

Edge Foundation's submission to the inquiry, Fit for The Future: Growing and Sustaining Engineering and Technology Apprenticeships for Young People

The Edge Foundation is the independent education charity dedicated to shaping the future of education to meet the demands of the twenty-first century global economy and ensure that every young person has the skills they need to succeed in work and life. For this to be achieved, we believe that our curriculum and assessment system must work together to celebrate a broader range of knowledge as well as technical and transferrable skills.

Raising awareness of routes into engineering and manufacturing.

As the inquiry's call for evidence highlights, we need more young people pursuing routes into engineering, manufacturing, and technology to meet the future skills needs of our economy. We have reached similar conclusions through our work on skills shortages, which has highlighted the urgent need for more engineering skills. As discussed in our most recent skills shortages summary bulletin, shortages in this sector are driven by strong competition for skilled candidates, a shortage of applicants with appropriate qualifications, and a lack of awareness among young people of the educational routes into engineering occupations. On that last point, our bulletin highlighted that just 23.6% of young people aged 11 to 14 and 25.5% of those aged 14 to 16 reported knowing what people working in engineering do. As the bulletin highlighted, these skills are also important for the wider economy - of the total projected requirement for Level 3+ engineering occupations, 42% (86,000 roles) are expected to occur outside of the engineering sector. Engineering also has a part to play in addressing the digital skills gap. As our summary bulletin highlights, demand for roles containing AI, cyber, and cloud skills have all increased in the past few years. A survey of 425 senior IT decision makers based in England, conducted by the Open University in 2022, found that 77% of employers report having a digital skills gap. The survey also found that 84% of employers agreed that the options of both Higher Technical Qualifications and apprenticeships are a good way to bridge this gap. As outlined in the Institution of Engineering and Technology's 2021 report, Addressing the STEM skills shortage challenge, it is vital that engineering and sciences skills are strengthened, so that the workforce can adapt to the challenges presented by advancements in automation and digital technology.

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It is important to consider the barriers to businesses offering apprenticeships, particularly in engineering. According to the Institute for Apprenticeships and Technical Education and Education and Skills Funding Agency's 2020 report on the cost of delivering apprenticeship standards, engineering and manufacturing apprenticeships cost the most on average in training. The research also found that training providers struggled to recruit specialist staff in sectors like engineering due to competitive salaries for those working in that industry. This impacts the ability of smaller businesses to offer apprenticeships. A report by the Warwick Institute for Employment Research, commissioned by the Edge Foundation in 2021, found that the requirement to contribute to the costs of apprenticeship training provides a disincentive for employers (particularly those who don't pay the levy) to take on apprentices.

Encouraging younger people to enter apprenticeships

We also need to see more young people enter into apprenticeships in general. Under 19s only accounted for 22.2% of apprenticeships starts in the 2020/21 academic year, according to the Department for Education.

Recommendations

- **DfE to fully fund 16-18 apprenticeship provision** - The Department for Education must fully fund 16-18 apprenticeship provision.
- **Reform of apprenticeship levy** - We would also like to see the apprenticeship levy reformed to incentivise employers to take on young apprentices aged 18-24 and on high-quality routes into apprenticeships. Training for those over 25 is still important, but we would like to see this come from outside the apprenticeship pot. This inquiry may also consider calling for specific support to SMEs for engineering and manufacturing apprenticeships, considering the high cost of training compared to apprenticeships in other industries.
- **Engagement with SMEs** - To broaden the number of businesses taking on an apprentice, the Government must engage more with SMEs, including through setting up a Government-run advice service for small businesses taking on an apprentice.

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- **Review the national minimum wage** - We can do more to encourage young people to enter into apprenticeships by reviewing the national minimum wage for apprentices, which currently stands at £4.81/hour for 16-18 year olds. This is due to increase in April 2023 to £5.28/hour, an increase proportionally equal to that being applied to the National Minimum Wage. We need to see apprentices' work recognised appropriately, with a wage increase that recognises their vital contribution to our economy and society.
- **Careers guidance** - We were pleased to see the Government introduce a statutory requirement for secondary schools to provide pupils with at least six encounters with a provider of approved technical education qualifications or apprenticeships. However, we can do more to make apprenticeships appealing to young people by aligning it with their interests. As the Learning and Work Institute and WorldSkills UK wrote in our most recent skills shortages bulletin, young people are motivated to pursue a career that can help the UK to reach net-zero, but have a low awareness and understanding of green skills and green jobs. Better careers guidance can harness this interest to direct young people towards apprenticeships in sustainable employment.

Changes to the curriculum and accountability system

Changes must also be made to the schools system to encourage young people to pursue careers in engineering and technology. Accountability measures such as the EBacc and Progress 8 have encouraged students to pursue a narrow range of subjects and our high-pressure assessment system is structured to capture knowledge rather than skills. This has resulted in many young people feeling alienated from school, at a toll to their mental health, as highlighted in our recent report. We would like to see curriculum and assessment work together to celebrate a broader range of knowledge as well as technical and transferrable skills. In our recent report on employability skills in schools, learners reported that digital and creativity skills are the most underdeveloped in schools. This is a serious issue for our future labour market. As the House of Lords Communications and Digital Committee highlighted in its 2023 report, *At risk: our creative future*, there are too few incentives for students to study a combination of creative and STEM subjects, despite employers increasingly calling for a blend of creative and digital skills.

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As the inventor Sir James Dyson told the Times Education Commission, the curriculum and assessment system does not encourage creativity in learners and it must be reformed "to produce the entrepreneurs and engineers of the future".

Recommendations

- **Review of accountability measures to encourage greater inclusion of creative and technical subjects** - the Edge Foundation has launched the #SaveOurSubjects campaign, in partnership with the Independent Society of Musicians, to reverse the decline in the uptake of arts and technical subjects at GCSE level through re-examining accountability measures. We have also been working with colleagues Royal Society, the Times Education Commission, Rethinking Assessment, and the NEU, to call for reform of our assessment system.
- **Introduction of inter-disciplinary learning and multi-modal assessment** - We would like to see more multi-modal exams that recognise a broader range of skills, including digital, creativity, technical skills and team-working. A summary of our vision for curriculum and assessment can be found [here](#). Exciting and innovative approaches to curriculum and assessment are already being delivered by a number of schools and colleges across the country that form our Edge Future Learning network.

With these changes to the apprenticeship and schools system, we hope that more young people will pursue a meaningful career in engineering and technology.