

## EVENT SUMMARY

# THE ROLE OF LIFELONG LEARNING TO SUPPORT R&D TALENT

A ROUNDTABLE CO-HOSTED BY  
THE OPEN UNIVERSITY AND  
THE CAMPAIGN FOR SCIENCE AND ENGINEERING  
DECEMBER 2022

This roundtable was convened to discuss the role of lifelong learning in ensuring that the UK has the skills base to meet the requirements for a more research-intensive economy and how the UK Government could seek to support this. The event brought together stakeholders from across the research and innovation landscape.

The roundtable was attended by a variety of stakeholders from across universities, industry, UK-wide learned societies and officials from the Cabinet Office and Government. This unattributed summary does not represent policy positions of either the Open University or CaSE but will form part of CaSE's ongoing programme of work on education and skills, ultimately enhancing the environment for science and engineering in the UK.

## Introduction from the Campaign for Science and Engineering

The chair opened the session, highlighting that this is an important moment to be discussing STEM talent, in light of the Government's plans for a more research-intensive economy. The UK Government has put R&D at the heart of its plans for growth, and lifelong learning has a lot of potential to facilitate this transition. CaSE are looking at lifelong learning as part of a new piece of work focusing on education and skills.

## Introductory remarks

### The Open University

The Open University highlighted that lifelong learning is currently a critical issue and emphasised that at a macro level it has never been more important to talk about this. They highlighted the context around this, stressing that we are working longer, with 7 out of 10 learners in the workforce. We do not know what the future skills needs will be, and so the workforce needs to learn in a flexible manner. This will help to drive innovation and productivity, which is key to tackling societal challenges, such as waste or clean water.

They stressed that the research-teaching nexus is important to inform the skills debate. Research is a key foundation of the OU and can help to inform teaching. For example, they outlined the partnership with the BBC in the development of the Blue Planet series. One area that was highlighted in particular is systems thinking; it was felt that this is an important skills area that needs to be considered. Other examples that were highlighted included the OpenSTEM Labs, whereby students located anywhere in the world can interact remotely with experiments, and the ability to deliver doctoral training through distance learning throughout the pandemic.

### Department for Education

STEM skills are at the heart of the Government's ambition to harness innovation and drive growth, as signaled by the £39.8 billion R&D budget for 2022-2025 and the additional £3.8 billion announced for Further Education and skills in the 2021 Spending Review.

DfE emphasised the scale of the skills challenge, citing the example of the digital skills gap which is estimated to cost the UK economy as much as £63 billion a year. Last year the Department established the Unit for Future Skills to improve, structure, and connect different skills data; and to improve access to the data, enabling new forms of analysis and insights on skills needs. The Unit is keen to establish sector partners and collaborate with businesses more widely.

DfE explained that an ambition from this roundtable was to hear from industry and sector experts about the occupational pinch points they are experiencing now and expect to see in the future.

## ROUNDTABLE SUMMARY

### The role of reskilling and upskilling in supporting R&D talent

There was a discussion about the value of lifelong learning to individuals and to organisations. Lifelong learning can support the industry doing frontier research and transitioning to next-generation technologies. Examples cited included the increasing automation and digitisation of manufacturing and the use of hydrogen in energy. Companies require specialists within these new areas and are having to compete for talent with other companies and sectors. A benefit for the individual is that this equips them to be a more mobile resource.

A key area of debate concerned the tension for training providers in investing in anticipation of demand, and the associated risks, versus waiting for the demand to materialise. This discussion highlighted taking a cross-sector perspective and considering the value to different types of organisations, and the need to match supply and demand. For example, on the demand side there is an acute business need, whereas on the supply side university income has to be supported by evidence such as student numbers which can be volatile.

There was a discussion about the types of skills that will be needed in the future. For example, there is an increasing demand for abstract and higher cognitive skills, social skills and digital skills. The current workforce will be working for longer, and so a challenge to consider is how lifelong learning can support this.

Lifelong learning can also be an opportunity to support a workforce that has come into a particular geographic area to remain in situ and ensure the longevity of infrastructure. An example was given from the construction sector, which often involves larger projects that bring external workers into an area to conduct a piece of work. Once projects are completed, the skills required to run the infrastructure will be different. Reskilling may enable workers to remain in a chosen location.

## Current challenges around reskilling and upskilling

There was a discussion about the requirement for incentives for organisations to invest in lifelong learning. There is a perception that there is a decline in investment by private enterprise as individual companies do not necessarily recoup the investment in people. It was felt that this may be driven in part by SMEs, who may find it more challenging compared to larger companies. The challenges vary depending on the type of organisation (e.g. large or small). Large and small companies prioritise people and skills but they have different challenges. Important challenges for SMEs include funding and navigating the system of lifelong learning support, because they often lack the capability to engage with available support compared to larger companies. The Apprenticeship Levy in principle could be redistributed in the supply chain but this is not being done in practice. Therefore we need a review of what is available and how this could be repurposed.

The pathway between education providers and employers presents a challenge. Employers may be the end user, but they do not necessarily drive demand for university courses. It is student demand that typically impacts decisions about courses in universities. This also relates to drivers and incentives for wanting to study, which is typically driven by the individual (e.g. to get a degree or to enter a new sector) rather than the employer. The individual makes a career choice, which can lead to challenges in where to bring in employer-led demand.

In addition to investment, the structures to enable people to participate in lifelong learning are also important. Adults will often require flexibility to take part in training. In addition, the geographical and regional dimension needs to be considered so that all people across the UK can participate and benefit. This relates to levelling up and the importance of local clusters, but equally that strategic action may be required at a national scale.

There is a difference between occupations and skills, with both being important when thinking about lifelong learning. Occupations can help to set the framework to provide a taxonomy of skills provision that will be needed, but the definition of occupations is important which was illustrated by the comparison of the volume of occupations identified in the UK with that on the continent such as Germany. It was observed that the UK had a higher degree of specification and that a simpler categorisation would be helpful for navigation.

## Policy priorities for supporting reskilling and upskilling

Attendees discussed some of the different policy levers that have been outlined in the Skills for Jobs White Paper (e.g. T Levels as an entry point into technical jobs, reskilling through bootcamps, training on the job through apprenticeships).

- When thinking about policy such as local skills improvement plans (LSIPs), attendees raised the issue of language and terminology. Whereas employers often refer to skills, providers refer to qualifications, and these do not necessarily map together. The language of qualifications is likely to be less relevant for upskilling and reskilling, which are often intended to support fast-moving R&D and emerging areas of business need. The provision of formal learning opportunities is likely to lag behind fast-moving R&D, which will instead rely on built-up experience. In addition, skills and requirements will differ between SMEs and larger companies. There was also a discussion about the distinction between reskilling and upskilling, with the suggestion that employers take the lead with upskilling and individuals with re-skilling.
- With skills bootcamps there are issues around localisation, including related to funding and access. It can be difficult to encourage participation as they are often very localised and funding is typically restricted to certain sectors.
- It would be beneficial for the Government to review the Apprenticeship Levy. It was felt that the provisions within it could beneficially be made more flexible to accommodate lifelong learning.
- The criteria for the Lifelong Loan Entitlement scheme should be expanded to enable employees to get a new skill and to ensure there is support for individuals who wish to obtain another qualification.
- The analogy was made with R&D tax credits that businesses could benefit from 'upskilling credits' for developing employees, which might form part of Levy reforms.
- In recognising the debate of skills versus qualifications, there is a need to identify an appropriate system for individuals to record their skills and achievements in a way that employers can value and that the 'system' maintains a degree of stability over future years. Related to this, it would be important to better communicate the different routes to STEM jobs (e.g. through T Levels and pathways).

Determining the impact of policy partly depends on being able to accurately produce statistics on how people learn. There has been a proliferation of different types of learning, including both formal learning structures as well as other types of learning structures. For example, learning is often online, in groups and internationally. Current statistics may not fully capture such new developments and the diversity of ways that learning takes place.

We need to invest nationally in key strategic areas and provide the required skills for this. There should be a funding mechanism that allows providers to develop courses in anticipation of student demand but without student demand being present. This would help to support the supply and demand ecosystem between universities, students and employers.

Attendees discussed mechanisms to encourage greater mobility between sectors. This would be helpful for certain types of organisations, in particular SMEs who are often worried about poaching or competition for talent. Investment zones and clusters were cited as examples, which could create a more collaborative environment to encourage mobility between sectors.

There should be a focus on earlier stages, for example on providing good quality careers education. Young people make decisions based on what they enjoy learning. If younger people can make better-informed career choices, this could reduce the need for re-skilling at a younger age during early careers for people changing courses. For example, there is a shortage of people with STEM qualifications in teaching, especially in primary education, which impacts career education and people going into STEM. The Department for Education is doing work to encourage people with STEM qualifications into teaching, which will improve access to higher education in STEM.

## **Closing remarks and reflection**

Lifelong learning will be increasingly important to meet current and future skills requirements. There are existing mechanisms, which are wide-ranging. Important aspects to consider in relation to the provision of lifelong learning include stability, funding and the levers for funding, amongst others. With regards to funding, this is not 'one size fits all' and may need to be targeted. There is a complex ecosystem between students, providers, the UK Government and employers, with questions on how this can be best supported. The definitions and terminology within lifelong learning are important – this includes reskilling and upskilling, as well as qualifications, skills and occupations. The Department for Education is open to hearing from the community on where improvements might need to be made.