



STEM Ambassadors at a glance

STEM Ambassadors are volunteers, from 17 to 70 years old, representing a vast range of STEM-related jobs and disciplines across the UK. Over 30,000 STEM Ambassadors, from more than 2,500 employers, offer their enthusiasm and experiences free of charge to encourage young people to achieve more and progress further in science, technology, engineering and mathematics (STEM).

STEM Ambassadors include: apprentices, zoologists, set designers, climate change scientists, engineers of all disciplines, farmers, designers, geologists, nuclear physicists, architects, physicists, ice core chemistry technicians, pharmacists and energy analysts.

A new network of STEM Ambassador Hubs has been established to ensure that teachers and schools, as well as non-school groups, such as Scouts, Guides, youth groups or community groups, are able to access STEM Ambassador support.

Find out more about the programme, and how you can get involved at: www.stem.org.uk/stem-ambassadors

Summary

STEM Ambassadors are a UK national treasure; an important and exciting free of charge resource for young learners, teachers and other individuals working with young people - in and outside of the classroom. They bring a fresh and inspiring perspective to STEM lessons and careers information, and complement excellent teaching in schools and colleges.

STEM Ambassadors help bring STEM concepts to life, adding context and cutting edge applications to theory. They challenge young people to solve the real problems that STEM-based businesses face. They inspire teachers and others with expert advice, can provide innovative contexts for experiments and investigations, and sometimes even bring along specialist equipment for young people to experience.

STEM Ambassadors are able to illustrate what a career in STEM really looks like, and broaden the horizons of young people by exposing them to the vast breadth and depth of opportunities. They share stories of their own experiences of working in STEM, showing students the steps they need to take to get there themselves.

Employers benefit hugely from encouraging their staff to volunteer as STEM Ambassadors. They promote positive images of their industry and activity directly to young people, allowing them to engage with and inspire an audience that may one day become a new generation of employees. They give something back to their communities by working with schools, colleges and youth groups to make a real difference.

Not only that, but by volunteering as a STEM Ambassador, individuals develop and enhance their own skillsets; boosting their own self confidence by delivering presentations, running interactive activities, and organising engagement with schools, colleges and other groups.

In this report, we share with you four key lessons we have learned through recent research and evaluation of STEM Ambassador activity. These lessons illustrate the key impacts that STEM Ambassadors have on young people and those who work with young people. They also demonstrate the impact that volunteering as a STEM Ambassador has on the individuals involved, and on the organisations that support them as employers or professional bodies.

Independent evaluation and feedback demonstrates that:

1. STEM Ambassadors inspire young people to better engage with, and continue to study, STEM subjects and explore STEM careers
2. STEM Ambassadors have a positive impact on their own organisations, bringing back new skills and experiences, while also raising the profile of their industry and promoting positive images of STEM at work to young people
3. STEM Ambassadors enhance the quality of teaching by bringing learning from business and industry into the classroom, enriching teaching and learning with current and cutting-edge STEM contexts
4. Individuals who volunteer as STEM Ambassadors develop new skills, boost their confidence and find that they get increased satisfaction from their work

We have uncovered a wealth of exciting and inspiring practice that we hope will motivate you to go on and engage with STEM Ambassadors local to your school or college, or to encourage your employees to volunteer within schools and other groups working with young people near to your business.

Together, we can work towards creating a world-leading education for all in science, technology, engineering and mathematics.



Yvonne Baker
Chief Executive | National STEM Learning Network

The power of STEM Ambassadors: enhancing and enriching STEM education

Feedback, evaluation and research demonstrate the positive impacts that STEM Ambassador activities have on teachers, support staff and informal educators, STEM Ambassadors, employers and most importantly on young people. We triangulate self-reported evidence from participants, during and after activities, with internal and externally commissioned evaluations and student achievement data. This gives a robust, quality assured process with which educators, STEM Ambassadors, employers and other partners can engage.

Impact on young people

Ultimately, the most important impact is on improving outcomes for young people. We have proven evidence of the impact that STEM Ambassadors can have on the engagement, interest and enjoyment of young people in STEM subjects. We also know that this increases achievement and the number of young people pursuing STEM study post-16 and progressing into STEM-related careers.

Impact on employers

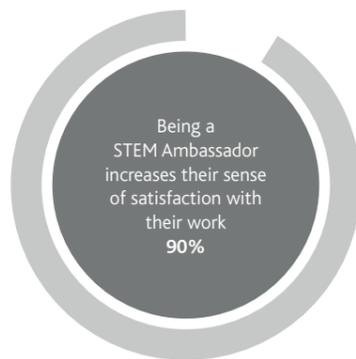
Employers who engage in the STEM Ambassadors programme gain a more motivated, enthusiastic and skilled workforce who help inspire young people to see a potential future in STEM employment. They have the opportunity to inform young people and their influencers about STEM career pathways and employment opportunities, whilst promoting positive and inspiring images of their industry.

Impact on teachers

Our work helps improve teachers' STEM subject and pedagogical understanding, their confidence, motivation and ability to teach STEM subjects, as well as improvements in their leadership skills. We have evidence that through study visits, placements with employers and working with STEM Ambassadors, teachers gain awareness of STEM-related careers and employability skills, and are able to embed this information into their teaching. We also have evidence that taking part in our activities helps to retain teachers and increases their likelihood of progressing in their career.

Impact on STEM Ambassadors

Our evidence shows that being a STEM Ambassador provides volunteers with a better understanding of education, increases their professionalism, confidence, enthusiasm and motivation while improving their organisational, communication, team-working and leadership skills. Together, this combines to increase a STEM Ambassador's employability, and supports their retention in a career within STEM-related employment.



These figures originate from evaluation reports with sample sizes of between 371-375 teachers, and 2,445 - 7,698 young people.

Who we work with

School, college and university staff

Informal educators and leaders of community and voluntary groups

Young people

Employers, government and charities

What we facilitate

STEM inspiration activities and CPD for staff

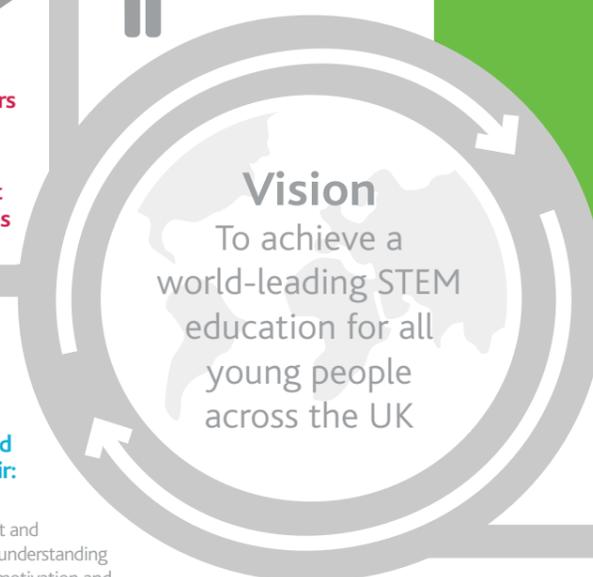
- face-to-face and online CPD
- study visits and placements with R&D institutions, employers and academia

Resource engagement

- physical and online curated resources focussed on STEM subjects
- cutting-edge research collections
- STEM careers information and curriculum guidance

STEM enrichment and engagement activities for young people and families

- practical activities, experiments, technical advice
- STEM-based competitions and challenges
- extra-curricular STEM Clubs
- careers talks, careers fairs, mock interview practice
- information, advice and guidance on routes into STEM careers
- work experience, mentoring or shadowing placements with STEM employers



Network of STEM experts: STEM Ambassador Hubs, Science Learning Partnerships, partners in SWANI, employers and supporters

Outcomes

Improvements for teachers, support staff and informal educators in their:

- STEM subject and pedagogical understanding
- confidence, motivation and enthusiasm for STEM subjects
- competence and quality of leading, teaching or supporting STEM subjects
- understanding how to contextualise the curriculum with cutting-edge STEM knowledge, employability skills and STEM-related careers information
- retention and career progression



Helping employers to:

- develop an enthusiastic, motivated and skilled STEM-based workforce
- access an increasingly competent pool of young people with employability and STEM skills with the potential to become future employees
- better inform young people and parents about STEM career pathways and the employment opportunities available with STEM employers

Increasing STEM Ambassadors':

- professionalism, communication, team working, organisational, mentoring, leadership, delegating and relationship management skills
- understanding of education and how to inspire young people in STEM
- retention in a STEM-based career

Increasing young people's:

- engagement, interest, enjoyment and achievement in STEM subjects
- development of employability and practical skills
- post-16 pursuit of STEM subjects and progression into STEM-related study and careers

STEM Ambassadors inspire young people to better engage with, and continue to study, STEM subjects and to explore STEM careers.



Our independent evaluation shows that STEM Ambassadors can inspire young people to get more involved in STEM subjects. As a result of working with STEM Ambassadors, more than eight in ten teachers reported that: their students' awareness of the importance of STEM had increased (89%), as had their knowledge and understanding of STEM, and the students were now more engaged in STEM subjects (83%)¹.

STEM Ambassadors play a vital role in helping young people to understand why STEM subjects are important, and how widely they can be applied in the world of work. More than nine in ten young people reported this as one of the ways they had benefited from STEM Ambassador support. Their teachers agree:

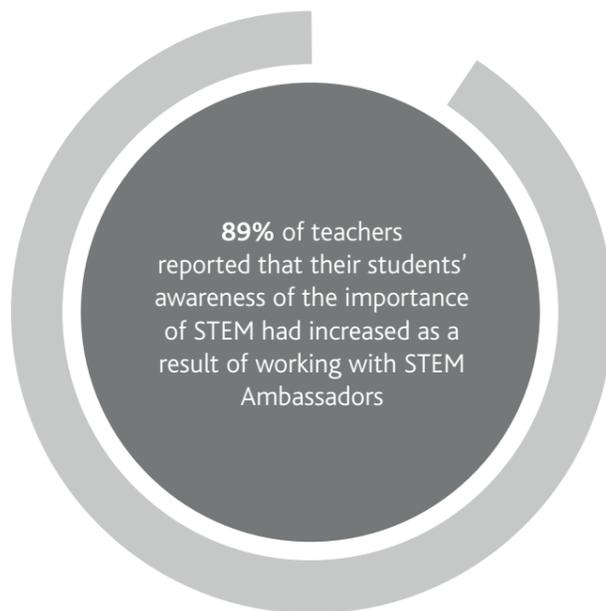
"Pupils now have an improved understanding of the applications of mathematics and its relevance in the real world and in many different careers. They appear more engaged and have a genuine interest in the subject and in continuing this course of study at university."

Mathematics Teacher, Scotland

Young people respond well to STEM Ambassadors: 76%¹ reported that their experience of working with one was either good or very good. STEM Ambassadors are often strong, positive role models for them: evaluation and feedback demonstrates that female STEM Ambassadors can have a particularly positive impact on girls, showing them how important it is for young women to progress into STEM-related work:

"[The STEM Ambassadors] inspired the girls in under-represented STEM subjects, such as physics, by showing them how they connect with issues girls care about and their gateway to interesting careers."

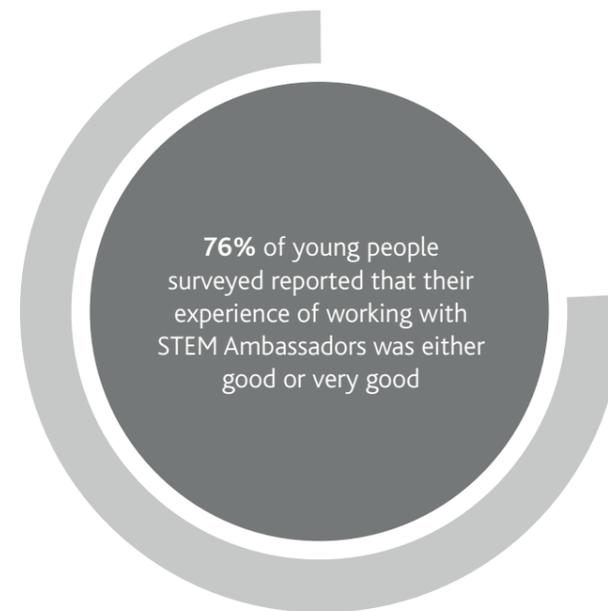
Teaching and Learning Coach, Harwich and Essex



In some areas, teachers report that STEM Ambassadors change young people's mindsets about careers and the world of work, as they may not have had much previous contact with people who are passionate about their jobs:

"They saw that the STEM Ambassadors loved their work - an alien concept to many, as most of our children are third generation unemployed."

Assistant Head Teacher and 'World of Work' Co-ordinator, Birmingham



Young people's perceptions of their own abilities, and their own suitability relating to a possible career in STEM are also challenged by STEM Ambassadors, as reported by their teachers:

"The impact [of STEM Ambassadors] is widening horizons and raising awareness and raising aspirations because some of the children don't think they have the skills and abilities to be successful in a field. But, when they meet someone who tells their story about what they did, and how they got there, it can really help them have that confidence to progress."

STEM Ambassadors provide informal opportunities for young people to talk, ask questions, and explore ideas (and misconceptions) about careers and work⁴. As a result, young people find themselves better able to engage in more informed career-related decision making. One teacher shared a conversation they had with some parents, who told her that their daughter:

"...really had a great time at the science day today, so much so that she said she would like to do something with science or engineering in her future. This is a huge impact in my opinion, as she has never wavered from her future only being around sport - until today!"

Science Teacher, Cumbria

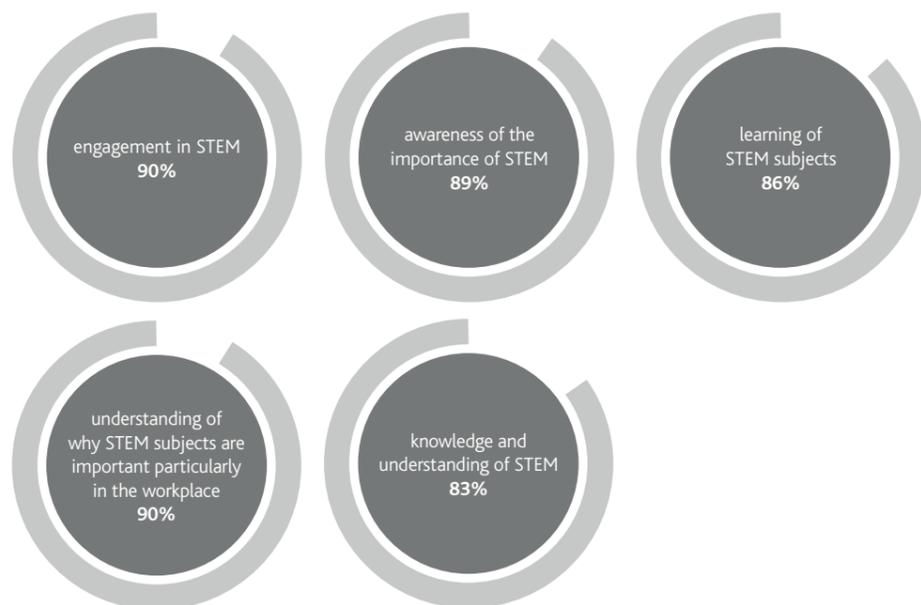
Evidence shows that there is a higher impact upon young people the more they engage with STEM Ambassadors. Taking engineering as an example, NFER research¹ showed that amongst pupils who had not engaged with STEM Ambassadors, 40% said they knew why engineering was important for every-day life. However, this percentage increased to 54% for those who had met an Ambassador once, and increased again to 69% for those who had met a STEM Ambassador on several occasions.

Case study

Pakefield High School opened in September 2011. It is a Foundation High School in Lowestoft.



STEM Ambassadors increase young people's:



Mr Anthony Vaughan-Evans, Director of Science, Technology, Engineering & Maths Pakefield High School

Getting young people to see the mathematics that I teach them in action is at the heart of my approach to working with STEM Ambassadors. Where we are based, in Lowestoft in Suffolk, we are lucky to be surrounded by a huge range of STEM-based companies.

I work with STEM Ambassadors by visiting their business to see how mathematics is being used and to find examples of the concepts that my students will be learning in their lessons in action. Then, working with their organisation, I develop a challenge for my students. Young people get to visit the site and see the problem happening for real - contextualising our learning. They interrogate the STEM Ambassadors about their work, and also about how they use mathematics in their work, before going back to school to work on the challenge.

For example, I've used Perenco to help my teaching of volume. Perenco have massive pipelines out to their oil rigs in the North Sea, which over time fill with water. Those pipes need to be emptied out, and they do this by sending a sphere which is the same diameter as the pipe down each pipeline to flush out the water. So, I set my students

the challenge to figure out the volume and the size of the spheres they would need to do this job.

Once back at school, the students work on their problem, and STEM Ambassadors come in to offer help. When they have come to a solution, the students present their ideas, explaining why and how they have come to that conclusion. STEM Ambassadors judge their ideas, and award prizes to those who have used the best approach to solve the problem.

I want to increase the number of girls going into engineering, and my work with STEM Ambassadors is definitely doing that. We went on one site visit, and there were three female engineers showing us around – two of our young people said straight away: "right, that's what I want to do!"

Using this experience, I've now developed a scheme of work to contextualise mathematics. I've found that the students respond well: they get to do lots more hands-on work. Now, they determine how they solve a particular problem themselves rather than being explicitly told which mathematics to use, their awareness of relevant careers is hugely improved, and they are better engaged in their learning. That improved engagement leads to better motivated learners, better attainment, and more students wanting to pursue a career in a mathematics-related field.

STEM Ambassadors have a positive impact on their own organisations, bringing back new skills and experiences, while also raising the profile of their industry and promoting positive images of STEM at work.



Enabling employees to volunteer as STEM Ambassadors can bring real benefits to STEM employers: from improving individuals' skillsets to helping employees derive more satisfaction from their jobs; while also contributing to organisational Corporate Social Responsibility (CSR) targets and having a positive impact on recruitment.

Employers frequently cite improved presentation, communication, organisation, leadership and mentoring skills¹ amongst employees who have worked as a STEM Ambassador.

One employer, referring to an employee's mentoring activities with some school students, reported that not only did his staff develop new skills, they also benefited from working with young people:

"The range of activities means that staff get to build a different skillset. We're managing their development, so staff gain some mentoring and leadership skills and problem solving abilities, and sometimes the placement student thinks of a problem you haven't thought of, so it's a two-way learning process."

Employer, engineering sector

Employers also report¹ that their staff return to work more motivated and enthused, and seem to derive more satisfaction from their job. Employees enjoy working with young people, talking about the work that they do, and helping young people to consider a career in a STEM industry. They get satisfaction from 'giving something back' and contributing to young people's learning experiences, especially when they are able to encourage them to get more involved in STEM subjects.

"It makes them feel good as well, they're all incredibly proud of what they do. That has a real knock-on effect back in the workplace."

Employer, engineering sector

Companies who encourage their apprentices and graduate employees to become STEM Ambassadors recognise the positive impact that such volunteering has upon confidence levels, and also upon strengthening team spirit among their newer recruits:

"Generally, the [STEM Ambassador] activities are done as teams, so it's been really positive, picking people from across the organisation that would never normally get the chance to work together. Essentially, it has become sort of a team-building activity."

Employer, engineering sector

Working with schools, colleges and youth groups not only makes teachers and young people aware that their organisation exists, but also allows employers to showcase the range of roles that are used in their businesses, and the skills that young people need to do those jobs in the future. They demonstrate a positive image of their industry by exposing young people directly to what they do, either by going into schools or by inviting students to visit them.

Positive engagement of young people by STEM Ambassadors can also lead to improvements in local recruitment by STEM employers. The programme offers businesses the chance to work with young people who otherwise may not have applied to them, had those organisations not been actively involved in the STEM Ambassadors programme. One employer described their experience as, "...a way to help us to build a supply chain of future employees".³

"It makes them feel good as well, they're all incredibly proud of what they do. That has a real knock-on effect back in the workplace."

Employer, engineering sector

Case study

Dale Power Solutions is one of the UK's leading and largest providers of secure power service and solutions.



Employer benefits to participating in the programme:



Impact on CSR targets



More motivated employees



Increased communication and presentation skills



Improved local recruitment



Positive brand awareness

Dale Power Solutions, Scarborough

Most, if not all, of our apprentices will go on to become a STEM Ambassador – they make up nearly 10% of our workforce – they go into detail with students about how they got into engineering, and what's involved in their work for us.

Our STEM Ambassadors do a range of things in local schools: careers events; supporting young people with things like interview skills or CV writing; one-to-one mentoring of students who might be underperforming and would benefit from someone completely independent helping to motivate them and explore how to become more employable; and events for teachers showing them what we do as a business and helping them to get their students more involved in STEM subjects.

As a company, there are multiple benefits. We are based in Scarborough – people don't tend to pass through this area very often. That means we need to recruit our apprentices locally, so it is important for us to be part of our community and give something back. We don't do any advertising for our apprenticeship programme any more. Applicants come through word of mouth, and now we get between 50 and 80 a year – compared to only 16 back in 2006. Importantly, we now have a steady stream of girls applying for apprenticeships, thanks to our work supporting women in engineering events across the region. Our staff have developed new skills – their confidence has improved and they can talk in front of large groups – being a STEM Ambassador really does benefit their overall employability.

For other companies who think it is hard to recruit apprentices: you have to go out and engage with your local schools – you can't do it all in one go, but one step at a time, you'll reap the rewards!

www.dalepowersolutions.com

STEM Ambassadors enhance the quality of teaching by bringing learning from business and industry into the classroom, enriching teaching and learning with current and cutting-edge STEM contexts.



Teachers benefit from expert support to demonstrate new STEM concepts, provide more innovative contexts for experiments or investigations, and sometimes access different equipment, enhancing their teaching and making their lessons more effective and credible.

In a recent survey¹, 88% of teachers said that activities with a STEM Ambassador successfully linked learning about STEM concepts in the classroom to real applications back in their workplaces:

"It provided a means of linking classroom learning to real life. The children were able to talk to adults who actually deal with microbiology and who could share information about what they do, and how their work leads to the production of new medicines. The children could understand more clearly that the skills and knowledge they were learning are important in everyday life."

Year 6 teacher, Cumbria

In 2015, 76% of teachers surveyed¹ reported that their confidence in teaching STEM subjects was increased as a result of the input from Ambassadors:

"Students are better motivated to learn about coding and computing, and to "have a go" to extend their learning beyond the school curriculum."

Careers Coordinator, Hemel Hempstead



Having a STEM Ambassador in the classroom who is able to use industry-specific technical language fluently, can answer challenging questions from students, and complement the content teachers deliver is empowering and enhances the quality of the STEM education young people receive. 90% teachers surveyed² say that STEM Ambassadors are very good at keeping students engaged, while 86% reported that the activities led by STEM Ambassadors directly supported their students' learning.

Teachers and youth group leaders find that their STEM subject knowledge, particularly of cutting-edge developments, is boosted by the input from STEM Ambassadors. Over 72%¹ said that, as a result of working with STEM Ambassadors, they were now better able to bring real-life contexts into their teaching.

Our external evaluation shows that careers information, advice and guidance (IAG) is also improved as a result of working with STEM Ambassadors. 73% of teachers¹ report that they have significantly improved liaison with local STEM businesses, helping to increase their understanding of STEM business and industry¹ (81%). Therefore, they can articulate the STEM career options open to young people and the skills required for such work. One teacher said:

"From a careers teacher's point of view, I will, with whole confidence, be able to talk of the "wider team" involved in pharmacy. I thought the pharmacy team were very generous in pointing out the roles of chemical engineers, microbiologists, biomedical engineers, biochemists and so on..."

Careers Assistant, Northern Ireland

76%¹ of teachers surveyed also reported that their motivation to teach STEM subjects is boosted thanks to support provided by STEM Ambassadors. They benefit from fresh input to their classroom, and report that their passion for their subject is reinvigorated as a result, working with STEM Ambassadors to come up with new ideas and resources for lessons.

"This session really reignited the staff's enthusiasm for our subject: it would be great CPD for all teachers!"
Head of Science, South Tyneside

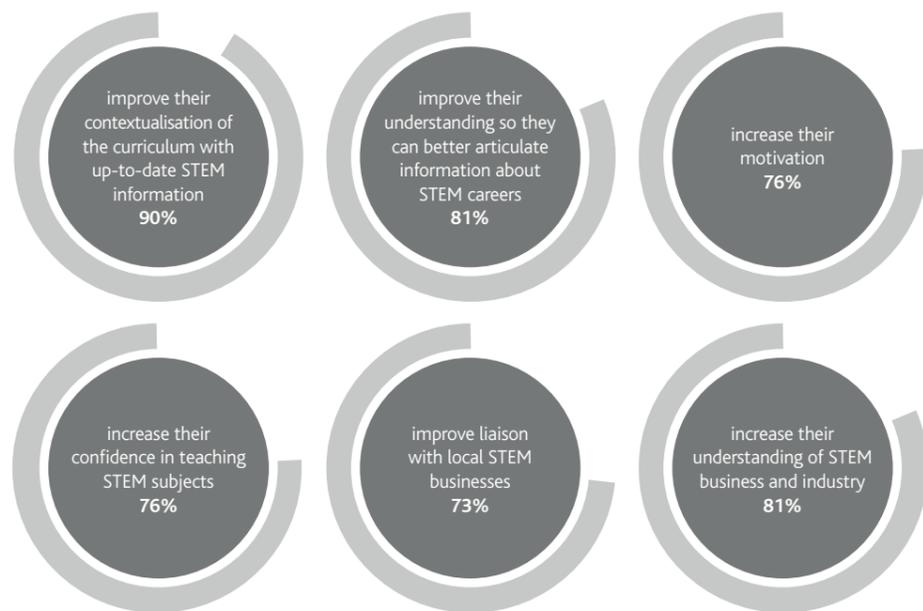


Case study

Manchester Creative Studio is a small, employer led 'studio school' that provides young people aged 14-19 with the skills and knowledge they need for a career in the creative and digital industries.



STEM Ambassadors help teachers to:



Manchester Creative Studio: Anna Travis, science teacher

I was new to teaching when I joined Manchester Creative Studio, and one of the first things I did was to go to a STEM Networking Live event to look for local support for science teachers. I was put in touch with a local STEM Ambassador - Marcin Poblocki - he has been brilliant: he has done so much with us!

Marcin has run physics and chemistry demonstrations in our school, he has brought us equipment to use in our lab, and he set up a 3D printing club for us. The club has gone from strength to strength: it's now run by our year 10 students. Together with Marcin, they will be making all sorts of lab equipment using the 3D printer for the students to use in practicals and project based learning days and the students are teaching children in the year below all about 3D printing now! As a teacher, I've also benefitted from Marcin's input: he has supported me in improving my physics knowledge and teaching and he has delivered CPD for other staff too.

We've really developed the way science is taught here at the Studio through our work with STEM Ambassadors, and we're now using a project-based learning approach elsewhere in the school too. This year, Marcin and I designed a cross-curricular

project looking at the National Grid, which would give students opportunities in science, art and design, as well as exposure to careers opportunities in STEM industries. The students made their own transformers, using equipment made by Marcin, and then went on to build pylons in their art lessons - combining to make a working model of the National Grid. A group of 15 students then went on to deliver training to 30 year 6 pupils from a local primary school, teaching them all about what they had learned about the National Grid. We also had a range of STEM Ambassadors come into school to talk to the students about careers in the power industry, and the children were so engaged - wanting to know what they needed to do to get those kind of jobs, really giving them ambition and getting them more interested in science.

Our vice principal was amazed by the impact that our National Grid project has had on the school, and on our science and art teaching. Our work with our STEM Ambassadors has really inspired us as a school to take STEM forward in a bold way, bringing together our science, technology, engineering and mathematics teaching, but also to include the creative subjects within our curriculum in future projects too. We're developing our students in new ways: equipping them with the skills they need to be able to pass on their learning to others, and we're seeing a real buzz in the school about STEM.

Individuals who volunteer as STEM Ambassadors say they broaden their skillsets, gain valuable experience, improve their self-confidence and raise their profile at work.



92%² of STEM Ambassadors report that they get a sense of achievement or reward from participating in the STEM Ambassador programme, and similar volumes (91%) said that they have an increased sense of satisfaction with their work after volunteering in a school, as a STEM Ambassador describes:

**"The activity was a great success. I really gained a sense of achievement informing students and parents of the STEM career opportunities available to them."
Ministry of Defence Engineer, Bristol**

One of the most common reported benefits of being a STEM Ambassador is an increase in confidence. Having the opportunity to leave their working environment, and engage with a younger audience frequently helps STEM Ambassadors feel more confident about making presentations or speaking in front of new audiences:

**"It was an absolute pleasure to speak to a class of year 10 girls for National Women in Engineering Day. I was slightly anxious beforehand, but it turned out to be a very safe environment for me give it a go. Looking forward to doing more!"
Research Associate, University of Nottingham**

STEM Ambassadors also find that they improve their communication and presentation skills by delivering activities in schools. They find themselves making speeches in front of much larger audiences than they may be used to, or talking to people who may not necessarily share their level of specialist knowledge. This often requires STEM Ambassadors to be able to simplify and connect complex concepts for non-expert audiences, which can be a valuable and transferable skill back in their workplace:

"Having to think of ways to explain science in the most basic terms makes me not only understand the concepts better, but also learn new ways of transmitting knowledge, which is an integral part of my job."³

Through volunteering, STEM Ambassadors also develop further leadership, time management and organisational skills. Often, STEM Ambassadors are invited to design and deliver their own activities in schools (after close liaison with, and under the supervision of, class teachers), which facilitates transferable skill development:

"Having run this kind of event for several years now, with a new design challenge each year, I have improved my delivery skills no end!"³

STEM Ambassadors are also able to develop their own professional networks, both within and beyond their own employers. STEM Ambassadors often have opportunities to participate in careers-based events, where multiple employers are present, allowing them to interact with other people within and beyond their own industry. Elsewhere, businesses often encourage their STEM Ambassadors to work as a team, which can mean that employees get to work with colleagues they may not otherwise interact with:

"The impact has been absolutely huge. It's helped me to expand my network and it has made other STEM Ambassadors accessible to me...I've been introduced to colleagues that I would not have met otherwise - I've actually learnt more about my own company through meeting these other colleagues!"³

Participating in the STEM Ambassador programme can also support an individual's own career development opportunities. It provides them with credible work experience beyond their 'day job', in a different sector, demonstrating their employability skills beyond their current role. It also leads to benefits within a company: one employee reported¹ that his company had recognised the value of the work he was doing as a STEM Ambassador, and as a result, he had been invited to meet with his Chief Executive Officer (CEO) to discuss the company's profile within schools.

"The impact has been absolutely huge. It's helped me to expand my network and it has made other STEM Ambassadors accessible to me...I've been introduced to colleagues that I would not have met otherwise - I've actually learnt more about my own company through meeting these other colleagues!"³

Leonardo is a global high-tech player in aerospace, defence and security.



Being a STEM Ambassador helps to:



Kris Harrison, Engineering Innovation Lead, Leonardo and STEM Ambassador

In 2011, I was asked to take responsibility for our STEM Ambassadors programme and to create a more joined-up approach for the company. Historically we'd done lots of things with schools – but we wanted to be more systematic.

I decided to refocus our programme so we could work with a broader range of schools, including some high-achieving state schools, some fairly deprived ones and some schools from the independent sector. Our STEM Ambassadors start to work with young people when they join secondary school, and we stay with them throughout their time there. We begin with general activities to try and spark the students' interest in engineering. Then, as they get older, we offer tailored opportunities where we try and get young people more engaged. Following this, we start to offer work experience placements and more detailed projects to try and encourage young people to consider engineering as a career, opening their eyes to the jobs that are out there.

We have found that this approach works so much better for young people and for us. We build a personal relationship with students and then we get more of them wanting to apply for an apprenticeship, a summer placement at university or a graduate position with us. Since I started work on this, the number of girls coming to Leonardo for work experience has increased by 250% - and this is also true in the number of girls taking up summer placements and becoming engineers as graduates.

For me, this work is really satisfying. I am passionate about engineering, and I want to share that passion with future generations – I want to get more people excited! I've given careers talks in one particular school for years now – they were struggling to get their girls to study physics beyond GCSE. They were frustrated because the girls were getting great GCSE results, but didn't want to take it further. I did a talk to the sixth form girls and boys – the room was packed – all having come to listen to a female engineer. Three months later, I got a call from the physics teacher thanking me – for the first time in years, they'd got some of those girls to take A level physics!

I now have a team of people working on our STEM Ambassadors programme, so I've had to develop my delegation skills. I find that I spend a lot of time going to external events, engaging with teachers or working with senior staff within our company, so I need to do lots of relationship management work. My confidence has been boosted as a result of this element of my work, and I am much better known within and outside the company now. I've also won two awards thanks to my work with STEM Ambassadors – the first one as part of a team, but last year I won the Inspiring Young Women Award by WISE (Women in Stem and Engineering) because of my work with girls in Luton.

I really enjoy doing this work, alongside my day job in engineering, which I also love. I wouldn't change it: it's part of the power of what I can do: working with young people, being able to share my experiences, helping them to relate to it, getting them as excited as I am, and inspiring them to want to do the same.

Above
STEM Ambassador Kris Harrison in action
Photograph © Kris Harrison

› How to get involved!

Are you looking for STEM support in your area?

If you are interested in working with a STEM Ambassador to enthuse and engage young people in your school, college, or community-based group, please register your interest: www.stem.org.uk/stem-ambassadors

Once you have registered, you will be able to make a request for a STEM Ambassador to work with you to meet your specific needs and we will be in touch to organise the support you are looking for.

› Would you like to become a STEM Ambassador?

If you are over the age of 17, and have skills or an interest in science, technology, engineering and/or mathematics, you can register as a STEM Ambassador. The most important qualities you need to have are enthusiasm, and the ability to be a positive role model for STEM subjects and careers.

Our regional network of STEM Ambassador Hubs keeps STEM Ambassadors up to date with the wide range of opportunities and requests that we receive from teachers, schools and other groups. As a STEM Ambassador, you can choose to volunteer for any of the activities in the regular emails and updates, or you can come up with your own ideas.

We ask that STEM Ambassadors commit to at least one activity per year. Many of our volunteers do a lot more and often get involved in a number of STEM events and initiatives. We appreciate and value every contribution that is made.

If you would like to become a STEM Ambassador, please register your interest at: www.stem.org.uk/stem-ambassadors

› Are you an employer?

By volunteering to become a STEM Ambassador, your employees are given a brilliant opportunity to motivate young learners whilst developing their own skills. It also encourages employees to consider their career in relation to the wider community around them.

The STEM Ambassadors programme can help you to develop projects with schools by:

- › registering and training your employees as STEM Ambassadors
- › finding relevant projects for your STEM Ambassadors to become involved with
- › helping you build contacts and liaise with schools and your community
- › working with you to develop and implement a CSR/education outreach programme

If you would like to support your employees to participate in local STEM education activities through STEM Ambassadors, please contact us: www.stem.org.uk/stem-ambassadors

References

1. Straw, S., Macleod, S., Evaluation of STEMNET's operations and impacts 2011-2015, NFER, March 2015
2. STEM Ambassador and teacher engagement survey, STEMNET, April 2015-July 2016
3. Evaluation of STEMNET's operations and impact to March 2016, TNS BMRB, 2016
4. Marvell, R., Newton, B., Fohrbeck, A., Huxley, C., Young people's employability skills: The impact of STEMNET's programmes, Institute for Employment Studies, January 2016



STEM Learning operates the National STEM Learning Network alongside other projects supporting STEM education.
www.stem.org.uk