

GuildHE response to:

House of Commons Education Committee Inquiry:

Fourth Industrial Revolution

June 2018



About GuildHE

1. [GuildHE](#) is an officially recognised representative body for UK Higher Education. Our members include universities, university colleges, further education colleges and specialist institutions from both the traditional and private (“for profit” and “not for profit”) sectors. Member institutions include some major providers in professional subject areas including art, design and media, music and the performing arts; agriculture and food; education; maritime; health and sports.

Opening Comment

1. GuildHE welcomes the opportunity to respond to this Education Select Committee inquiry.
2. We argue that a broad range of skills will be needed to adapt to the challenges and opportunities of the fourth industrial revolution and that these skills go beyond STEM and digital.

The interaction between the Government’s industrial, skills and digital strategies

3. The Industrial Strategy and Digital Strategy do reflect one another when it comes to taking about skills. They emphasise the growing importance of digital skills for continuing the UK’s leading place in the digital economy.
4. However, the strategies overfocus on developing digital and STEM skills. For example, coding is drawn out for special attention. Yet coding itself may be at risk of higher automation as the ability of artificial intelligence increases¹. Government needs to look beyond such technical skills and consider creative and soft skills to genuinely future proof the UK.
5. The role of creativity and creative skills takes on particular significance within this context. Nesta has identified that creative jobs are more resistant to automation. They argue, “*creative jobs are hard to automate. This is important, because it looks like the world is on the verge of a robot revolution in which more and more once-steady jobs are replaced by machines.*”²

¹ <https://stxnext.com/blog/2017/11/08/will-artificial-intelligence-replace-developers/>

² <https://www.nesta.org.uk/feature/future-shock/creativity-vs-robots/>

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6. As such, the generation and transfer of knowledge to maximise the benefits of the fourth industrial revolution will become more important.
7. Within this space, the role of Innovate UK's Knowledge Transfer Network and Knowledge Transfer Partnerships are worth referencing. They enable business, academia and an individual to carry out practical research related to a particular challenge. However, KTPs are harder to establish within the creative industries, partly due to the policy focus upon STEM partnerships. Yet KTPs in such areas could play a crucial role in developing transferable skills and addressing challenges within a growing creative economy that forms part of the fourth industrial revolution.

The suitability of the current curriculum to prepare young people for the Fourth Industrial Revolution

8. With the basic skills of numeracy and literacy, a balance needs to be struck between what is genuinely necessary for all employment, and the basics of the discipline. Those who struggle (especially with maths) say their issues are in areas which they feel are not applicable to the 'real' world.
9. More creative teaching of these subjects may help some connect with the subject better, as will personalised support, but there are other ways to define intelligence than just maths and English skills.
10. There have been many research studies undertaken by academics in relation to those who are not 'academically minded' and of the working classes and their attitudes towards learning. Studies have shown that the working classes put less emphasis on schooling and qualifications because they believe it is not useful to acquire a job. Furthermore, when they do continue through education, they feel that they don't fit in³. In order for government to achieve its aspirations to upskill all in society, these attitudes must change and a better articulation between skills, education and employment must be achieved.
11. We would also like to ensure that there is not a division created between which 'types' of institutions deliver vocational and skills training, and those who deliver academic qualifications. GuildHE is proud of the work our members do to deliver industry focused qualifications which are seen as both academic and technical: they have developed strong partnership with industries and local employers to develop their curriculum offer. We believe this is one of the key strengths of our part of the sector.

The impact of the Fourth Industrial Revolution on the delivery of teaching and learning in schools and colleges

12. As this Industrial Strategy is intrinsically linked to growing our industries and employment opportunities for to be prepared for the fourth industrial revolution, we feel it is as important for schools to teach basic transferable skills which will be useful for employment (such as IT literacy, team working, independent thinking etc.) and these should be a more explicit part of the general national curriculum.

³ <http://onlinelibrary.wiley.com/doi/10.1080/01411920902878925/full>
<http://www.tandfonline.com/doi/abs/10.1080/13636820300200240>

Ball, S (2003) *Class strategies and the Education Market: The Middle Class and Social Advantage*. Routledge: London
<http://onlinelibrary.wiley.com/doi/10.1111/1467-954X.00233/full>

Willis, P. (1977) *Learning to Labor: How Working Class Lads Get Working Class Jobs*.

13. Schools develop teaching strategies which help support these skills already, but they are not explicitly communicated to pupils, nor offered support where students are struggling. A similar approach is taken to adult education pedagogies in both academic and technical routes.
14. But more could be done to draw out this integrated learning and give students the understanding to articulate their skills to potential employers. Indeed, Jeff Selingo⁴ argues that to face the changing landscape, the key skill that students need is the ability to learn.

The role of lifelong learning in re-skilling the current workforce

15. As economies grow and fall and sectors expand and contract, it is clear that many careers are no longer for life. Employers must change their attitudes towards recruitment, and accept workers based on their generic skillsets and potential abilities; with “essential” and “desirable” criteria being thought through on the basis of the actual requirements of the job.
16. Government can help support employers and the public in re-training (through access to loans, the apprenticeship levy, more pressure on employers to have training budgets etc.).
17. At present in most occupations it is currently up to the employee to seek skills training in order to up-skill, change jobs or change careers. We need to strike a balance between the cost for the individual and the cost for the company. At present many adult learners undertake qualifications and pay for them themselves as a ‘leap of faith’.

Apprenticeships

18. The Apprenticeship Levy is still in its infancy but there have been some significant teething problems with its implementation, namely a major lack of approved standards in which to spend the money and a disregard by the IfA to allow employers to embed qualifications within the standards, which is what many employers say they want.
 - a. We have heard anecdotally that the levy has already had perverse consequences for a number of long-standing qualification in the HE and FE sector and employers are now unable or unwilling to pay for traditional qualifications with an unspent levy fund. There are many companies that just cannot spend their levy due to there not being any appropriate standards available or the lack of willing for certain industries to get together in the overly bureaucratic and time consuming trailblazer process.
 - b. Government must, therefore, assess the impact the levy has on a company's wider training budget to ensure that other qualifications and learning opportunities are not being sidelined, and/or expand the Levy to include prescribed HE qualifications.
 - c. We will be writing to the Select Committee separately in due course to notify them of some specific issues universities and employers have been faced with during the implementation of the policy.
19. The apprenticeship policy is still very focused around 16-24 year olds studying level 2 and 3 qualifications. Whilst there is nothing stopping older applicants to apply for apprenticeships, nor employers signing up current staff on apprenticeship schemes, more awareness of this is needed, and there needs to be far more opportunities for employees to obtain higher level qualifications, which is what employers continue to tell us they want.
20. The Government Office for Science is doing some particularly interesting research at present around the issues of lifelong learning and the access and motivations for adults to undertake

⁴ <https://jeffselingo.com/about/>

further study. Unfortunately for many adults, there is little time or money to spend on going back to college and so it seems sensible that employers could take on more responsibility in supporting their employees to access education later in life.

21. There are very many non accredited training providers. We think there should be better regulation for non accredited learning to ensure employers and employees are getting good value for money.

Doctoral Training Centres

22. Higher education is key in helping people to reskill. We believe there would be benefit in establishing Doctoral Training Centres (DTCs) at some institutions that specialise in applied research.
23. Many doctoral students at GuildHE institutions already start their research career later in working life and bring in a wealth of practical knowledge. As such, GuildHE members have developed specialisms in supporting career switching and lifelong learning.
24. This is despite not having access to DTCs that larger institutions do. It means that smaller institutions are unable to fulfill their potential in offering further support and guidance to this reskilling talent pool during the course of their studies in order to maximise their benefit to the economy and society.
25. DTCs can help encourage such students to think about a career in research as well as in industry. They stand a stronger chance of bringing together applied and basic research if they are housed at a cluster of smaller institutions.

Place-based strategies for education and skills provision

26. One of the greatest challenges that local areas face is in retaining graduate talent. Our members, many of whom are located in poorer regions of the country, report this as a major issue in developing their regional economies.
27. Students whilst at university make valuable economic contributions to their local economies. Our recent independent economic impact study found that creative higher education institutions' students alone contribute £1.6 billion to the economy through their spending in local shops and services (EMSI, *The Economic Value of Creative Focused Universities and Colleges*, Nov 2016). Investing in higher education institutions which aim to address skills gaps therefore also has indirect, immediate economic impacts. Finding ways to retain graduates is of great importance.
28. **Solent University** for example is already taking steps to retain skills in the local economy. The university puts aside seed-corn funding, adding preincubation and incubation space, mentoring and networking/training opportunities aimed at their graduates from courses such as fashion, journalism and music. This has resulted in Solent Creatives, a design agency that matches student and recent graduate talent with local SMEs. This has improved both graduate employability and business sustainability within the region.
29. Another approach to addressing skills gaps can be found in Devon. **Plymouth College of Art** founded Plymouth School of Creative Arts in 2013. It teaches children from the age of four, up to the age of sixteen. It strives to ensure their children are achieving academically through a creative, purposeful education, and this clear vision from the beginning of the project enabled the

school to gain buy-in from parents despite being a totally new development. The school has reported positive feedback from students and parents, and that its students are making better academic progress through a focus on creative learning and are more engaged than they were in their previous educational settings. Furthermore, some teachers have noted that some year 7 students are already working at GCSE level. The school was built in a deprived area of inner-city Plymouth. It is hoped that over time it will contribute to the socio-economic regeneration of the local area. The two institutions enjoy a close and productive relationship.

30. **The University of Chichester** is developing an Engineering and Digital Technology Park in Bognor Regis. It will deliver 500 new science, technology, engineering and mathematics students per annum in Bognor Regis by 2021. All of these students will graduate with professional accreditations, as well as practical industry experience.
31. **Norwich University of the Arts** has achieved success in turning creative skills into a vibrant and viable creative economy. NUA developed a place project in the Ideas Factory Digital Creative Incubation centre, which was opened in early 2016. The project was conceived with the Digital Creative Group of New Anglia LEP, and was a co-investment with NUA, HEFCE and New Anglia LEP (NALEP) as partners. The project's core objective was about establishing a digital creative cluster in Norwich, with the centre as its hub. Two years on, the project has achieved all of the objectives set out in the bid, in terms of job creation through new businesses.
32. It is also worth noting that many of the activities highlighted above are carried out without the HEIs receiving core innovation and knowledge exchange funding provided through the Higher Education Innovation Fund (HEIF). This limits their ability to carry out valuable work that would support government in its ambition to boost productivity across the country. Enabling smaller HEIs to access HEIF or similar core funding would increase the benefits that they provide to the economy and wider society⁵.

The challenges and opportunities of the Fourth Industrial Revolution for improving social justice and productivity

N/A

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⁵ This GuildHE blog provides further information:
<https://www.guildhe.ac.uk/blog/heif-underpinning-industrial-strategy/>