

INTERNATIONAL SPACE CHALLENGE

The final frontier was conquered by Derbyshire schools in Autumn 2014....

“This event had a material impact on the students’ confidence and aspirations.”

Teachers from City of Derby Academy

The International Space Challenge was a Business Language Champions initiative, funded by the Institution of Engineering and Technology and generously supported by the National Space Centre. The overall aim of the project was to show that languages can add an extra dimension to a Science or Technology career. It was an opportunity for students to see how they could make their science and language learning relevant for the world of work in a fun environment, improving their employability skills along the way.



This International Space Challenge was open to students from Years 10 and 11 who were studying both SCIENCE and a LANGUAGE. The teams consisted of 5 or 6 students each, and each team had a common language to work with. We were asked to work primarily with schools in disadvantaged areas, and we graded this according to Pupil Premium. We were delighted to work with: Shirebrook Academy, City of Derby Academy, William Allitt School and the Saint Benedict Catholic School. Each school held its own challenge heat and then sent the top two teams from their heat to a grand final.

The background to the challenge was that in 2016 Russia will be launching their first space hotel. The challenge was therefore to design a space hotel for a European consortium to compete with the Russians. The overall design had to be smart and practical, and the hotel needed to be full of innovative ideas that had real potential to work in space. Furthermore, teams had to work partly in a foreign language and the finalists had to make a presentation to the ‘European investors’ in French, German or Spanish.

Each preliminary event was started with a keynote talk on combining a STEM-based career with languages. The students were then introduced to the challenges of low-earth orbit by Andy McMurray, Head of Teaching and Learning at the National Space Centre. As well as building the hotel model, students had to complete work sheets on the power consumption of their space hotel and engineering design sheets. They were expected to talk about the benefits of their design in their chosen language to the judges.



The top two teams from each school were invited to come to the final, which was held in the lovely new buildings of the Shirebrook Academy. In the intervening time they were asked to do some further work on their hotel, researching either a life-support system or communication system, possible materials for use in the construction of their hotel and think about the innovations they wanted to include, all with the aid of a business mentor. The language side centred around marketing considerations.

At the final we were delighted to welcome Jeremy Nickless as our keynote speaker. Jeremy is chairman of UKSEDS (UK Students for the Exploration and Development of Space), and also an accomplished linguist.

The practical task at the final centred around launching a rocket to get the hotel into space, and we were lucky that the weather allowed us to test launch the rockets outside. For the students who liked to dig into theory, there were worksheets to provide interesting information for the visitors to the hotel on galaxies and densities. To practise their language, teams were asked to produce a marketing leaflet promoting their hotel in their target language. All this culminated in the assessment of their interim work, an engineering presentation, a marketing presentation in another language as well as a test rocket launch. Whilst the judges deliberated, the students were treated to a language taster in Russian – after all they needed to get to grips with the language of their competitors!



The members of the overall winning team from City of Derby Academy, were learning German. The runners-up were from Saint Benedict, working in French. The winners were treated to a special day out at the National Space Centre including a Planetarium visit and a special Space Masterclass.



Student comments included:

“Amazing day!”
“It was extremely useful/helpful. Thank you!”
“The Russian segment was a lot of fun.”
“I liked talking to like-minded individuals.”



Teacher comments included:

“Fantastic event. Brilliantly organised. Best cross-curricular event I have been involved with. Thanks.”
“Excellent day. Well run, very welcoming.”
“Really impressed with the whole experience. Thank you.”
“Thanks for staging such a fantastic project for our students, which I know they have taken a lot from. The other schools were undoubtedly very strong, but I know our students really valued the experience of competing in a team, and developing their confidence, communication and time-management skills.”

Comments following the winners’ day at the National Space Centre:

The teachers spoke of a “material impact on the students’ confidence and aspirations” following the previous rounds and then winning the final. They suggested that we made a difference to GCSE outcomes and destinations. The language teacher said how, following the final, the students were “much more confident in speaking language”. All the students are going to college to study – all with a STEM component and some with a language. Being able to struggle and fail and yet, in the end, succeed was a new experience to the students and it was this aspect, according to the teachers, that gave a noticeable boost to the students’ confidence. As one teacher put it “things like this don’t happen to these students”. Overall the teachers said “this was the best event they have ever been involved in”.

We would like to thank the following Business Language Champions for supporting this project:

- Tony Sweeting – Rolls-Royce plc (4 events and mentor)
- Roy Parker – University of Derby (4 events)
- David Sly-Jex (2 events and mentor)
- Jo Stonley – AST Languages (2 events)
- Javier Lafuente – UKTI
- Geoff Williamson – Rolls-Royce plc
- Rob Jeffs – Rolls-Royce plc
- Kauro Okamoto – Rolls-Royce plc
- Jeremy Nickless - UKSEDS
- Edward Peake – student at University of Nottingham

- Brigitte Armstrong
- Sheila Fisher

In particular we would like to thank the following:

- The IET for the funding, and Stephen Powley of the IET for the liaison, help with material development, support at several events and for mentoring.
- Andy McMurray, Head of Teaching and Learning at the National Space Academy for all his help in developing the material, speaking and attending all the events and providing such a fabulous prize for the winners.
- Shirebrook Academy for being such brilliant hosts for the final.

Contact

Sally Fagan
Business Language Champions
01949 860167 / 07967 699614