

Education and COVID-19 – looking to the future

The COVID-19 pandemic has had a major impact on education and skills opportunities for young people and the effects are likely to be felt for some time to come. This is evident across the learning landscape - from the cancellation of exams through to the reduction in apprenticeship opportunities. The pandemic looks likely to exacerbate existing inequalities in our education system, which in turn will have an impact on the career opportunities available to young people. The digital divide in our society has been brought into sharper focus, as reinforced in survey results from NFER¹ and highlighted by the National Engineering Policy Centre in their recent COVID-19 paper.² The continued closure of schools looks set to multiply the problems of the 'summer education gap', leading to widening educational attainment, as highlighted by the Education Policy Institute³ and the Sutton Trust.⁴ We also share their concerns about the accuracy of predicted grades and the potential impact on young people, particularly those from disadvantaged backgrounds and BME students.

At EngineeringUK this picture concerns us as our ambition is a more diverse engineering workforce, opening up opportunities for young people from all backgrounds. However, our analysis shows that women make up just 12%⁵ of the engineering workforce and those from minority ethnic backgrounds, 9%.⁵ The UK not only needs a thriving engineering sector for the economic recovery post-pandemic, it also needs a more diverse engineering talent pool to enhance our collective ability to solve some of the largest social and economic challenges facing the UK. In order to achieve this, we need an education system which is fit for purpose. This is why we are calling on policy makers to address the four areas outlined below.

- **Improve access to high quality careers advice and guidance** - EngineeringUK believes that giving young people access to effective and impartial careers education, information, advice and guidance (CEIAG) can play an important part in increasing the number of young people on pathways into STEM careers. We agree with the new report from the APPG on Diversity and Inclusion in STEM⁶, which argues that '*Wider access to good careers education has the potential to raise aspirations around STEM and reduce inequity.*' We would like to see the 2017 Careers Strategy refreshed as a priority, with a renewed focus on good quality STEM careers support, particularly for those groups who experience barriers in accessing careers advice and guidance. We are currently surveying young people to gauge their career aspirations and better understand the impact COVID-19 may have had on access to careers support and guidance. The results will be available on our website in the coming weeks.
- **Support STEM 'encounters' with the world of work** – A 2019 study conducted by Education and Employers⁷ found pupils who had careers engagement sessions with employers, were more motivated to revise for exams and more likely to exceed predicted GCSE grades. At EngineeringUK we run a range of programmes and events, with opportunities to meet employers, including the [Big Bang Fair](#) and we are also excited about a new digital platform [Neon](#) which we've developed in partnership and which brings together quality engineering outreach opportunities and inspiring careers resources. Although the 2017 Careers Strategy recognised the need to increase STEM encounters, it remains a live issue and

¹ NFER. '*Pupil engagement in remote learning*', June 2020.

² National Engineering Policy Centre. '*COVID 19: Engineering a resilient future*', June 2020.

³ Education Policy Institute. '*Preventing the disadvantage gap from increasing during and after the covid-19 pandemic*', May 2020.

⁴ Sutton Trust. '*COVID-19 Impacts: School Shutdown*', April 2020.

⁵ EngineeringUK, '*Gender disparity in engineering*', Research Briefing, 2018.

⁶ APPG on Diversity and Inclusion in STEM, '*Inquiry on Equity in STEM*', June 2020

⁷ Education and Employers, '*Motivated to achieve*', June 2019.

even more so since COVID-19. Our research also shows that those from disadvantaged background and girls, are less likely to access careers provision, which compounds the challenge.⁸

- **Boost the supply of, and diversity in, apprenticeships** – Despite the government’s efforts to promote apprenticeships in recent years, the decline in numbers suggests this is not having the intended effect and sadly the coronavirus appears to have exacerbated the issue. Research published by the Sutton Trust in May 2020⁹ found that as of early April on average just 39% of apprenticeships were continuing as normal, with 36% having been furloughed and 8% made redundant. They also conclude that the crisis is hitting young apprentices the hardest. We recently did a ‘temperature check’ with some of the major employers we collaborate with. Apprenticeships was a key issue, with firms taking the difficult decision to either reduce, delay or cancel their recruitment plans for September. Over half the companies we spoke to had furloughed at least some of their apprentices. These engineering employers also talked about the very real challenges of home IT and internet access, particularly for disadvantaged students, as well as the practical barriers in finding meaningful engineering work placements due to COVID-19. We were interested to see the steps taken by some metro mayors in seeking to cover some or all of the salary costs of apprentices in their regions. We feel ambitious policy steps such as this need to be considered on a national scale to support apprenticeships, with a particular emphasis on young apprentices from disadvantaged backgrounds.

Diversity within apprenticeships continues to be a persistent challenge. Our soon to be published *Educational Pathways* report finds that just 7.9% of engineering and manufacturing technologies apprenticeship starts were by women in 2018 to 2019; this is particularly stark when you consider that women accounted for half (50.1%) of overall apprenticeship starts in the same period. A recent report by the Social Mobility Commission also shows the quality of training received is not equal, even within the same sectors. For example, disadvantaged apprentices can expect to receive between 1.5-3 months less training than their peers in engineering¹⁰. We would like to see policy makers working together with young people, the engineering community and the FE sector to develop solutions to this challenge, underpinned by a clearer common understanding of the barriers and blockers.

- **Tackle teacher shortages in STEM subjects** – Research published in NFER¹¹ earlier this month, found that teacher recruitment 2019/20 is yet again below target in physics, maths and chemistry compared to previous years, compounding existing under-supply. Our Engineering Brand Monitor¹² found that only 45% of STEM secondary teachers felt confident giving careers advice in engineering. These challenges, alongside higher STEM teacher shortages in deprived areas,¹³ combine to paint a worrying picture of pupil access to quality STEM teaching and inspiration.

We believe that while the government’s *Teacher Recruitment and Retention Strategy* is a step in the right direction, more progress should have been made in recent years and a focused STEM teacher action plan is required to deliver targeted solutions. Whilst economic recessions can often prompt renewed interest in careers like teaching, the sheer scale and endurance of the problem for subjects like physics, maths and chemistry means there is a long way to go. Government needs to seize the opportunity now and ensure those seeking new careers in teaching can transition quickly. This should include highlighting the benefits to engineers who may not have thought of teaching as an obvious career path but could have a wealth of experience and applied insights to share in the classroom.

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For more information on our research, go to our website [here](#).

⁸ EngineeringUK. ‘*Gender disparity in engineering*’, Research Briefing, 2018.

⁹ Sutton Trust. ‘*COVID-19 Impacts: Apprenticeships*’, June 2020.

¹⁰ Social Mobility Commission, ‘*Apprenticeships and Social Mobility: Fulfilling potential*’, June 2020

¹¹ NFER. ‘*Teacher Labour Market in England Annual Report*’, June 2020.

¹² EngineeringUK, ‘*Engineering Brand Monitor*’, 2019.

¹³ Teach First, ‘*Britain at a crossroads*’, June 2019.