

Leigh Hoath and five teachers from Bradford schools outline a project they have worked on to improve outreach experiences with industry

KIDS' LAB: Making a BIGGER difference



Figure 1 Leigh (far right) with the teachers in the project working party

Introduction – by Leigh Hoath

Often unheard of unless you are of a certain age and remember audio and video cassettes, BASF are a multinational business with a large chemical site in Bradford, West Yorkshire. For many years I took my primary education undergraduates to visit the site; most of the students were local and generally left amazed by seeing the science in progress on their doorstep. The message: science is everywhere and in everything we do. On the site is a 'Kids' Lab' that forms part of BASF's educational outreach work. Now, some 12 years on from my first visit, I have completed a project that has revised the materials in the Lab, but also allowed for the evolution of a model that serves to bring together two very different worlds.

As BASF and Leeds Trinity University worked more closely we began to

realise that there was a gulf between our two worlds. The education world is very idiosyncratic in many ways and it is only when we try to interface with another way of working that we realise how isolated it is as a means of operating. We slowly understood that we were speaking different languages and, although on one level this project has had a very good outcome that the teachers have written about in this article, it has been something of a Pandora's Box. Many new avenues and ways of thinking have been opened up to us, so I guess the conclusion to this introduction is watch this space! As we continue to try to broker a more meaningful bridge between the worlds of industry and education, we can only express utmost pride in and gratitude to the teachers and BASF staff involved in this project: *Kids' Lab: Making a BIGGER Difference*.

The project – what the teachers said

At the end of 2017 a very interesting email arrived in school asking if we as science coordinators were interested in being involved in a project that was being run by Leeds Trinity University and BASF Bradford Kids' Lab. To be honest, we jumped at it. It was intriguing, although when we arrived on site for the first day at the end of January 2018 we knew we were in for a challenge, even though they were bribing us with the most amazing 'post-it' notes we had ever seen!

We were all users of the Kids' Lab and valued hugely the opportunity to bring groups of our upper key stage 2 (ages 9–11) pupils to experience a science day at the site. The pupils would first have a tour, allowing them to see what the site did: they were always amazed by the scale and

Key words: ■ Outreach ■ Business ■ Industry ■ Science capital



Figure 2 The BASF family characters, Nelly, Paul and FABS the dog

and realised that by making more use of them we could set a really strong story context that would ultimately offer a very effective 'wrap-around' opportunity to send information out to schools before they visit, embed the work during the visit, and be part of the follow-up materials (Figure 2).

We recognised that there were going to be some hurdles, not least

in the form of the very opportunistic and ambitious project leader, Leigh, who, as she walked through a storage room next door to the Kids'

It has been a great privilege to have been involved in a project that will not only benefit the children in my own school but hundreds of other children in the local area, as well as providing a great CPD opportunity for myself as a new-to-science coordinator.

(Helen, Worthinghead Primary School)

extent of what was going on. After this, they spent some time in the Kids' Lab, undertaking science activities led by on-site ambassadors with a wealth of scientific knowledge and understanding.

When Leigh introduced the project it was clear that there was a fabulous opportunity in front of us, a chance to revise what was happening in the Kids' Lab to align the materials more closely with child-led enquiry and the National Curriculum in England in order to better support us in school. The materials originate from the company's German Kid's Lab established in 1997 and, although what was going on was good, we were tasked with making it even better.

What stood out for us as different from other professional development we had done was the hands-on nature of this project and the use of us as experts. Being quite a modest bunch this was not something we took to easily! Also, the end-point was not simply to improve the activities for the users but to help the on-site ambassadors understand a little more about what effective teaching looks like. So, in addition to new resources and activities, we supported the development and delivery of a two-day training programme

for the ambassadors, which in-effect condensed the key elements of a PGCE teacher training course into 12 hours! No easy task.

Across a period of six months, involving five meetings as a working group and two training days for the ambassadors, we feel we have taken some steps closer to meeting the project aim of 'making a BIGGER difference'.

What we did

After getting over the post-it notes and biscuits we had a good old natter in that first meeting. We looked at what the Kids' Lab did, what it was aiming to do, what enquiry might look like in that context, what would help us as teachers in the classroom and the gaps to be addressed. We explored the idea of the 'BASF family', a set of characters who feature in the context of the Lab,



Figure 3 Trying experiments for ourselves within the Lab

This has been an amazing opportunity to meet with like-minded professionals to create an interesting and exciting experience for visitors and to develop my own thinking about science and practical work.

(Sally, Hill Top Primary School)

Lab, began to explore the idea of using this space as additional lab space and for the creation of an 'exploratory lab'. During the second meeting, we walked through the day as a learner: we undertook a site visit and the activities within the Lab (Figure 3) and began to unpick them before putting them back together.

There were things that immediately became obvious to us: the activities were not directly linked to products on the site and we felt that, if they were, this would add real value to the children's experience. The BASF staff, Jo and Narda, helped to dig out some older activities and we decided these needed to be resuscitated: water purification became our key theme.

We had had two lovely days out of school playing with some science up to this point, but then the whip was cracked and we spent the third day rewriting many of the materials and trying to improve the whole experience for the pupils. The story context with the BASF family was emphasised far more. The welcome box to be sent to schools was far more developed, with engaging context-setting activities. Follow up cross-curricular materials were created and the initial outline of the training programme. We also began to design the learning environment: the Lab was virtually a blank canvas and we had the chance to shape it.

We were beginning to see things taking shape and the potential difference relatively small changes could make. We also saw the extent of what was left to do in the final meetings. However, the final meetings yielded great things and we achieved what we had set out to do. An

improved experience is ready and waiting for the classes that will visit in the forthcoming academic year. For us this was more than just reshaping some activities; we got so much more from it.

The BASF perspective – by Jo Love, Site Communicator

I have seen many hundreds of children come in to Kids' Lab over the years and leave with smiles on their faces. I have the privilege of having a great team around me to support the delivery of the sessions and the administration of the Lab but being able to hand the materials over to the teachers as we did was such a great step. We recognise that we are not the education experts and that is what the project allowed us to do: talk to them and use their specialist knowledge to help our scientists support children's learning even more.

The greater space that has been created and our new 'exploratory lab', which sits alongside the original 'investigation lab', is such an exciting addition to what we had. We have learned so much in a relatively short amount of time and already have a far better grasp of what is actually happening in schools and how we can best support it. The starting point was a strong one, but Kids' Lab is definitely an even better experience now, and we are all really excited about the changes and are looking forward to welcoming the schools visiting this year and moving forward.

Taking part in this project has not only supported me in completing my PSQM award but has opened up my thinking about outreach activities and opportunities in the area. I have used the Kids' Lab for many years and I am really excited about being booked in as the first school to have the new experience.

(Georgina, Moorlands Primary School)

Final thoughts – by Leigh Hoath

When I started this project, I had not initially thought of it in terms of science capital: this is something that emerged through the meetings. The children visiting Kids' Lab have the opportunity to see scientists at work and they get a sense of what it might be like to be a scientist. They tour a working chemical site and see science happening. They are pushed to realise the extent to which chemistry in particular is fundamental to their lives. There is a strong local connection and the teachers were very clear the activities should relate to what was happening on the local site and not be generic. The site is one of the largest and most productive chemical plants in the UK, employing around 600 people. This is tangible, real science and all goes into the 'bag' labelled 'science capital' for the children from the local schools.

Such visits are invaluable and, with many other businesses and industries offering outreach, it makes me wonder how many more 'better' experiences could be had by children if there was a stronger educational underpinning to visits. This project has made a massive difference to every child going through those Kids' Lab doors, but this is just the tip of the iceberg. Our project team believe there are many other opportunities to similarly enhance the experience children have in out-of-school visits across the country.

Leigh Hoath is a Senior Lecturer in Science Education at Leeds Trinity University. Email: l.hoath@leedstrinity.ac.uk; @leighhoath

Jo Love is Site Communicator, Bradford and Grimsby, for BASF. Email: joanne.love@basf.com
The working party of teachers is made up of:

Georgina Shaw, Moorlands Primary School, Huddersfield

Helen Sutton, Worthinghead Primary School, Bradford

Sally Ng, Hill Top Primary School, Bradford

Ann Buckley, Clockhouse, Bradford Grammer School

Mona-Lisa Khan, Woodlands Primary School, Bradford