

Taking teaching beyond the classroom with the Jacobs ENTHUSE Partnership



Pupils are set to go 'Beyond the Classroom' when it comes to STEM teaching thanks to three new ENTHUSE Partnerships with Jacobs.

Schools in Glasgow, Manchester and Bristol will benefit from the skills and knowledge of STEM Ambassadors at Jacobs – the solutions-based consultancy which operates in over 40 countries worldwide.

Kara Connon, Jacobs' STEM Lead for Europe, said the company wanted to formalise its commitment to helping schools and give their engagement greater structure.

"ENTHUSE is an added level of focus on STEM to what we are already doing," said Kara. "STEM Ambassadors get so much from being involved in the topic and they are always eager to share their enthusiasm about their job, why they got into it and why they want to spread the word about these roles. So often we speak to pupils who didn't know that these jobs even existed.

"And a massive advantage of ENTHUSE being partly digital due to COVID is that we can get people involved from any part of the company."

With over 800 of the company's keen Ambassadors already busy spreading the word in the UK and Ireland, why would

Jacobs take that extra step with dedicated ENTHUSE sponsorship?

Beyond the Classroom is the umbrella term the three Partnerships are aiming to achieve – taking STEM out of school and bringing it to life to show real-world STEM applications. And the company has a great track record of doing just that.

"One of the projects the Glasgow office runs twice a year (pre-COVID) was a work experience programme (WEP) like no other, to support 12-year-olds making their subject choices and 16-year-olds informing them of different pathways into careers", said Kara. "We invite our three partner schools and Jacobs' friends and family nominees to create a diverse team from varying backgrounds into the same space. They work together in mixed groups to ensure they are broadening their social and professional networks whilst learning about STEM in business. Both weeks also



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How to get involved

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have a strong interwoven focus on a growth mindset and resilience.

“At Jacobs, we have employees from a range of backgrounds with different life experiences. We provide young people with the opportunity to engage with professionals and their respective disciplines in order to gain an understanding of potential career routes within STEM. Our STEM Ambassadors range from apprentices/graduates to senior vice presidents, providing pupils a truly diverse and unique understanding of working in a STEM industry, regardless of their academic backgrounds.”

Jacobs are also working on a new data-measuring tool with STEM Learning UK. The project will give a value generated by STEM's different activities - CPD, Ambassadors, STEM Clubs and ENTHUSE Partnerships. The company is creating an online tool to allow STEM Learning, and later their partners, to enter information on the activities supported (eg 100 children supported through STEM CPD at K2 level plus 60 children supported through a STEM Ambassador session) to receive an estimate of the value created.

“The project is progressing well,” said Kara. “We are due to share an Excel version of a basic spec tool shortly. Our team will then start developing the full spec online tool, which should be delivered in the summer. Watch this space!”

“Last year we brought in a colleague's brother who had a Bachelor's degree in Music Business to give his perspective of the festival challenge to the pupils. By the end the pupils were saying: 'That's a job? I could get paid for that?' The reactions were brilliant!”

Ellen Kane and Ashleigh Walton will lead the Glasgow ENTHUSE Partnership and are already in consultation with

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the cluster of three secondary academies – Shawlands, St Mungo's and Cumbernauld – to try and pinpoint exactly how the company can best support.

“It's exciting to have a two-year programme to work towards,” said Ellen. “We are already very active in the community – it's one of Jacobs' remits – so schools will come to us for help or we will offer training or advice. This new Partnership gives us a set time frame to develop ideas and programmes which will mean a consistency of delivery. We are now having meetings every two weeks to showcase what Jacobs can offer and our Partnership will be structured around what the staff and pupils tell us they actually need.”

Jacobs has some very exciting new disciplines available to the Glasgow Partnership, including the state-of-the-art Data Visualisation Team.

“This is based around virtual reality which most young people will associate with gaming,” said Ellen. “It's actually huge in the field of engineering right now – you can essentially walk a client around a scheme which hasn't even been constructed yet. This blows people's minds at careers fairs when we demonstrate it, so we're sure the schools are going to love it too.”

Beyond the Classroom for the Glasgow cluster means looking at employment possibilities after leaving school.

Ashleigh agreed there is huge pressure on young people when making subject choices – but pointed out the STEM pathway doesn't need to be direct.

“The main thing is to appreciate the wealth of different professions available through STEM. I have seen the effect on young people when they chat to our Ambassadors – it really does open their eyes and get them thinking 'I'd like to do that'.”

We hope to support teachers and career advisers with Continual Professional Development training. This means schools will have a better idea of what's on offer and how to advise their pupils.

Meanwhile, in Manchester, STEM Office Lead Karen Mottershead is gearing up to go Beyond the Classroom with use of outdoor learning. Karen's Partnership aims to improve the outcomes and aspirations of disadvantaged pupils, working with four Rochdale primaries and two secondaries – the lead school St James's Church of England Primary and the Watergrove Trust Cluster.

"We have a high-level agenda already in place," said Karen. "Our action plans with the lead teachers are being drawn up and we are talking to Glasgow for their input as they are slightly more ahead of the game than us. One of the most exciting things about this project for me is involving the primaries. Most of my work has tended to be with secondary pupils but I believe it's vital to sow the seed as early as possible.

"This project is especially welcome in this particular area of Greater Manchester as these schools are under-funded and will get a much-needed boost from the Partnership."

As one of 48 Jacobs STEM Ambassadors in Manchester, Karen has plenty of expertise to draw on.

"I work with a team including at least 28 different disciplines and that's just here," she said. "Jacobs is huge and has really widespread skills and knowledge. We cover so many aspects of industry – quantity surveying, cost estimations, land acquisition, virtual reality. We even have colleagues in the States who work with NASA ... ENTHUSE has all this to tap into."

Like Kara, who is also an education liaison officer for the A9 Dualling Programme, Karen herself has experience of interacting with schools and will take lessons learned from previous projects to get the Partnership up and running. One of the success stories to draw on will be the Open Doors After Hours scheme when pupils were invited to the Jacobs building to get stuck into some hands-on science.

"We get the kids in separate rooms where they try out all the yellow PPE which looks like a sci-fi film, put on virtual reality

headsets or match up bird and frog sounds to the correct species pictures. They learn so much while having fun and they get to see practical uses of STEM in action."

As a principal highways engineer for Jacobs Manchester, one of Karen's favourite school projects is building a spaghetti and marshmallow bridge capable of withstanding an empty Coke can.

"The pupils love this activity," said Karen. "They get just the two materials and there's a race for the highest construction. What we don't tell them at the start is the bridge will actually have to take a full can of baked beans ... when you're an engineer it's always safer to plan for a higher capacity!"

Addressing the gender imbalance is also a big part of what Jacobs hopes to achieve through the three Partnerships – currently fewer women than men take up STEM careers and these leaders hope to see a change for future generations.

The Glasgow mission statement reads: Bringing STEM subjects to life with young leaders driving STEM initiatives in their communities with a focus on challenging career stereotypes and opening STEM to all.



"You don't necessarily know what you want to do at 14, 15, 16 years old. We want to highlight there really isn't a right or wrong pathway to a career – prepare to be malleable and just keep going for it." Ashleigh Walton, Jacobs STEM Ambassador

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With each of the five leadership posts taken by women – Bristol’s STEM Lead is also female – the Partnership is surely off to a good start.

“Representation is important,” said Ellen. “Hopefully female STEM Ambassadors will inspire younger female pupils and instil confidence – girls will realise they could have this job. The narrative needs to change and we hope our story will inspire others.”

Ashleigh is hopeful the message will come across in a very real way when students see a 50/50 mix of male and female STEM Ambassadors from all walks of life within the company.

“There will be both men and women representing engineers, geologists, whatever,” said Ashleigh. “People will benefit

from a wide range of Ambassadors throughout this Partnership. Jacobs is a very diverse company and inclusion is one of our Strategic Causes.”

One of Jacobs’ core values is ‘People are our greatest asset’ and they believe the Partnerships will help attract more young people into the Jacobs’ future employee pipeline.

“We are investing in our workforce of the future,” said Kara. “We build educational elements into our bids as part of our social responsibility as a company. In this Partnership schools will get the benefit of working with industry, our young STEM Leaders will gain great experience and Jacobs may well see some of these young people join the workplace in the future. It’s a win-win scenario and we’re all very excited to get started.”



For more information about Jacobs please visit www.jacobs.com

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