listening and communication, to further consolidate and extend what they had learned.

The supervision groups were then formed for the Young Researchers to update their group on their progress during the previous month, identify any problems/needs and help each other to move forward. We wanted to extend their confidence and ability to work in a larger research group, so we drew the group together afterwards and each person was given the opportunity to report to the whole group what they were working on. To make that step easier, they were first asked to talk with the person next to them, who was not in the supervisor group, and if they didn't feel confident enough to address the whole group their partner or supervisor could help or talk for them. This afforded the Supervisors and opportunity to build on their experience of 'how to explain to a lay person' from previous sessions.

The last half hour was spent in supervisory groups with Young Researchers working on their planning sheets to organise their time over the coming month. They developed their research in response to the questioning from the rest of the group, and with the supervisors guidance, advice and suggestions. We also explained how the Young Researchers could apply for resources and equipment, in exactly the same way as their supervisors would have to in the course of their university research. They would need to supply two quotes (links to online suppliers) and a paragraph of explanation of why the equipment was needed.

Following the session we discovered why attendance was low - some Young Researchers had thought we were not restarting after the Christmas break until the following month! As a consequence a reminder email was sent out the week

prior to each subsequent session. In the interim one of the Young Researchers applied for funding and was granted the purchase of a paper briquette maker.

Session 4 - 14th Feb 2015

In planning this session we were aware that the end of the project was approaching and we needed to clarify the form of communication that would be suitable for the Young Researchers to make public the knowledge they had created in the course of their research. We originally thought of the Young Researchers writing research papers, to make the experience as realistic as possible, but this was thought to be too challenging and perhaps not entertaining enough (or too like school) to capture their enthusiasm. An academic poster seemed to present a more appropriate vehicle to enable the Young Researchers to continue develop the skills of 'real' researchers, and would also be a suitable mechanism for the Supervisors to communicate their educational learning journey. We wanted to build on the research skills introduced previously, and learning to create an academic poster presented a different and fun activity that would help the Young Researchers to progress their critical and creative thinking and research.

This session saw a major change. As the young people began arriving they were encouraged to find their Supervisor and begin a catch-up with them. One Young Researcher loaded up photos he had taken around Bath as part of his research onto the laptop to share them with his Supervisor. As there was a digital projector available he was asked if he would be willing to share them with the whole group and he agreed. This seemed an opportunity for the Young Researchers to step out of the comfort of their supervision groups and to begin to share their research with a larger group. Since one Young Researchers had agreed to present his work, when the others were asked individually whether they too would share what they had been doing with the whole group, they all agreed. So once everyone had arrived, the room was rearranged and each Young Researcher and Supervisor shared what they had been working on and everyone was encouraged to ask questions as they would in a 'real' research group meeting. You can see how this session started by watching the videos on https://youtu.be/nGL4B_rtaSk?list=PLUAuUrjrSdqY-1mD8Mx92yAzxF4UB24NQ

The presentations served to extend and value the voice of the Young Researchers and provided an opportunity for them to learn from each other and integrate others' ideas into their own research plans. We freed up time in the afternoon by not only adjusting the timing but also deleting a planned activity. We went into supervisor groups for the young people to talk in more detail about their research, the problems encountered and to begin to formulate possible solutions. Supervisors facilitated this, reminding them to practice the listening and communication skills developed during previous sessions.

After a short break Paul S presented, 'How to make a poster', focusing on how to communicate research, capture attention but keep the science. The PowerPoint presentation he gave was based on one created by his colleague Dr Darby who

uses it to explain research posters to undergraduate research project students, and it was uploaded to the website later for reference. Everyone was given a rubric (Appendix 4) and one minute to evaluate each of the real academic posters arranged round the room, which had been collected from some of Paul S's PhD students and some of the BRLSI Supervisors. Notes and scores were then compared in supervision groups and the consensus reported back to the whole group. Key learning points were taken into the next activity, which was to get each researcher to begin to sketch out their poster.

Everyone was given a blank A0 sheet to sketch out their own research poster. They were reminded to think of the layout, the key message and how they might present their results. The main aim was to get the young people to make their first mark on a big sheet of paper, to feel confident enough to take the sheets home to finish (in draft) over the month.

They then returned to their supervision groups to fill in planning sheets for how to spend the coming month developing their individual research with the supervisor's guidance, advice and suggestions. Feedback sheets were completed and everyone departed clutching A0 pieces of paper having committed to drafting their posters over the coming month.

Session 5 - 14th March 2015

Developing the confidence to talk about research and consider the implications of new thinking that can arise from questioning is an important ability for researchers to develop. So in planning the fifth session we wanted to give plenty of time for the Young Researchers to build on what they had done spontaneously in the previous session, i.e. addressing the whole group. With the mini conference rapidly approaching we also had to allow plenty of time for Young Researchers to work with their research group and supervisors on their research. They needed to ensure they were able to present what they had learned and identify what they would need to do to prepare their posters in an electronic form that could be printed. There was also an opportunity for the Young Researchers to talk about their research and the BRLSI Researchers project to members of the public at the upcoming Bath Taps into Science event, so this also needed to be given discussion time.

Repeating the successful start of the last session, as the young people arrived they sat in their supervision groups for an informal catch-up. Once everyone had arrived we reorganized the room for a whole group update. All the Young Researchers and the Supervisors shared the progress they had made during the last month, including showing the current state of their draft poster. They were much more confident, both to talk about their research progress to the whole group, and to ask one another questions to help. Afterwards, the Supervision Groups were re-formed for a more detailed catch-up and to resolve any outstanding issues.

After the break the whole group came together to focus on the Bath Taps into Science event. We discussed what they wanted to get out of Bath Taps individually and as members of the project and the opportunities it offered:
- To show off the BRLSI Project itself;
- For individuals to show off their own research;
- To do some actual research (questionnaires, live testing).

We showed them the table and display boards that would be available in the marquee and discussed how to use the space. Moving on to the practicalities of who could attend, when, and made a rough plan for the day.

After a short break the focus was on planning for April, explaining the logistics of preparing an electronic version of an academic poster for printing. Work on the posters went on in the supervision groups, resolving research problems and completing the planning sheets.

In a final whole group activity, participants reaffirmed their commitment to the Bath Taps event by outlining what they were intending to do and finalising when they would be at the event. They also explained what they needed to do in preparation for the April session and completed the feedback sheets.

Subsequently one of the young researchers set up a twitter account, #BathBlackCrust, and used the online forum to talk with this supervisor and created a PowerPoint for displaying at the Bath Taps event. Others prepared paper questionnaires to use with the Bath Taps public.

Bath Taps into Science - 21st March 2015

'Bath Taps' began in the early 2000s as a BRLSI initiative organised by BRLSI members who were also members of staff at the University of Bath and in conjunction with the Bristol branch of the (then) British Association for the Advancement of Science. In the early days it was hosted by BRLSI. As time went on the Bristol branch of the British Association felt it was more appropriate for Bathonians to be responsible for its own festival of science, and so staff at the University of Bath, in particular members of the Maths and Physics departments, took on greater responsibility. For the last few years it has been seen as a University of Bath event, sponsored, organised and hosted by the University. BRLSI has one or two stands and BRLSI members help as volunteers, side by side with University staff, students, STEM Ambassadors and the University Public Engagement Unit.

Six Young Researchers, together with two Supervisors, attended the event in the Victoria Park in Bath. It was a really useful experience, providing an opportunity to survey interested members of the public, capturing more information using two sets of questionnaires. In addition the Young Researchers were responsible for devising and designing a tabletop display, with examples and photographs of their work and the working sessions. Using the material available in the stall they were able to engage with members of the public to discuss the programme

and to encourage other teenagers to consider joining the programme in 2015 – 2016. Nearly 2,000 members of the public attended the day and many visited the stall. The Young Researchers fielded questions and demonstrated their work using their display while staffing the stall. This was a truly confidence boosting exercise and helped the teenagers both to practise and successfully demonstrate their presentation skills. Two of the research groups used the opportunity to roam the marquee soliciting raw data for their research through their questionnaires. Helen Featherstone and Ed Stevens of the Public Engagement Unit of the University of Bath visited the stall and talked to some of the Young Researchers and their mentors about the operation of the programme.

Session 6 - 11th April 2015

The April session fell during the Easter holiday, but it was decided not to change the date as it was inevitable that no date would suit everyone. The problem of clashes with Young Researcher's family holidays and other activities, such as Ten Tors, was a continual problem. We tried hard to show the young people that they could continue with their research and be part of the programme even if they had to miss some sessions, but there doesn't seem to be a perfect solution and some young people didn't return if they had missed two sessions in a row. As it was on this occasion, not only were some young people unable to attend, but two of the Supervisors and one of the project leaders were also unable to attend for very pressing family reasons, which could not have been anticipated. This offered an opportunity for each person to overtly recognise that they contribute not only to their own learning but also to the learning of others.

The session was devoted to ensuring the Young Researchers were properly prepared to present their research at the mini-conference in May. The email sent round prior to the session asked them to bring a laptop if they had one, or their poster file on a memory stick if not. A spare laptop was available in the room.

The session started by telling the group how we were going to help one another to prepare for the mini-conference, where they would be presenting their research to an audience of family and friends. They were told about the deadline for electronic copies of the posters so they could be printed, and most of the afternoon was given over to the young people working on their posters with help from Supervisors. A couple of groups were combined where a supervisor was absent, and where a member of a research team was absent the poster was developed so that should the absent member provide a poster it could be added but if not the poster produced could stand as it was.

There was a debrief of how Bath Taps went and what they had learned. The young people felt they had got a lot from the experience, learning to talk about their research, getting ideas on how to improve their research, and gathering data – over a hundred questionnaires!

The young people then worked on their posters and presentations with Supervisors and each laptops was projected in turn to see what each had done

and share ideas on how to improve them. That way they could learn not just from what they were doing, but also from what others were doing too, and coming up with thoughts of what might improve someone else's poster.

Many of the Young Researchers had not begun their poster, so most of the afternoon was given over to helping them get as far as possible so that they knew how to continue at home over the coming month. We talked about the mini-conference, agreed the order of presentation, (the Young Researchers decided they preferred the Supervisors to go first) and shared thoughts about what might be helpful to keep in mind when presenting. The deadline for getting posters sent in electronically was repeated and they were told if they were stuck not to worry but to tell us and we would help. They completed the feedback forms and away they went.

Mini conference 9th May 2015

Prior to the mini-conference an invitation was sent to the families of the Young Researchers. The intention was to make the event as like a real academic conference as possible, so timings were strictly held to.

The programme for the afternoon:

1pm Briefing and preparations
1:25pm Visitors arrive
1:30pm Opening keynotes: Paul T, Paul S, Marie.
1:45pm Supervisor presentations
2:30pm Comfort break
2:45pm Young Researcher presentations
3:30pm Plenary with audience, closing ceremony and photographs

Researchers had three minutes each to present their poster with five minutes afterwards for questions. Paul S kept us all very strictly to time.

Figure 33 Paul T, Paul S and Marie opened the conference https://youtu.be/i0M35Cm14fo

The Supervisors then presented what they had learned through the project.

Figure 14 Ammar presents https://youtu.be/rciB065zRck

Figure 45 Joe presents https://youtu.be/gh4TPcEewsI

Figure 56 Giovanni presents https://youtu.be/RymzYmHA80g

Figure 67 Teresa presents https://youtu.be/25nSk3nTQZo

Figure 18 Muzzamil presents https://youtu.be/r1cTerLVT4c

Then the break, during which the Young Researchers talked with their supervisors and the audience about their posters
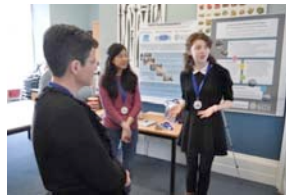

Figure 19 Enjoying the moment

Figure 20 Talking about their poster

Figure 21 Sharing a thought

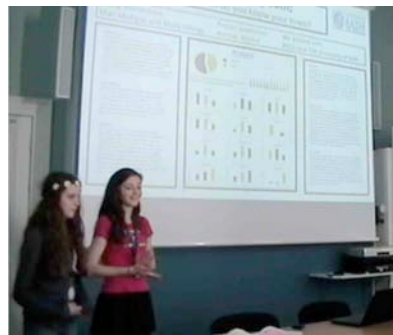Then the Young Researchers presented their research

Figure 22 Molly and Mari present https://youtu.be/t_JfruwBdjc

Figure 23 Barnabas presents https://youtu.be/fNGfTWej6TU

Figure 24 Kitty and Nichola (with Georgia in absentia) presents https://youtu.be/-nCUpNVIMOU
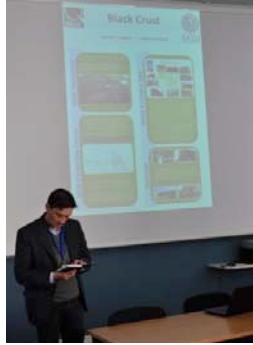
Figure 25 James' research presented by his supervisor https://youtu.be/btUofXTgjuc

James' research was presented on his behalf by his supervisor, Giovanni, as James was on the Ten Tors.

The conference concluded with a conversation with the audience, comprising family and friends of the researchers and a group photograph. The key point that emerged was the importance of parents, family and other adults support for young researchers and the need to brief them on the programme as it is very unlike school.

Figure 26 The mini conference photo!

After the conference we gathered quickly for debriefing and to share preliminary thoughts about publication, holding a more public conference at the University and next cycle of the project.