Engaging Primary learners and their teachers through an extended outreach programme - The Robert Smyth School

Leading space education programme

Key actions

A team of 7 science teachers have made over 40 visits to primary schools over the last year, that's an average of one per school week. Each visit has lasted a morning and has involved the science specialist teaching a primary class some aspect of science; making it intellectually challenging and as exciting as possible. The primary schools we've visited are mostly, but not exclusively our 15 feeder schools. Usually we teach year 5/6 but we have also worked with students in foundation and year 1. The topics taught are largely physics based as this is usually the area most in demand but we offer to teach any aspects of science.

This scheme must have reached over 1000 students this year but we aim for quality as well as quantity. Primary students are unfailingly enthusiastic about these lessons, the quotes that follow are all genuine and could be repeated 100 times over but bear in mind that primary students still have a real enthusiasm for learning!

"That was the best lesson I've ever had"

"My son has talked about your space lesson all year"

The programme began, in a much smaller way about 5 years ago and now students joining Robert Smyth in year 10 are starting to tell us they remember these lessons. The best testament to their effectiveness has been the increased demand from the primary schools themselves. When we started we would write to schools and then follow up by phone to make bookings. Now we send out letters in September and are fully booked by the start of October.

Impact on lead and partners schools

The benefit to our own school staff is almost tangible. Although we are all dedicated teachers of GCSE science, it does you the power of good every so often to teach students who just can't get enough of what you're doing! The enthusiasm is infectious. The programme started with just the science AST but it has expanded and the school has recognised the benefit to other staff and encouraged them to participate too, even though there have been cover implications. Six other teachers now make one or two visits each per year.

The overt reason for the visits is to teach students but there are other less obvious benefits. Firstly the class teacher observes a model lesson on the topic and, since all the resources have been left on their laptop, can teach subsequent lessons in a similar vein. The emphasis the lessons place on high-quality explanations of scientific concepts is very helpful to many primary teachers - they've told us so- and it helps to build confidence in an area in which they have little background. The classroom teaching very often leads on to science training for primary staff. Once we've worked in their school, they are quite likely to ask us to lead training sessions at staff meetings and we are more than happy to oblige.

The personal links we've made with many primary schools have led to all sorts of other things too including hosting a primary conference, providing support to a network of science co-ordinators, speaking at cub meetings and the chance for 10 sixth form physics students to visit the Farnborough Air show this summer. I now find it difficult to go anywhere locally without being recognised; just this weekend a year 4 teacher asked me about an electricity role play whilst at a school fete!

Impact on specialism

Partnerships with primary schools are obviously integral to this whole venture. Although difficult to quantify, staff have commented on the positive shift in attitude towards STEM subjects displayed by students and this has had a marked effect on take up of STEM subjects post 16.

Top tips

It takes time to build up momentum, schools will naturally be cautious until they've seen the quality of what you can deliver but, if you're anything like us, the demand will build each year.

It's difficult to get hold of the right people so always send two copies of your letter into school, one addressed to the head and the other to the science co-ordinator. Even when you've worked with a school for some time, teachers leave so if you don't get invited back one year it can be worth following it up.

The admin is a big job. We're lucky enough to have a classroom assistant who administers the scheme for us.

The future

Due to the snowball effect, this outreach programme has largely become self-sustaining and our objective now is to include as many schools as possible rather than concentrate on teaching as many lessons as possible.

For the first time this year we ran some Martian Chemistry mornings in Robert Smyth's Space Education Centre when most of our own students were on exam leave and we hope to expand this further next year. Also next year we will be offering telescopes and personal planetariums to primary schools on half-termly loans.

We expect that the model we've developed will be used and improved by the maths AST and prospective design AST in school.

In September, in partnership with a researcher at Nottingham University, we will be launching a STEM after-school club that will include students from KS2, 3, 4 and 5. This will further build links between local schools and mesh beautifully with the BTEC STEM leaders award.

Contact at school

Judith Green
jgreen@robertsmyth.leics.sch.uk

Images from the programme