All-Party Parliamentary Group on Artificial Intelligence
Evidence Meeting 5 – Education: Skills
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Biography: Kiera is responsible for STEM & Digital Skills strategy in the Department of Education, covering all ages from pre-school through to University. She is also responsible for the Department’s policy on using Education Technology in schools, colleges and Higher Education institutions. Before her current role, Kiera worked on a series of high profile policies in technology focused and non-technology focused roles.

She has previously worked in multiple Government Departments, including Cabinet Office and the Department for Business. She has also worked in the private and charitable sectors.

SUMMARY OF EVIDENCE

The Government wants everyone to receive a world-class education, to ensure that they have the opportunity to reach their full potential. This supports our broader ambition to improve the productivity of our economy. 1.9 million more children are in good or outstanding schools since 2010 - and that is in part down to our reforms. We are laying the groundwork for a new technical education system, and have maintained a world-leading Higher Education (HE) sector.

The Fourth Industrial Revolution, as defined by the World Economic Forum, is the ‘digital revolution…characterised by a fusion of technologies that is blurring the lines between the physical, digital and biological spheres’.¹ These technologies include Artificial Intelligence (AI – including its corollaries: automation and machine learning), the development of new materials, and use of novel production modes.

We cannot be certain of the exact impact of the Fourth Industrial Revolution. The Organisation for Economic Co-operation and Development (OECD) found that 14% of jobs in member countries are at a high risk of automation,² whereas a separate study suggested that 47% of American jobs are at risk.³ Although there is a lack of research focusing on the UK, these international studies indicate the challenge of

² OECD, Putting Faces to the Jobs at Risk of Automation (2018)
predicting the impact of technological shifts – many of which are still at early stages of development.

We are preparing for the changes in the labour market that the Fourth Industrial Revolution may bring, through our new, modern Industrial Strategy (including an AI Sector Deal), supported by our Digital Strategy and a range of major Department for Education reform programmes (including the Department’s recently published EdTech Strategy).

Through these reforms, the Government is delivering a range of changes, including:

- Encouraging and supporting schools and colleges to use technology to improve student outcomes
- Introducing T levels as a high-quality alternative to A levels and setting up 12 new Institutes of Technology
- Introducing a new basic Digital Skills entitlement for adults
- Designing a new National Retraining Scheme, which will empower adults to redirect their careers and move into a better job.
- Targeting policies to ensure people from all backgrounds can take advantage of the opportunities that new technologies may bring

AI technology represents an exciting opportunity. However, it remains largely untried or reliably tested within most education systems. When discussing the adoption of AI technologies in our classrooms, lecture theatres and homes, it is important that we focus not just on the possible opportunities, but also the risks. It is imperative that we approach the application and adoption of this new technology with the same high expectations around rigorous testing and trialling, as we would in any other area of public service (such as medicine).

As a result, the Department’s efforts on AI adoption are focused on developing sound, evidence based solutions that complement existing capability. For example, the Government recently announced that it would be investing £5 million to encourage technology companies to develop cutting-edge solutions, utilising the latest technology including AI to improve adults’ experience in finding and doing training.

Finally, the Government recognises that it cannot harness all the opportunities and solve all the challenges that the Fourth Industrial Revolution may bring on its own. Business and industry groups need to engage with the future challenges their workforces may be facing. The DfE is working closely with business in a number of critical areas (including T levels, Institutes of Technology and the National Retraining Scheme) to ensure that employers have the opportunity to influence these programmes directly, and reflect the changing skills needs of our economy.