

Written evidence submitted by EngineeringUK

EngineeringUK's submission to the Education Select Committee Inquiry on the impact of COVID-19

COVID-19 – Education and future careers

1. COVID-19 continues to have 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. In our recent 'pulse survey' with 1,000 young people, a belief that the pandemic will adversely affect the educational routes and job opportunities available to them came across strongly. More details are included below.
2. The coronavirus pandemic has also brought into sharp focus the vital role that engineers play in tackling the big challenges we face as a society. Engineering is a varied, stimulating and valuable career and we need to work harder than ever to ensure that it is accessible for this generation of young people – for their own life chances and so that we have a diverse and insightful workforce that enables the UK to thrive and improve societal and economic resilience and environmental sustainability. We would like see policymakers address the following key areas, so that young people do not miss out on education and employment opportunities as a result of the pandemic:
 - **Improving access to high quality careers advice and guidance**
 - **Supporting STEM 'encounters' with the world of work**
 - **Boosting the supply of, and diversity in, apprenticeships**
 - **Tackling teacher shortages in STEM subjects**

'Pulse survey' with young people

3. In July 2020 EngineeringUK commissioned Ipsos Mori to undertake a survey of over 1,000 young people (aged 11-19) to gauge their attitudes and the degree to which their educational and career aspirations may have been affected by the pandemic. A briefing detailing the findings will be available on the EngineeringUK website in due course, but we have included some key findings, for the committee, in advance of our publication:

'Pulse' Survey with Young People (July 2020)

- The majority of young people surveyed believe the pandemic will adversely affect the educational routes and job opportunities available to them. There was also concern that going to university or becoming an apprentice would become more difficult as a result of the pandemic.
- 62% felt that finding a job in the future has become more difficult due to the pandemic. 52% felt that going to university has become more difficult and 41% felt that becoming an apprentice has become more difficult.
- 44% felt that, when considering career choices, 'having a job you can be certain to keep' had become more important to them due to the changes brought about by the pandemic.

- Our results also suggest that the pandemic is deepening already existing gender differences in career aspirations. Girls surveyed were far more likely to consider a career in healthcare (43% c.f. 28%) than their male peers compared with engineering (24% c.f. 44%) generally. And the pandemic has exacerbated these differences, with a higher proportion of girls than boys reporting being likely to pursue a career in healthcare as a result of the pandemic (29% c.f. 18%), versus engineering (17% c.f. 12%).
- 83% of young people surveyed had not received any careers advice or guidance since March 2020 when lockdown began (aside from talking to parents about careers or searching online).
- When asked what could help them to better understand the careers they are interested in pursuing, young people commonly cited more opportunities to engage with employers (through e.g. work experience, internships, and site visits), greater IAG available within the school environment, and accessible and clear information about the labour market and what exams and qualifications are needed to pursue the careers they are interested in.

The impact of school closures

4. The closure of schools for the last four months looks set to multiply the problems of the ‘summer education gap’, leading to widening educational attainment, as highlighted by the Education Policy Institute [1] and the Sutton Trust [2]. We share their fears too about the use of predicted grades and the potential impact on young people, particularly those from disadvantaged backgrounds and students from ethnic minority backgrounds. The digital divide in our society has been brought into sharper focus, as reinforced in survey results from NFER [3] and highlighted by the National Engineering Policy Centre in their recent COVID-19 paper [4]. 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% 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.**

Improving access to high quality careers advice and guidance

5. 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 STEM [6], which argues that ‘*Wider access to good careers education has the potential to raise aspirations around STEM and reduce inequity.*’ Our pulse survey found low levels of careers advice and guidance during the pandemic. **We would like to see the 2017 Careers Strategy updated as a priority, with a renewed focus on good quality STEM careers provision, particularly for those groups who experience barriers in accessing careers advice and guidance.**

¹ Education Policy Institute. ‘Preventing the disadvantage gap from increasing during and after the covid-19 pandemic’, May 2020.

² Sutton Trust. ‘COVID-19 Impacts: School Shutdown’, April 2020.

³ NFER. ‘Pupil engagement in remote learning’, June 2020.

⁴ National Engineering Policy Centre. ‘COVID 19: Engineering a resilient future’, June 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.

Supporting STEM ‘encounters’ with the world of work

6. A 2019 study conducted by Education and Employers [7] found pupils who had careers engagement sessions with employers, were more motivated to revise for exams and more likely to exceed predicted GCSE grades. Although the 2017 Careers Strategy recognised the need to increase STEM encounters, it remains a live issue and even more so since COVID-19, as the findings from our pulse check confirm. The pulse check also indicates that during lockdown, fewer young people from lower socio-economic backgrounds, compared with those from higher socio-economic backgrounds, had discussed career options with their parents. As such, they appear to rely more heavily on formal careers provision to gain insights into the world of work, and we know that those from disadvantaged background and girls, are less likely to access careers provision, which compounds the challenge [8].

Boosting the supply of, and diversity in, apprenticeships

7. 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 [9] 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. According to DfE figures [10], the government’s own *Find an Apprenticeship* web portal has experienced an 85% drop in apprenticeship vacancies. Data recently published by the Association of Colleges [11] also found that 46% of colleges plan to make redundancies by the end of the autumn term 2020. These are worrying signs for the future of the FE sector and their ability to support young people with high quality apprenticeship opportunities in the months and years to come.
8. EngineeringUK recently carried out a ‘temperature check’ with some of our corporate members, major employers in the engineering world. Many firms were taking the difficult decision to either reduce, delay or cancel their apprenticeships 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. EngineeringUK’s analysis of the ONS Business Impacts of Covid Survey (BICS) also shows that these challenges apply across the sector. The construction sector, for example, furloughed 36% of its staff between end of March and early April, rising to a high of 47% by end of May.¹²

Securing the future of apprenticeships

9. We were interested to see the steps taken by some metro mayors in covering some or all of the salary costs of apprentices in their regions, and also welcome the Government’s recent announcements in this area. **We feel ambitious policy steps such as this need to be considered and scaled up, if**

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

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

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

¹⁰ DfE, ‘*Apprenticeship and traineeships: June 2020*’, June 2020.

¹¹ Association of Colleges, ‘*Colleges and COVID19 Summer Survey*’, July 2020.

¹² In recognition of the extraordinary impact of Covid-19 pandemic on UK society, we have created a digital resource that tracks the economic implications on engineering in – as much as possible – ‘real time’. This will be available on our [website](#) in due course. We will be updating and expanding upon this content as more data and evidence emerges and will be providing a particular focus on the wide-ranging and often contrasting impact of the pandemic on specific industries.

necessary, to support apprenticeships, with a particular emphasis on young apprentices from disadvantaged backgrounds. Our recent pulse survey shows that many young people are worried about what the future holds for their job prospects and their future education. If we are to see the UK become a ‘science superpower’ (as stated by the Prime Minister), **the government must work together with business and the skills sectors to ensure opportunities for young people are forthcoming, removing barriers for the young engineers of tomorrow.**

Increasing diversity within apprenticeships

10. Diversity within apprenticeships continues to be a persistent challenge. Our soon to be published *Educational Pathways* report finds that women made up just 8% of engineering and manufacturing technologies apprenticeship starts in 2018-19 while making up half of overall apprenticeship starts. 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, apprentices from disadvantaged backgrounds can expect to receive between 1.5-3 months less training than their peers in engineering [13]. 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. A recent Youth Employment UK survey with young people, for example, found that girls are less likely to be told about apprenticeships than their male counterparts [14]. **More needs to be done to ensure young people are receiving impartial careers information within schools, on the range of pathways into engineering, including apprenticeships.**

Tackling teacher shortages in STEM subjects

11. Research recently published by NFER [15], 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 Monitor [16] 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 [17], combine to paint a worrying picture of pupil access to quality STEM teaching and inspiration.
12. 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, including those who might have lost their job as a result of the pandemic, 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.**

¹³ Social Mobility Commission, ‘*Apprenticeships and Social Mobility: Fulfilling potential*’, June 2020.

¹⁴ Youth Employment UK, ‘*Youth Voice: Census report 2020*’, June 2020.

¹⁵ NFER. ‘*Teacher Labour Market in England Annual Report*’, June 2020.

¹⁶ EngineeringUK, ‘*Engineering Brand Monitor*’, 2019.

¹⁷ Teach First, ‘*Britain at a crossroads*’, June 2019.

About EngineeringUK

13. [EngineeringUK](#) is a not-for-profit organisation. We work in partnership with the engineering community to inform and inspire young people and grow the number and diversity of tomorrow's engineers through events such as the [Big Bang Fair](#). We also produce a range of research reports exploring educational pathways into engineering and barriers to participation. **We have a strong interest in increasing diversity and inclusion within the engineering sector and seek to use our research to help inform wider policy debate. For example, our publication [social mobility and engineering](#) [18] delves into a range of topics including educational attainment, 'science capital', careers advice and the lack of appropriate monitoring data.**

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

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¹⁸ EngineeringUK, 'Social Mobility and Engineering' Research Briefing, 2018.