

MillionPlus

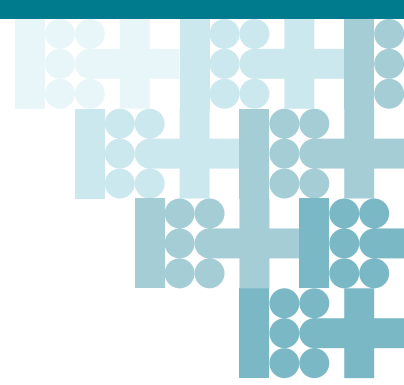
The Association for
Modern Universities



RESEARCH REPORT

Future proofing England's
workforce – how modern
universities can meet the
skills challenge

Foreword



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By 2035, we expect that almost 90% of new jobs will require graduate-level skills. In England, deeply entrenched skills gaps exist across multiple sectors, impeding growth and prosperity, and this fact should raise alarm bells. However, the country's universities, already providing graduates with highly valued skills, are central to meeting future skills demands.

Within these pages, we examine England's ongoing skills gaps, revealing their presence across different occupations and regions. Skills shortages in sectors such as healthcare, education, technology, and construction are impeding economic growth, diminishing productivity and further burdening already stretched public services.

The report investigates the complex web of factors that contribute to current skills deficits. These range from decision-making at the employer and employee levels to policy choices made in the corridors of power in Whitehall. We also examine the impact of sustainable and dependable funding (or the lack thereof), the scarcity of sufficient data and the broader economic context.

The skills shortages shown in this report are already impacting public services. Shortages of nurses and teachers, which are among the most vital roles in any society, are holding the country back. While this remains, Britain is poorer as a country. But the private sector is not immune, experiencing significant skill gaps in sectors like construction, manufacturing, and technology, which hinder infrastructure development and limit the economy from seizing new and emerging opportunities.

This report makes it clear that there is a path to equipping England with the necessary skills both now and in the future. Achieving this goal will require a concerted effort and the active involvement of all key stakeholders, with modern universities serving as vital local anchors at the forefront of this initiative.

Skills shortages vary significantly across regions, making the deep community ties and strong local connections that many modern universities possess particularly valuable. As our partner publication aptly argues, who better to identify, target, and address skills gaps in a locality than an institution with perhaps a century or more of connections to local businesses, communities and populations?

In short, give modern universities the ball and let them run with it.

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SECTION 1

Introduction

England faces an acute skills crisis. Persistent shortages across occupations and regions are constraining economic growth, lowering productivity and placing unsustainable pressure on public services. This complex challenge requires coordinated efforts from the Government, employers and education providers to tackle mismatches between skills supply and demand.

Several factors drive England's skills gaps. Employer investment in training and job quality interacts with government policy, while data limitations, wider economic conditions and the motivation of individuals to undertake skills training also play a role. A more nuanced understanding of these root causes is required, alongside urgent action focused on skills development.

In the public sector, shortages of nurses, doctors and teachers severely impact healthcare and education. The private sector also faces acute shortages in areas such as construction, manufacturing and technology. With 88% of new jobs by 2035 expected to need graduate-level skills, universities are central to tackling this challenge.

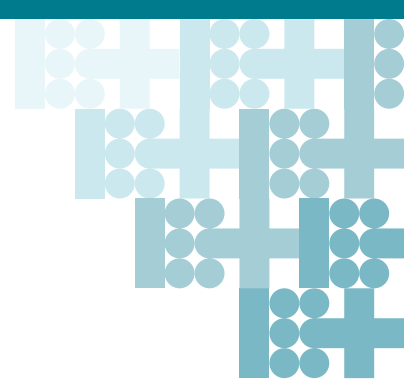
Skills deficits vary regionally too, meaning targeted local responses are required. Modern universities, as anchor institutions with a keen sense of place, are ideally positioned to identify and meet regional demand for skills.

Tackling England's skills crisis requires utilising several key opportunities. The upcoming Lifelong Learning Entitlement (LLE) will enable flexible learning tailored to evolving skills needs at every stage of an individual's working life. Strategic skills planning informed by granular data and foresight is essential to identify talent requirements. Given their strong employer links, empowering modern universities would enhance this, enabling localised, work-relevant training.

Sustainable funding reforms are also vital for skills innovation and access. Replicating lost EU funds, widening employer investment in training, outcome-based university financing and grants for marginalised groups can expand work-based learning and widen participation.

In summary, concerted efforts engaging all stakeholders are needed to build a dynamic and inclusive skills ecosystem. But realising this depends on empowering modern universities through data, resources and autonomy. With the right support, they can help align lifelong learning and funding with diverse learner, employer and local needs. This strategic approach offers a route to closing England's skills gaps and driving productivity gains.

This report begins by providing a detailed overview of the skills shortages facing England, as well as the drivers of those shortages. Subsequent sections will then outline three areas that can help tackle those shortages. The first is a flexible Lifelong Learning Entitlement aimed at encouraging a continual growth mindset and widening access to a broader set of learners. The second is a strategic approach to skills by the Government: one that understands current shortages and their drivers, but also sets strategic goals for skills that can give England a comparative advantage in new and emerging sectors. Finally, the report identifies a need for stable and sustainable funding for skills education that enables modern universities to provide the skills needed for a productive and inclusive society.



SECTION 2

Skills shortages in England

OVERVIEW OF THE SHORTAGE

Recruitment challenges across occupations in both the public and private sectors point to an acute shortage of skilled workers in the UK. At the time of writing, vacancies remain at over 1 million.¹ Hospitality, manufacturing, construction, and transportation companies report some of the most severe hiring difficulties.² But the problem extends beyond the private sector, with key public services like the NHS and schools struggling to fill roles.

Recruitment problems leave positions unfilled, and service needs unmet. In turn, economic growth and productivity savings are inhibited. In a 2022 employer survey, 66% of respondents stated that staff shortages had impacted their business's ability to meet customer demand.³ Skills shortages disrupt operations, increase wages and staff turnover, lower output quality and increase the need for staff overtime.⁴ At the macroeconomic level, a shortage of relevant skills depresses GDP growth.⁵

The worker shortage is being driven by a range of factors. An ageing population, a failure to address skills shortages over the last 20 years and reduced European Union migration following Brexit have all constrained labour supply.⁶ Simultaneously, labour demand increased as the post-pandemic economy reopened. The result has been a significant tightening of the labour market.

But labour supply changes do not fully explain the problem. Structural weaknesses on the demand side, including employer underinvestment in workforce training and poor job quality, have played an important role. It is clear that a more nuanced analysis of the root causes of persistent gaps is required, one that goes beyond a simple equation of supply and demand. However, the scale

of current shortages merits urgent policy attention that focuses on skills development.

KEY OCCUPATIONAL SHORTAGES IN ENGLAND

Over the past few years, England has been grappling with significant occupational skills shortages that impact various industries and are stifling economic growth. These shortages are presenting significant challenges for employers and employees and present the Government with a policy challenge.

The public sector is experiencing significant skills shortages in England, with deficits particularly pronounced in the health and social care sector which is still recovering from the immense pressures heaped on it by the COVID-19 pandemic. Issues arising from the pandemic throughout the NHS, including burnout and work-related stress, worsened by heavy workloads and insufficient staffing levels, low pay, limited career development opportunities and concerns about patient safety have seen large numbers leave the healthcare profession. Meanwhile, a lack of investment in healthcare training programmes and inadequate workforce planning has limited the supply of workers to fill vacancies. The result is a shortfall of nearly 44,000 nurses,⁷ 10,000 doctors⁸ and a social care system with around 150,000 unfilled vacancies.⁹

Figure 1 depicts the regional scale of healthcare staff shortages in England. In every region, there is a minimum of 6,000 to 9,000 job openings per 100,000 economically active individuals. The most severe shortages are found in London, while the Midlands, East of England, Yorkshire and the Humber, and the North East all have greater than 9,000 job openings per 100,000 economically active individuals.

- 1 ONS (2023) Vacancies and jobs in the UK: July 2023. Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/jobsandvacanciesintheuk/july2023>
- 2 British Chambers of Commerce (2022) Staff Shortages Survey. Available at: <https://www.britishchambers.org.uk/news/2022/10/staff-shortages-impacting-productivity-quarterly-recruitment-outlook>
- 3 Open University (2022) Business Barometer 2022. Available at: <https://www5.open.ac.uk/business/barometer-2022>
- 4 Universities UK (2019) Solving Future Skills Challenges. Available at: <https://dera.ioe.ac.uk/id/eprint/32069/1/solving-future-skills-challenges.pdf>
- 5 Department for Education (2021) Skills for jobs: lifelong learning for opportunity and growth. Available at: <https://www.gov.uk/government/publications/skills-for-jobs-lifelong-learning-for-opportunity-and-growth>
- 6 CIPD (2023) Labour Market Outlook. Available at: <https://www.cipd.org/uk/knowledge/reports/labour-market-outlook/>
- 7 The Health Foundation (2023) Retaining NHS nurses: what do trends in staff turnover tell us? Available at: <https://www.health.org.uk/news-and-comment/charts-and-infographics/retaining-nhs-nurses-what-do-trends-in-staff-turnover-tell-us#:~:text=NHS%20nurse%20shortages&text=Nursing%20remains%20a%20key%20area,the%20quarter%20to%20December%202022>
- 8 British Medical Association (2023) NHS medical staffing data analysis. Available at: [https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/workforce/nhs-medical-staffing-data-analysis#:~:text=High%20vacancies&text=As%20of%20June%202023%2C%20there,a%20year%20ago%20\(7.3%25\)](https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/workforce/nhs-medical-staffing-data-analysis#:~:text=High%20vacancies&text=As%20of%20June%202023%2C%20there,a%20year%20ago%20(7.3%25))
- 9 The Kings Fund (2022) Social care 360: workforce and carers. Available at: <https://www.kingsfund.org.uk/publications/social-care-360/workforce-and-carers#:~:text=What%20was%20the%20annual%20change.grown%20to%204.3%20per%20cent>

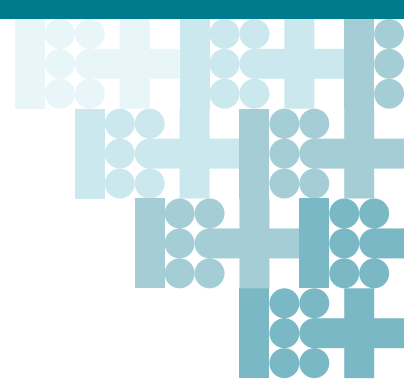


Figure 1: Healthcare job openings per 100,000 of a region's economically active population

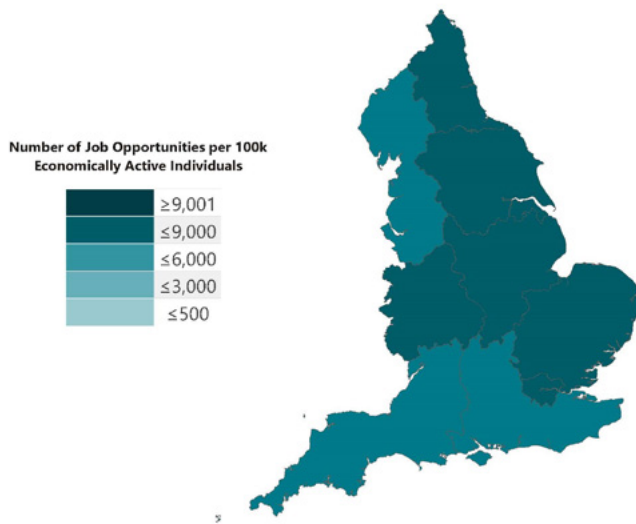
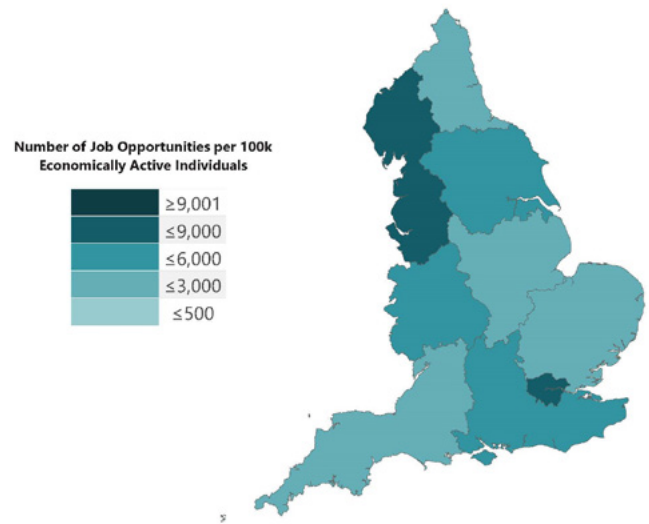


Figure 2: Education and training job openings per 100,000 of a region's economically active population



Teacher shortages are also posing significant challenges to the education system.¹⁰ With similar workload and burnout pressures as in the healthcare sector, job dissatisfaction has risen. In 2022, nearly 44,000 teachers left the profession, up 7,800 on the previous year.¹¹ Meanwhile, salaries have stagnated as budgets have tightened, leading to fewer graduates entering teaching. Policy interventions, such as the ITT Market Review, have further limited the availability of teacher training places. Once again, a failure to invest in teacher training means shortages have gone unaddressed.

Figure 2 reveals that education shortages vary across regions. The most significant deficits are evident in London and the North West, while the South East, West Midlands, and Yorkshire and the Humber also face notable shortages in the number of education professionals.

However, skills shortages are also impacting the private sector. Traditional occupations like construction, hospitality and retail are all experiencing acute shortages.^{12 13} Additionally, skills are struggling to keep pace with new and emerging technology industries.¹⁴

This issue is made more pressing in light of the current and future job landscape. The OECD revealed that 50% of the jobs facing skills shortages are in occupations that demand high skills as opposed to just 10% of low-skilled occupations.¹⁵ The fact that higher-skilled jobs are harder to fill presents a significant issue when considering that 88% of new jobs by 2035 will require graduate-level education.¹⁶

10 The Gatsby Foundation (2023) Teacher Recruitment and Retention in 2023. Available at: <https://www.gatsby.org.uk/uploads/education/teacher-recruitment-and-retention-in-2023-tt-schooldash-final.pdf>
 11 UK Government (2023) School workforce in England. Available at: <https://explore-education-statistics.service.gov.uk/find-statistics/school-workforce-in-england/2022>
 12 CITB (2023) CSN Industry Outlook – 2023-2027. Available at: <https://www.citb.co.uk/about-citb/construction-industry-research-reports/construction-skills-network-csn/>
 13 EHL Insights (2023) The Skills Gap in the Hospitality Industry. Available at: <https://hospitalityinsights.ehl.edu/skills-gap-hospitality-industry>
 14 Tech Nation (2022) 2022 report: The UK tech ecosystem in review. Available at: <https://technation.io/news/2022-uk-tech-ecosystem-report/>
 15 OECD (2018) Skills for Jobs. Available at: https://www.oecdskillsforjobsdatabase.org/data/country_notes/United%20Kingdom%20country%20note.pdf
 16 UUK (2023) Jobs of the Future. Available at: <https://www.universitiesuk.ac.uk/sites/default/files/field/downloads/2023-08/jobs-of-the-future.pdf>

KEY SECTORAL SHORTAGES IN ENGLAND

Using labour demand data¹⁷ and figures for the number of economically active individuals in a region,¹⁸ we can observe the regional patterns of skills shortages in various sectors across England. This analysis reveals how different areas grapple with workforce deficits, offering valuable insights into the unique challenges faced by each region.

ENGINEERING, MANUFACTURING AND CONSTRUCTION AND MINING

Figures 3a, 3b and 3c demonstrate that among these three traditional industries, engineering has the most severe talent gaps. However, like healthcare, the lack of talent is spread evenly across England in these three areas. Significantly, the North West has the highest ratio of job openings compared to its workforce. This points to the specific hiring challenges these traditional industries face in this region.

Figure 3a: Engineering job openings per 100,000 of a region's economically active population

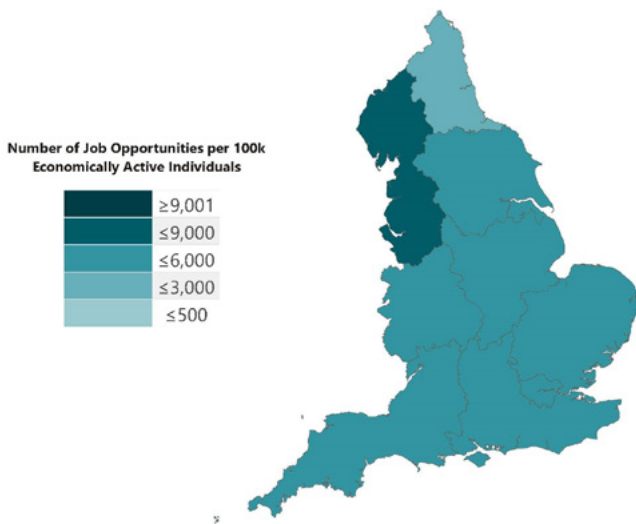


Figure 3b: Manufacturing job openings per 100,000 of a region's economically active population

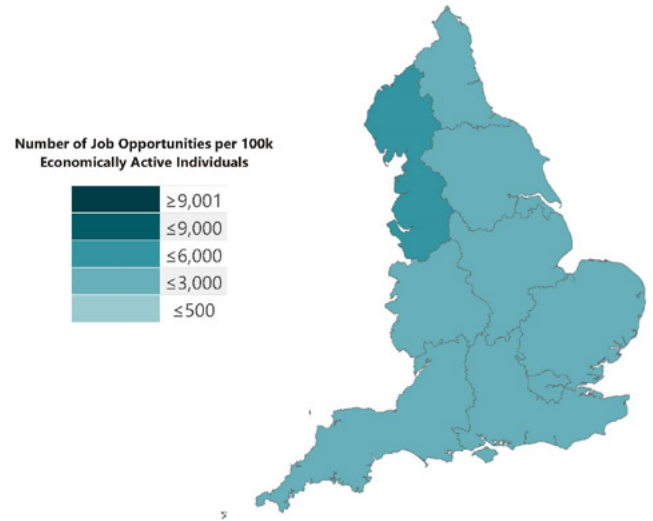
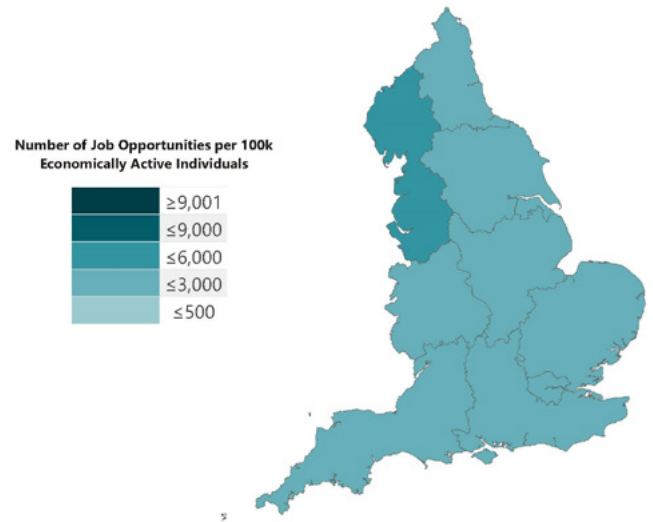
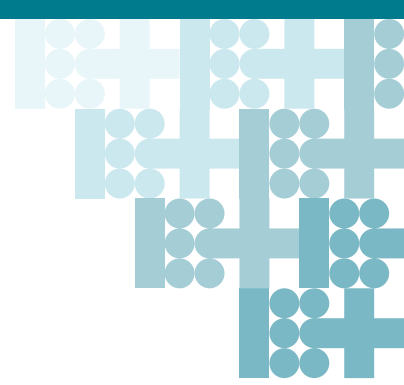


Figure 3c: Construction and mining job openings per 100,000 of a region's economically active population



17 ONS (2023) Labour demand volumes by profession and local authority, UK: January 2017 to December 2022. Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/labourdemandvolumesbyprofessionandlocalauthorityukjanuary2017todecember2022>

18 ONS (2023) Labour market in the regions of the UK: September 2023. Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/regionallabourmarket/september2023/relateddata/>

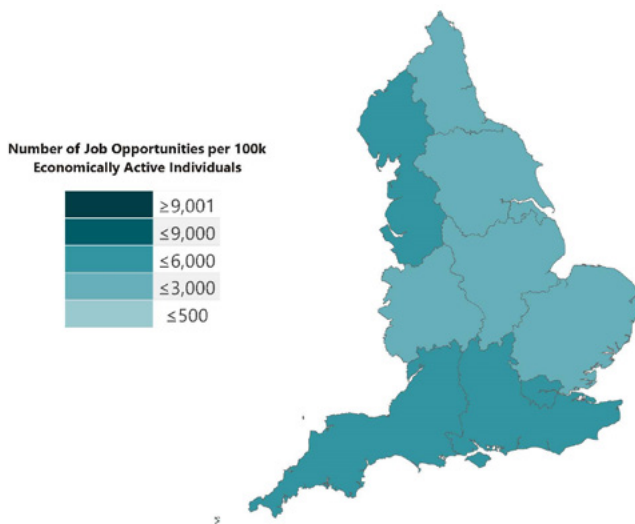


HOSPITALITY

A mix of factors, including seasonal jobs, Brexit-related limits on foreign workers, and COVID-19's economic impact, has led to a lack of skilled staff in hotels, restaurants and leisure sites. Data from the Office for National Statistics shows businesses have struggled to fill openings, reducing services and experiences for visitors.¹⁹

Figure 4 shows hospitality gaps are particularly sharp in the Southwest, where tourism is vital to the regional economy. London, the Southeast, and the North West – especially Manchester, Liverpool and the Lake District – also have high rates of hospitality job postings.

Figure 4. Hospitality job openings per 100,000 of a region's economically active population

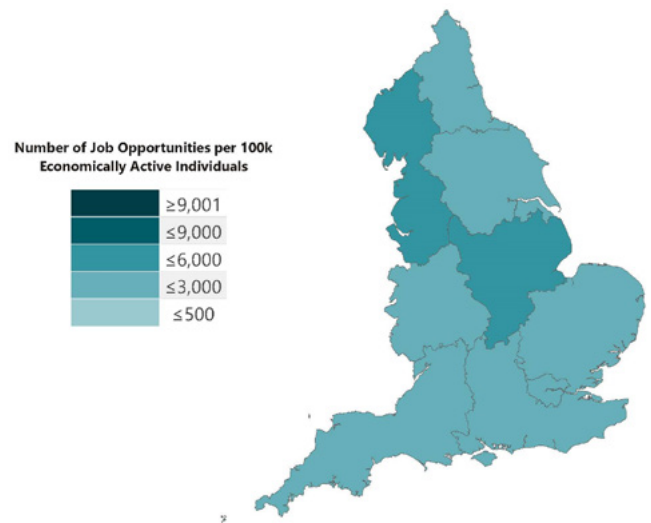


PROCUREMENT AND WAREHOUSE MANAGEMENT

The supply chain industry is struggling to recruit skilled staff. Challenges from automation and artificial intelligence are stopping workers from entering procurement and warehouse management careers.²⁰ In England, skills shortages in procurement and warehouse management are most pronounced in the East Midlands (**figure 5**). The North West is also grappling with recruitment challenges as businesses in the region compete for the limited pool of skilled candidates.

The procurement and warehouse skills gap also impacts the wider economy. Over 90% of supply chain companies have raised gross pay, increasing the costs of transporting goods across the economy.²¹

Figure 5. Procurement and warehouse management job openings per 100,000 of a region's economically active population



19 ONS (2023) Business insights and impact on the UK economy. Available at: <https://www.ons.gov.uk/economy/economicoutputandproductivity/output/datasets/businessinsightsandimpactontheukeconomy>

20 Raccoteur (2023) The next big shortage to watch? Supply chain skills. Available at: <https://www.raccoteur.net/supply-chain/supply-chain-skills-automation>

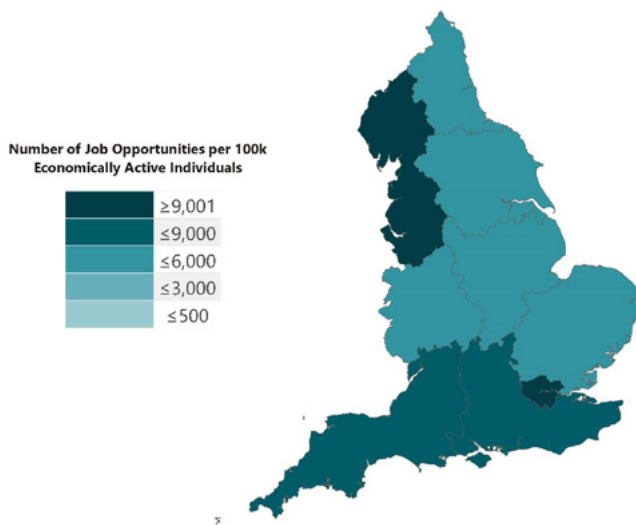
21 Logistics UK (2023) Logistics Report 2023. Available at: <https://logistics.org.uk/research-hub/reports/logistics-report>

TECHNOLOGY

London, as the UK's technology hub, has been grappling with a persistent shortage of technology professionals, including software developers, data scientists and cybersecurity experts. The rapid growth of the tech sector in the capital has outpaced the supply of skilled workers. A report by Tech London Advocates identified this shortage as a barrier to the city's continued innovation and competitiveness.²² The high cost of living in London has also deterred tech talent from relocating to the city, so exacerbating the problem.

However, **figure 6** shows shortages extend beyond London. The wider Southeast and Southwest also lack skilled tech staff. While outside London, it is the North West experiencing the most acute technology talent gaps.

Figure 6. Technology job openings per 100,000 of a region's economically active population



CAUSES OF PERSISTENT SKILLS GAPS

The skills shortages identified above are posing a significant and persistent problem for large sections of England's economy. However, skills shortages do not

occur in isolation. Instead, they are a product of a complex system shaped by a range of demand and supply side factors. As such, accurately identifying the causes of persistent skills gaps requires a multifaceted approach using diverse data sources and evidence. In this section, we identify some of the key causes of England's persistent skills gaps.

BUSINESS INVESTMENT IN TRAINING AND JOB QUALITY

Research indicates that employers' underinvestment in workforce training has contributed to skills gaps. In England, spending per employee on job-related training declined from £1,700 in 2015 to £1,500 in 2019.²³ Overall participation in work-related training has fallen back to mid-1990s levels.²⁴ This lack of employer-provided training leaves workers underprepared for evolving skill demands.

Weak employer efforts to improve job quality have also compounded shortages in some sectors. Low wages, lack of progression opportunities, poor working conditions and limited flexibility frequently characterise occupations experiencing shortages.²⁵ This undermines recruitment and retention, especially when paired with high living costs in areas of England. Constructive steps like pay increases, guaranteed hours and enhanced leave allowances can alleviate shortages by making roles more attractive. However, many employers have proven reluctant to take these steps.

GOVERNMENT POLICY DECISIONS

Public policy in areas such as education, careers advice and migration also shape skills supply. Cuts to further education budgets have reduced vocational and technical training capacity.²⁶ While critics have long argued that repeated failure to properly invest in careers services and advice would lead to economic growth being curtailed.²⁷ The result has been fewer individuals with vocational skills entering the workforce and certain industries suffering from a poor image among employees. The UK's decision to

22 Tech London Advocates (2023) London tech growth hampered by talent shortage. Available at: <https://www.techlondonadvocates.org.uk/2014/04/24/london-tech-growth-hampered-by-talent-shortage/>

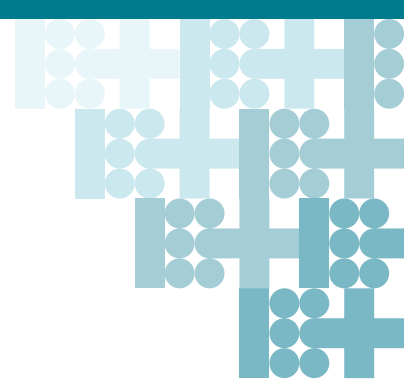
23 Department for Education (2019) Employer Skills Survey 2019. Available at: <https://www.gov.uk/government/collections/employer-skills-survey-2019>

24 CIPD (2022) Addressing Employer Underinvestment in Training: The case for a better training levy. Available at: https://www.cipd.org/globalassets/media/comms/news/addressing-employer-underinvestment-in-training_tcm18-61265.pdf

25 Resolution Foundation (2021) Low Pay Britain. Available at: <https://www.resolutionfoundation.org/app/uploads/2021/06/Low-Pay-Britain-2021.pdf>

26 FE Week (2023) Skills funding: return to austerity? Available at: <https://feweek.co.uk/skills-funding-return-to-austerity/>

27 Kier (2017) Averting a £90bn GDP crisis. Available at: <https://www.kier.co.uk/media/2999/researchreport.pdf>



end free movement through Brexit eliminated a valuable supply of workers from the EU in key shortage occupations. With changes to immigration policies and funding for skills training limiting talent pipelines, a coordinated effort across Government departments is needed to ensure collective policies support skills development.

Government policy has also contributed to the underfunding of skills education, which, in turn, has negatively portrayed careers in nursing and teaching. Even with planned investment in skills education, the IFS forecasts that by 2025 spending on adult education and apprenticeships will be 25% below 2010 levels.²⁸ Likewise, cuts to public sector spending have lowered ‘bursary’ payments for trainee nurses²⁹ and reduced the pay of teachers and health workers.³⁰ This has reduced the attractiveness of these professions, resulting in missed recruitment targets for teachers, nurses and doctors.³¹ Finally, as discussed in *Skills, skills, skills – the role of modern universities delivering the workforce for the future*, this report’s counterpart, there is a shortfall of skills education funding from the EU following Brexit. All of these factors are having a detrimental impact on the scope and availability of skills education in England.

DATA LIMITATIONS

Identifying and tackling skills shortages is hindered by the limited availability of precise, granular and current data on skills gaps. National surveys give a good overview of shortages at the macro-level but can miss micro-level occupational and regional gaps. Quantitative proxies for shortages, like wages and job adverts, often provide a snapshot, albeit with a lag. Likewise, data that is collected locally or on a sector-to-sector basis by official bodies and industry bodies, while often precise and granular, fails to paint a wider picture. Furthermore, presenting skills gaps

to policymakers in such a piecemeal way fails to make a strong case for greater joined-up national policy to alleviate shortages (e.g. improved career advice services).

While providers have, as shown in the case of modern universities in *Skills, skills, skills*, become adept at building networks with official and industry bodies, as well as businesses, identifying skills needs in this way takes significant time and resources. This approach can result in inefficiencies as each university independently identifies its own skills requirements, resulting in a resource-intensive overlap. A collective effort to address skills shortages in a coordinated and effective manner is needed.

INDIVIDUAL MOTIVATION AND LABOUR MARKET FRICTIONS

Motivating individuals to gain skills that align with demand represents another challenge. Between 2000-2018, just 9% of workers changed occupation each year in the UK, and the likelihood of switching fell sharply after age 30.³² This career stagnation contrasts starkly with the 50-70% of UK employees considering a change—pointing potentially to barriers deterring involvement in mid-career training.³³ Lack of time or money for training, limited career guidance, and insufficient job vacancy visibility often obstruct changes. Creating a more flexible and dynamic workforce by enabling midlife career shifts requires addressing these systemic frictions.

ECONOMIC INACTIVITY

A large economically inactive population also constrains workforce capacity. As of March 2023, 9 million working-age adults were economically inactive in the UK. While a large proportion of these are students, have retired or take care of dependents and/or the home, around 2 million

28 IFS (2022) Plans will leave spending on adult education and apprenticeships 25% below 2010 levels by 2025. <https://ifs.org.uk/news/plans-will-leave-spending-adult-education-and-apprenticeships-25-below-2010-levels-2025>

29 Nursing Times (2023) Fight to bring back bursary, health workers urge their union. Available at: <https://www.nursingtimes.net/news/education/fight-to-bring-back-bursary-health-workers-urge-their-union-20-04-2023/>

30 IFS (2023) What has happened to teacher pay in England? <https://ifs.org.uk/articles/what-has-happened-teacher-pay-england>; TUC (2023) NHS workers have “have lost over a year’s worth of salary” since 2010 – new TUC analysis reveals. Available at: <https://www.tuc.org.uk/news/nhs-workers-have-lost-over-years-worth-salary-2010-new-tuc-analysis-reveals#:~:text=Maternity%20and%20care%20assistants%20have,13%20months%20worth%20of%20salary>.

31 DfE (2022) Initial Teacher Training Census. Available at: <https://explore-education-statistics.service.gov.uk/find-statistics/initial-teacher-training-census/2022-23>; Health and Social Care Committee (2022) Workforce: recruitment, training and retention in health and social care. Available at: <https://publications.parliament.uk/pa/cm5803/cmselect/cmhealth/115/report.html>

32 ONS (2019) Analysis of job changers and stayers. Available at: <https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/compendium/economicreview/april2019/analysisofjobchangersandstayers#age>

33 London School of Business and Finance (2015) LSBF survey finds nearly 50% of UK workers want to change careers. Available at: <https://www.lsbf.org.uk/blog/opinion-features/lsbf-survey-finds-nearly-50-of-uk-workers-want-to-change-careers>; Quadmark (2022) 5 learning and development trends for 2023. Available at: <https://www.quadmark.com/en/insights/learning-trends-for-2023>

economically inactive people say they want to work.³⁴ Tapping into this pool through targeted retraining and job supports could help fill shortages, however limited education opportunities and obstacles to re-entering work throw up barriers. Tackling economic inactivity could provide an important new skills pipeline.

MACROECONOMIC FACTORS

The wider economic climate strongly influences skills development. During downturns, low growth and weak business confidence cause skills shortages to worsen as job vacancies decline and employers cut training investment.³⁵ Assuming market forces will automatically balance supply and demand is misguided. Sustaining skills requires counter-cyclical policies that encourage training, re-skilling programmes and careers switching during periods of slower growth. Without support, the danger is that shortages become entrenched.

In summary, a range of factors are driving England's skills gaps. Employer decisions around investment and job quality interact with Government policy choices on migration, training, career guidance and funding. Data limitations impede targeted responses. Raising individual ambition for career changes matters, as does activating inactive groups. All of this is underpinned by macroeconomic conditions.

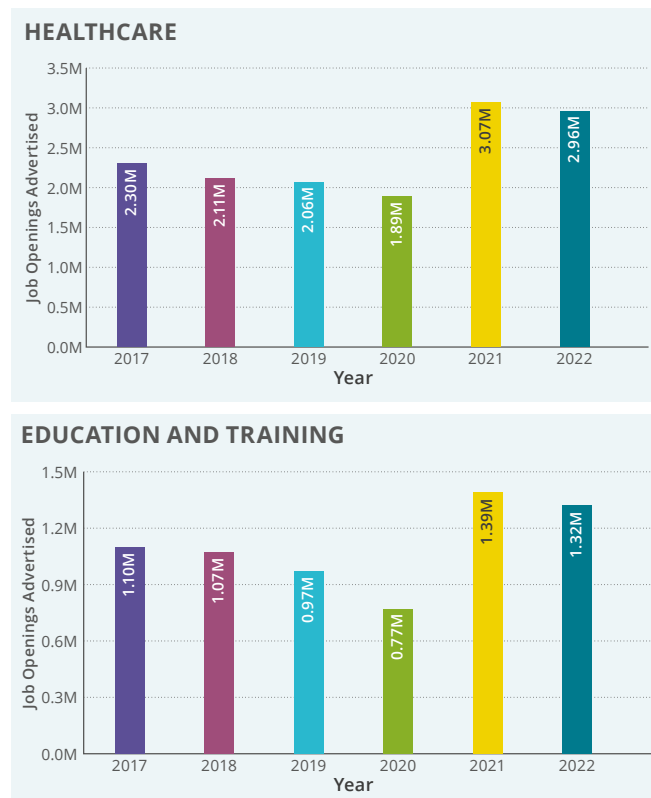
Addressing England's persistent skills crisis requires coordinated efforts engaging all stakeholders. Boosting vocational pathways, delivering integrated employment support and incentivising training even during slower growth periods can help build a more dynamic and skilled workforce. Tackling the complex factors behind mismatches will bolster productivity, competitiveness and public services for the future. But a failure to act risks a downward spiral of widening gaps. The rest of this report delves into how opportunities resulting from lifelong learning policies, reform to funding and better skills planning could drive significant improvements to the system.

THE IMPACT OF THE PANDEMIC

Figures 7a-h shows strikingly similar trends across the eight sectors discussed in the previous section. Prior to 2020, skills shortages across healthcare, education, construction, manufacturing, hospitality, supply chain, technology and finance were significant but remained relatively stable in England. Job openings persistently outpaced the supply of qualified workers, but this gap did not dramatically worsen year to year. The pandemic significantly exacerbated these pre-existing skills deficits across all sectors.

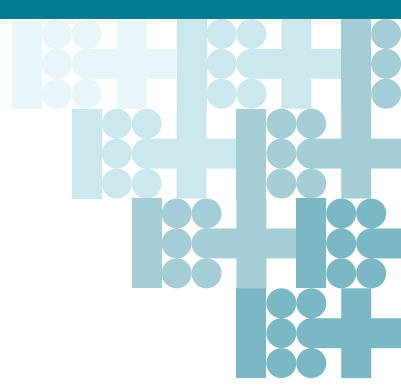
Widespread economic disruption, health risks, and changes like remote work and supply chain bottlenecks have made hiring more difficult since 2020. As a result, England is experiencing acute skills shortages many sectors. These shortages threaten productivity, innovation and growth across the English economy if unaddressed.

Figures 7a-h. Patterns of job openings in 8 sectors between 2017-2022

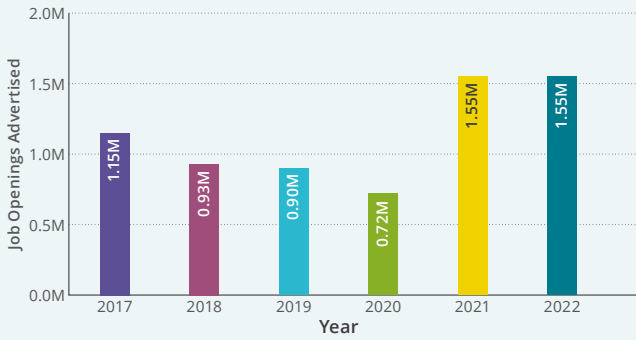


34 ONS (2023) Population changes and economic inactivity trends, UK: 2019 to 2026. Available at: [https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/economicinactivity/articles/populationchangesandeconomicinactivitytrendsuk2019to2026/2023-03-03#:~:text=Published%20data%20shows%20that%20between,9.0%20million%20\(seasonally%20adjusted\)](https://www.ons.gov.uk/employmentandlabourmarket/peoplenotinwork/economicinactivity/articles/populationchangesandeconomicinactivitytrendsuk2019to2026/2023-03-03#:~:text=Published%20data%20shows%20that%20between,9.0%20million%20(seasonally%20adjusted))

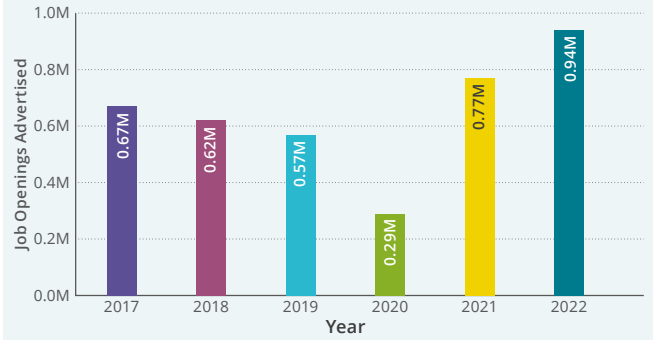
35 CIPD (2023) Labour Market Outlook. Available at: <https://www.cipd.org/uk/knowledge/reports/labour-market-outlook/>



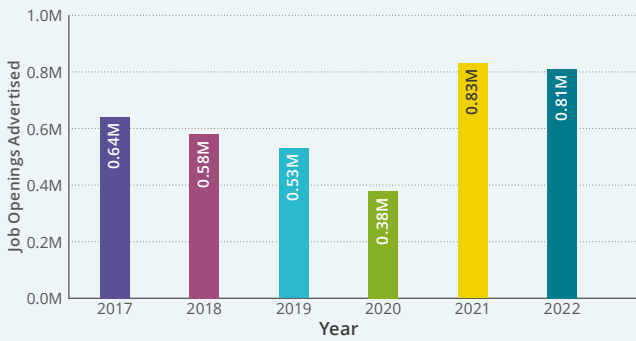
ENGINEERING



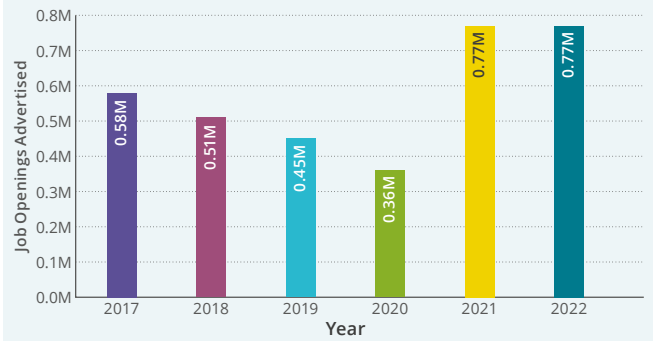
HOSPITALITY



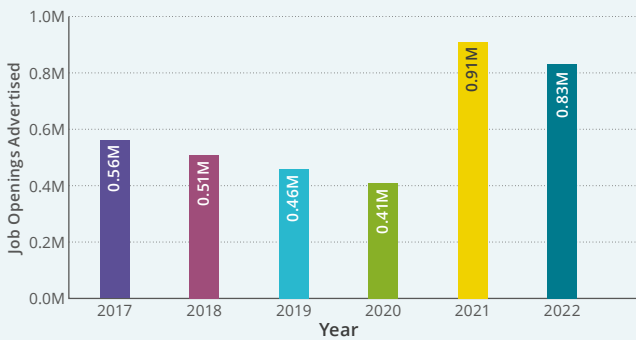
MANUFACTURING



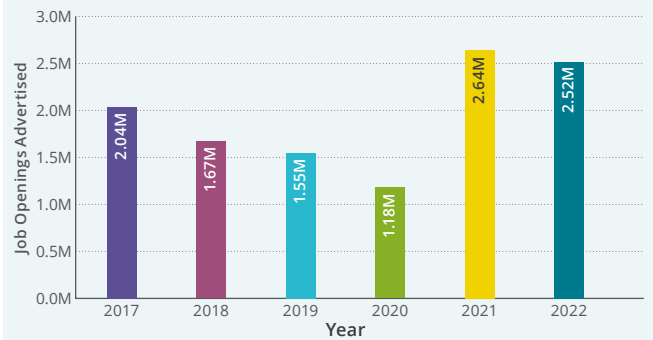
PROCUREMENT AND WAREHOUSE MANAGEMENT



CONSTRUCTION AND MINING



TECHNOLOGY



SECTION 3

Lifelong Learning Entitlement

OVERVIEW OF LIFELONG LEARNING ENTITLEMENT

The Lifelong Learning Entitlement (LLE), set to launch in 2025, represents a pivotal opportunity to reshape adult education and training in England. Having become law in September 2023, the Lifelong Learning (Higher Education Fee Limits) Act 2023 provides access for learners to a loan allowance of £37,000 (in 2025 prices) to use over their lifetime on higher technical and degree-level education. As things stand, this represents the equivalent of four years of full-time study. So, an individual who has previously not studied at level 4 or above would have access to the full four-year entitlement. However, a graduate of a three-year undergraduate degree would have access to the equivalent of just one additional year of study.

Learners will be able to access modules, full years of study, or entire qualifications flexibly from approved providers. This marks a shift from the current system where students can typically only secure fee loans for full qualifications. The LLE, therefore, marks a big change in how individuals can access higher education. Funding will be available for single modules, credits or short courses. Learners will not need to sign up for whole degrees the way they usually have to currently.

MORE FLEXIBLE STUDY

The option to study smaller chunks of learning is key. It means people can fit education around work and other life commitments more easily. Short courses will allow skills 'top-ups' when needed for a job. Workers will not have to put normal life on hold for years of full-time study.

This flexibility is advantageous for learners of all ages. Allowing individuals to balance learning with work and life commitments, or access learning when and where it suits them best, promises to broaden access to higher education. Likewise, the greater versatility and adaptability promised by the LLE align with the skills needs of a changing future economy.

Learners at the start of their careers will be able to pursue pathways that equip them with the skills in demand by employers as the economy evolves. This will be aided by modular learning which will help collapse divides that can hinder interdisciplinary learning.

The LLE also promises to open up opportunities for continued career development. Short courses, designed to provide targeted knowledge and skills, enable individuals to make quick 'skills top-ups' whenever required to meet the demands of their jobs. For example, a project manager could take a module in data analytics to broaden their expertise; a teacher could study a course on using technology in the classroom. This flexible model suits mid-career training needs far better than more traditional learning pathways.

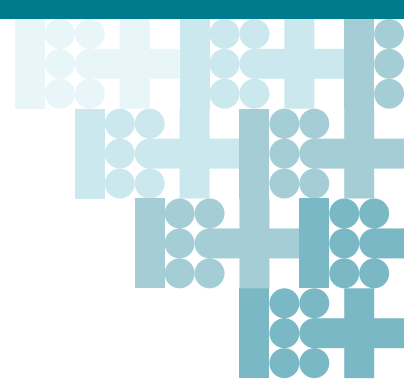
By offering such flexibility, education becomes accessible to a wider audience, including those who may have been traditionally excluded from higher education or older mid-career learners looking to adapt to changing job market demands. This approach will help education align with the skills requirements of our ever-evolving economy. In essence, flexible study empowers individuals to chart their educational journeys according to their unique needs, making learning a lifelong pursuit that can be seamlessly woven into the tapestry of their lives.

CONTINUOUS GROWTH MINDSET

Perhaps most significant is the LLE's potential to make lifelong learning normal and expected. A dedicated system for financing education at any stage of life is a big shift. It gives a clear message: learning does not stop when you finish school or university.

Whether an individual is just embarking on their career or is a mid-career worker, it will be vital that they continue to develop their skills and knowledge as jobs evolve. Employees and employers should constantly look for skills gaps to fill through training. Individuals can pursue ambitious careers knowing they can retrain in the future, while businesses can hire for broader potential knowing that clear skills development pathways are available.

Alongside a redesigned careers advice service that can signpost learning pathways for both younger learners and those returning to education after a break, LLE funding opportunities can deliver significant benefits. Getting it right will allow universities to deliver the graduate-level skills that the economy will need over the next 20 years and beyond, particularly those modern universities already well-versed in combining the academic and vocational.



RETRAINING MADE REALISTIC

An important aspect of a LLE that truly helps meet the changing needs of an evolving labour market is the ability to retrain. Such retraining, where a learner acquires a new set of skills or competencies that are different from their current skill set, can help meet new and emerging skill demands.

Over the next 15-20 years, significant technological advancements and economic shifts are expected to render some jobs obsolete. Automation and artificial intelligence technologies are likely to replace certain routine and repetitive tasks, particularly in manufacturing and administrative roles. For instance, jobs in manufacturing assembly lines, data entry and basic customer service are susceptible to automation, leading to reduced demand for human workers in these areas.³⁶

As multi-directional career paths are set to become the norm in the future economy, convenient access to retraining becomes essential.³⁷ Interestingly, research shows a strong interest in retraining among individuals;³⁸ however, various obstacles hinder the ability of many to follow this path. Accessible funding for smaller portions of learning makes retraining more realistic across a person's working life.

36 Cedefop (2022) Setting Europe on course for a human digital transition. Available at: <https://www.cedefop.europa.eu/en/publications/3092>

37 UK Commission for Employment and Skills (2014) The future of work: jobs and skills in 2030. Available at: <https://www.gov.uk/government/publications/jobs-and-skills-in-2030>

38 CIPD. (2015) Productivity: Getting the best out of people. <https://www.cipd.org/uk/knowledge/reports/motivating-people-report/#:~:text=Productivity%3A%20getting%20the%20best%20out%20of%20people,-Outlines%20ways%20in&text=This%20is%20in%20part%20a,than%20they%20were%20in%202008>



Modern universities and the skills agenda



David Willetts was Minister for Universities and Science 2010-2014. His book 'A University Education' is published by OUP.

There is a very misleading picture of universities as somehow unconcerned with vocational skills which are seen as very different from their academic role. This goes back to the idea that a liberal education could not possibly be useful. But that doctrine never captured the wide range of vocational courses taught at universities going back of course to law and medicine.

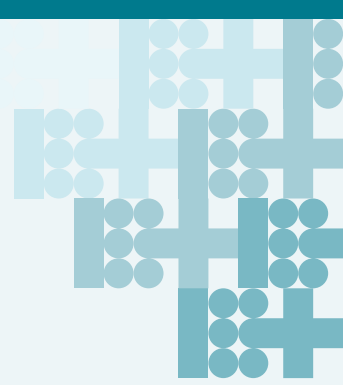
Modern universities often have their origins in meeting the practical needs of their area – training teachers for local schools and engineers for local factories. Those traditions carry on today. Indeed more than a third of courses at modern universities are accredited by professional, statutory or regulatory bodies, producing a graduate with a license to practice a trade or profession.

The focus at the moment is on degree apprenticeships. These are a very welcome addition to the range of higher education provision. But they have their limitations too. For a start they cost a lot to deliver and as the graduate does not currently have to pay back any of the cost that cost all falls on the providers. That means they are financed out of the Apprenticeship Levy which is now 99% spent. This creates an expenditure constraint and limits their growth. If they were instead to be partly financed out of student loans repaid only when income is above an earnings threshold, then there would be no limit on their growth. That is one of the key advantages of the fees and loans model.

Moreover, the focus on degree apprenticeships should not obscure the many other ways in which universities work with employers to deliver courses with a strong vocational element. There are sandwich courses, elements of degrees courses co-designed with employers, work experience programmes, and short modular top-up courses for local employers.

The Lifelong Learning Entitlement is an opportunity to expand this sort of provision. It can be used for short modular courses which may be most directly relevant to employment. However, the evidence is that mature students can be much more reluctant to take on student debt than 18-year-olds who are at a significant fork in the road and can see that higher education is a route to a good life and probably higher earnings. If you are already in a job and possibly have family commitments, taking out a loan to study further looks more risky. That decision is easier to take if your employer can see the value of the course and supports it as a route perhaps to promotion. Modern universities with their strong links to local employers are well placed to promote such encouragement.

Another hot topic at the moment is level 4 and level 5 qualifications. The funding regime currently makes it easier to take out a loan for a full honours degree than a sub-degree level of higher education. It is right that these anomalies are tackled as part of the new regime for lifelong learning. That will enable us to find out how much suppressed demand there is for level 4 and 5 qualifications and what their labour market returns are. At the moment the claims for high returns for level 4 and 5 rest on two small specific courses – a nursing diploma



and an engineering diploma, each taken by a few thousand students. Again, there is an opportunity for modern universities in particular to offer a wider range of courses at that level and it will be interesting to see how they fare. If there is unmet need for such courses it is our entrepreneurial modern universities with their links to employers who are best placed to identify and fulfil it.

The distinctive character of modern universities with their history as polytechnics adds something special to our higher education system and shows the wide range of missions universities can fulfil. Indeed, the success of modern universities in showing how these more vocational models can work has had, and will continue to have, a wider impact and influence provision in many universities with very different historic origins. All parts of the system can learn from the modern university model.

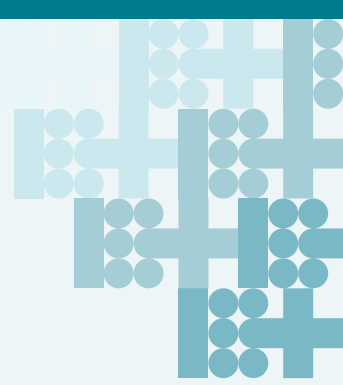
RISKS AND LIMITATIONS

As outlined in Lord Willetts' article (page 16), the LLE is an ambitious attempt to empower flexible learning and if successful could help fill England's acute skills shortage. But for it to work, challenges around take-up, access and relevance need addressing:

- **Financial sustainability:** while the LLE aims to provide funding for lifelong learning, the financial sustainability of such a scheme could be a concern. Ensuring that the funding remains adequate and does not lead to increased financial burdens for individuals is critical.
- **Access barriers:** despite the aim to broaden access, certain groups, such as individuals unfamiliar with post-18 education, may still face barriers to accessing courses and modules.
- **Inequality:** there is a risk that the benefits of lifelong learning entitlements may not be equally distributed across society. Those with more resources, including time and money, may be better positioned to take advantage of these opportunities, exacerbating social and economic inequalities.
- **Recognition of prior learning:** evaluating and recognising prior learning and skills acquired through non-traditional pathways can be challenging. Ensuring that individuals receive appropriate credit for their prior knowledge is important.
- **Lack of clear career pathways:** without adequate career guidance and support, individuals may struggle to navigate the myriad learning options and make informed choices about their educational and career pathways.



Mind the gaps



Gordon Marsden is a former Shadow Minister for Higher and Further Education and Skills (2015-19) and a co-founder of the Right to Learn campaign

A glass half full – or half empty? On the face of it, the Lifelong Learning Entitlement (LLE) and the Lifetime Skills Guarantee, yoked to the Bill that gained Royal Assent in September, ought to be positive news for universities, especially modern ones.

ELQs scrapped, a credit-driven system of student loans for modules and short courses with LLE flexibility for adult learners, some maintenance loans and a scattering of grants for some part-time students – ideas foreshadowed in the 2019 recommendations to the Labour Party from the Lifelong Learning Commission which as Shadow Minister I set up. The Right to Learn campaign, launched in December 2020, has grown out of the ethos of that commission, to combine social justice with lifelong learning to revive our economy, upskilling and reskilling for the challenges of the 2020s.

As always though, the devil is in the detail. If Labour wins the General Election, they will inherit at best a semi-skimmed Lifelong Learning Entitlement and Skills Guarantee and a hotchpotch in terms of who delivers what across England and across the UK. As well as Labour looking positively at the Blunkett Report from their Council of Skills Advisors, there are a number of asks for Labour in government which would make skills and lifelong learning genuinely three dimensional outcomes.

Would-be learners as well as those already in work should be able to progress fully from levels 1 and 2 right through to level 4 and beyond. As of now Minister Halfon's famous ladder of opportunity has a couple of rungs missing – and not just apprenticeships. By squeezing out opportunities with their attacks on BTECs and defunding many level 2 and below courses, the current Government will be blocking many in work or on Universal Credit from seeking new skills or jobs.

Not only is this socially regressive, doing little to break through the so-called class ceiling, but the pipelines of progression for courses, especially in modern universities, and crucial for economic growth in the UK, will falter and dry up. There will simply not be enough would-be learners able to fuel them.

The block on maintenance support for distance learners should be lifted. The Government has resisted attempts in the Lifelong Learning Bill to give maintenance support for these learners – even though it was permitted during the pandemic. This risks forcing out learners; particularly parents with children, or rural learners with poor access to public transport, putting further strains on the Open University, adult colleges and many modern universities. Not to mention those FE colleges (including in Blackpool and the Fylde, where I was their local MP), able now to run higher level qualifications and award their own degrees, but with uncertainty over the numbers of distance learners and would-be applicants.

At present the arrangements for parent learners for childcare funding are complex and don't cover all the costs. Post-16 young carers are blocked from getting a Carer's Allowance if they study for more than 21 hours a week. Without change, many young carers (over 1,200 alone were identified in Blackpool), often living in low income households, will be substantially worse off and four times more likely to drop out of college or university than other students.

Latest figures from City and Guilds project nearly 860,000 young people as NEETs (not in employment, education or training). There are still 5-6 million adults without basic skills. The Multiply initiative was a start but its funding is inadequate and struggling, and there seem to be no similar initiatives to tackle literacy.

It was great therefore in July to hear Sir Keir Starmer pledge Labour's support for oracy and speaking skills. He has followed that in his Conference speech and elsewhere, stressing the importance of life skills, with a broader curriculum pre-18, including self-expression, creativity, as well as digital skills. These are essential building blocks for post-16/18 and potential Initiatives for HE, dovetailing with literacy and citizenship initiatives, prioritising careers advice and mentoring to NEETs and adults.

Some of the asks here are relatively low cost – others could be spread across a five-year programme. The Blunkett Report cited cuts in training and employer investment in the last decade of around 15-20%. The 2019 Lifelong Learning Commission looked critically at the outcomes and effectiveness of current tax reliefs for employers for skills investment – estimated then to be costing the Treasury £3-4bn – and said they should be reviewed. Labour Treasury Ministers could take up that option, looking to reassign and redistribute some of that funding to pay for some of the initiatives mentioned here.

With a plethora of immediate crises hitting higher education the temptation to look to the short-term is great. Modern universities are particularly vulnerable, often affected by the fortunes of the communities and businesses around them, and without the safety net of reserves and endowments other HE institutions have. Adding to the cost of living crises, rents, accommodation, staff pay and conditions, we have a Government' micromanaging HE through the OfS and freezing tuition fees, while doing little to tackle the need for more immediate support and maintenance funding, affecting students and would be learners.

These woes cannot become all absorbing. Universities must go beyond the usual channels if they want to be key players in the challenges of AI, Net Zero, a post-Covid digital world and demographic change.

One example is the millions of UK small businesses, co-workers, co-operatives and self-employed, growing fast in

the 2020s digital world and home working. The Government has largely ignored them but they are key potential partners for HE, FE and in boosting skills. So are the combined authorities and elected mayors, with the money and strategies to launch ambitious skills and lifelong learning initiatives along with other local players, including the NHS. Some of the solutions to safeguarding HE's funding and future with new learners can and must come from beyond Whitehall and the DfE. That is why we at Right to Learn have emphasised reaching out to other departments – DWP, the Department of Health, the Cabinet Office and the three successors to DBIS.

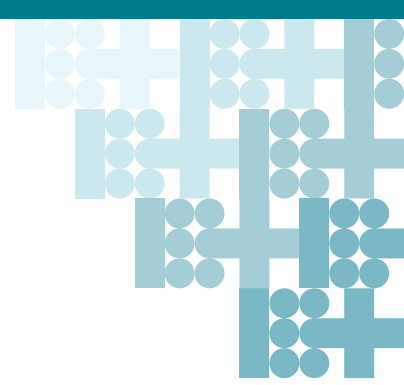
Right to Learn's two latest events – with a wide array of speakers – covered how careers advice must target the right skills and learning, strategies for getting older people to return to work, linking universal credit to skills and what the UK Government should learn from its other nations, not just England, as well as an update from the Blunkett Report team. Future events will aim to feature devolution and levelling up, the challenge of Net Zero, a debate about apprenticeships and the Growth Levy and the OFS, as the General Election looms closer on the horizon.

Minding the gaps and joining up the dots of skills, careers and employment, bringing life chances and social cohesion must now become the watchwords for HE and lifelong learning. I saw this in action when, as Shadow Minister, I visited the University of East London, talking to academics and staff – and to students whose courses took them into the NHS and social care, with diverse ages and ethnicities, in a cohort split 50-50 between school leavers and mature learners.

That struck me again this March, listening to Andreas Schleicher, OECD's Director for education and skills, deliver the HEPI Lecture at the Royal Society. Schleicher said lifelong learning was now critical for the UK to compete globally, warning that, compared to many other countries, Britain's number of part-time learners was going the wrong way, with only a minority of older workers training while in their current job.

As the classic song from the World War 2 film Casablanca goes: "The fundamental things apply/as time goes by."

It's up to us to choose.



THE ESSENTIAL ROLE OF MODERN UNIVERSITIES IN A SUCCESSFUL LIFELONG LEARNING ENTITLEMENT (LLE)

The challenges outlined by Lords Willets (page 16) and some of the solutions proposed by Gordon Marsden in his article (page 19) show that there is still a way to go to ensure the LLE helps to successfully deliver the skills needed by the economy both now and into the future.

Modern universities are central to ensuring this success. They possess the necessary expertise, capabilities and networks to significantly contribute to the success of the LLE in enhancing England's skills capacity. Modern universities have fully embraced the shift towards flexible learning. As evidenced in our partner report *Skills, skills, skills – the role of modern universities delivering the workforce for the future* they already offer a diverse array of programmes, teaching methods and accessible locations, catering to learners of all ages and backgrounds. This flexibility enables individuals to seamlessly integrate education into their daily lives and meet the evolving demands of employers.

Furthermore, modern universities actively foster a continuous growth mindset among learners, instilling the belief that learning should be a lifelong pursuit. Their strong partnerships with employers, aimed at identifying skills gaps and delivering relevant training opportunities, underline this commitment.

Modern universities possess a deep understanding of their diverse student bodies, including those who have been distanced from formal education for extended periods. As a result, they provide valuable enhanced career guidance services and other support, helping learners navigate the multitude of options offered by modular learning. This guidance empowers learners to make informed decisions about their educational and career paths, ensuring that the LLE effectively equips them with the skills required by both individuals and employers.

Critical to their mission, modern universities are actively involved in reducing barriers to accessing higher education. Through flexible provision that allows education to fit with work and life commitments, they alleviate the financial burdens on learners. Their dedication to widening participation initiatives plays a central role in ensuring that the LLE benefits all segments of society. Modern

universities are poised to further lower these barriers with the appropriate financial and political support.

Moreover, modern universities' close ties to employers, industry bodies, and professional associations enable a deeper understanding of how prior work experience can be recognised within the framework of the LLE. This ensures that learners receive due credit for their past knowledge and expertise, preventing them from embarking on their learning journey at a level beneath their true capabilities. This inclusive approach signals that the LLE is accessible to all, contributing to a more equitable distribution of the benefits of such an entitlement across society.

By aligning their offerings with the principles of flexibility, continuous learning, accessibility and recognition, modern universities are poised to expand their already substantial role in reshaping adult education. This approach enables modern universities to further meet the skills needs of their regions and the broader economy. It ensures that education becomes a lifelong journey, empowering individuals to unlock their full potential, regardless of their starting point or career stage.

Lessons from an LSIP



Sara Williams OBE, Chief Executive of Staffordshire Chambers of Commerce

Having delivered a Local Skills Improvement Plan (LSIP), Staffordshire Chambers of Commerce has learned much about the intersection of commerce and education and gained a closer view of the skills sector and how businesses use it.

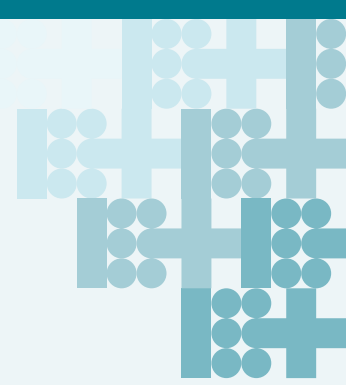
There is a conflation of education and training in discussions, which makes businesses feel powerless to make any impact on what is delivered as they do not understand the differences, what they could change, or for what they can ask. Navigating a complex system is time consuming and so makes them less resilient, less innovative and much less willing to engage.

Researching the LSIP, we found that, while talent gives companies a competitive edge, some feel they train this talent for the greater good and their competitors. They feel that the learners' needs appear to be prioritised over those of the business. We also found companies who rarely offer staff training with qualifications or take on apprentices as they do not understand the impact of this investment on their ambitions, although businesses generally recognise that they need to work with the supply side of the skills agenda (although often this is in schools) to influence what is delivered.

The LSIP put employers' views front and centre which is refreshing and a much-needed approach. The Chambers' role became that of interpreter and a trusted third party able to represent the diverse needs of different businesses – all were unhappy at the policies being made by relying on a few larger companies. Employers do not necessarily know which skills they need for the future as they do not know which direction the market will take. Many of our small and medium-sized companies are, by the nature of their size, usually dealing with the here and now, so recruit when they have a need – and often only to fill an existing position. In a tight labour market, there is a realisation that they may have to invest in the skills they need, but this is not built into SMEs planning. They often have a hazy understanding of what “new” qualifications mean, and they don't have time to take risks – so look instead for experienced staff.

What is needed is a structured, clear, multifaceted skills infrastructure rather than the piecemeal, fragmented, duplicative, bureaucratic and fragmented system which currently exists. It is difficult to balance or manage the differing priorities of learners, funders and business needs. The relationships involved are complex and expectations are not always aligned, and for businesses this means that everything appears to happen very slowly. There are anomalies that arise, such as courses that are desired by businesses but attract few learners, or courses that are funded but are not what businesses want.

Businesses' needs should be aggregated and both supply and demand side helped to understand each other. Business representative bodies can do this, with educators and trainers, to match the provision with need. Led by the forward thinking of universities, this leads to a need-driven, future-focused skills strategy, in line with what the local economy is now, what it can achieve in the short term and for the future. This will lead learners and employers to new and



resilient markets and will create a scaffolding for identifying and delivering future skills. A high level, devolved funding arrangement would enable providers in the ecosystem to flex, respond and deliver what is needed in the local economy in a timely manner.

The development of microcredentials is an example of how this could work. In the LSIP they were recognised as a faster, adaptable range of programmes which, coupled with bite-sized, flexible units of accredited learning, can deliver quickly what employers need. They are a model for the partnership between learner, employer and provider and gives the right start for students and can reskill adults.

Throughout the LSIP there was emphasis on the need for soft skills. Employability options should include exposure to a working environment. For students, work experience offers an intergenerational, diverse environment in which to establish working relationships; for businesses it is a fantastic chance to bring in new thinking which will be needed as the world changes.

Education and training are about more than skills – they change lives and businesses and shape the future – and will continue to do so as the country witnesses climate and societal change.

This is the greatest challenge for all, and the role of universities and colleges in delivering what is needed is one of the most crucial.



SECTION 4

A strategic approach to skills

Previous sections have identified the current locations and reasons behind skills gaps in England, as well as explored the potential for individuals and institutions to embrace lifelong learning and continuously enhance skills within the workforce. Now the focus shifts to exploring a more effective approach to identify and provide relevant skills, ensuring they align with the present and future needs of local, regional and national economies.

Skills shortages continue to exist in critical fields such as nursing, teaching and technology. It is essential to rectify these shortages to ensure the efficient operation of essential public services and to safeguard the quality of education, healthcare and innovation necessary for the wellbeing and progress of our society. Just as crucial is adopting a strategic approach to identifying skills that hold the potential for future economic and social benefits.

Nevertheless, as Sara Williams's contribution (page 22) neatly explains, accurately pinpointing both current and future skills requirements presents a considerable challenge. What is needed is a robust mixed-methods approach for identifying these needs. Modern universities can play a pivotal role in advancing this skills agenda through their research initiatives, strong ties with employers and adaptable training programmes.

IDENTIFICATION OF CURRENT SHORTAGES

Applying a robust mixed-methods approach would highlight acute skills shortages in the economy. For example, while quantitative analysis has been effective at showing there are over 44,000 nurse vacancies in England, there has been less attention focused on why so many nurses are leaving the profession and why there has been a fall in applications to nursing courses.³⁹ Bringing together the insights of NHS employers, educators and nurses themselves would provide a clearer overall picture of staff shortages. This could then be tackled in a more holistic way which better balances supply and demand-side factors that have led to skills shortages.

After identifying the drivers behind shortages, proactive measures can be taken to bolster the demand for competencies that benefit the delivery of public services. These might include incentives to undertake study in priority areas, such as generous maintenance funding or fee forgiveness. Simultaneously, efforts should be made to address the decline in the availability of workers possessing these crucial skills. These sorts of approaches could help to address shortages in other public sector occupations.

Similarly, shortages of engineering and technical skills have repercussions that extend beyond the challenges faced by employers trying to fill positions within those sectors. They also hamper wider infrastructure goals. Forecasts show that 225,000 additional workers are needed to meet UK construction demand by 2027.⁴⁰ The majority of these will be graduate-level jobs. The financial and strategic implications of infrastructure delays are staggering, with estimated costs of delays running into the tens of billions.⁴¹ Yet this cost is rarely, if ever, accounted for in discussions surrounding the funding of skills education in England.

By adopting this more comprehensive approach to understanding, quantifying and addressing skills shortages, policymakers and employers would gain a more complete insight into the true costs of neglecting investment in skills education. Recognising these broader costs offers an opportunity to redistribute much of the burden away from individuals and toward businesses and the wider economy. This would help build a more equitable and sustainable approach to addressing skills shortages in the UK.

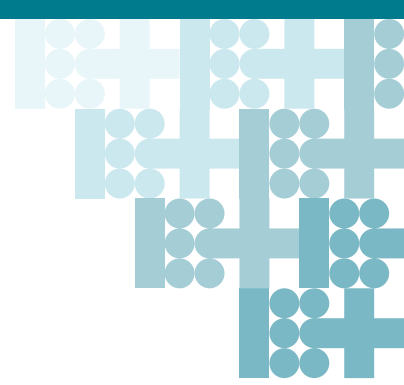
IDENTIFYING STRATEGIC SKILLS AREAS OF THE FUTURE

In addition to addressing immediate shortages, effective skills planning should also proactively identify sectors that can drive economic and social advancement. Fostering growth in these strategic domains requires a tailored and forward-looking approach to education and training, and one that is also closely aligned with the needs of the industry.

39 UCAS (2023) Statistical Releases – Daily Clearing Analysis 2023. Available at: <https://www.ucas.com/data-and-analysis/undergraduate-statistics-and-reports/statistical-releases-daily-clearing-analysis-2023>

40 Construction Industry Training Board (2023) CSN Industry Outlook - 2023-2027. Available at: <https://www.citb.co.uk/about-citb/construction-industry-research-reports/construction-skills-network-csn/>

41 Mace (2020) Insights 2020: A Blueprint for Modern Infrastructure Delivery. Available at: <https://www.macegroup.com/perspectives/20112-insights-blueprint-for-modern-infrastructure>



Technology and digital skills are vital for innovation and competitiveness. England faces a deficit of 745,000 workers with specialist digital skills by 2025.⁴² Scaling training in software engineering, data science, cybersecurity and AI is essential to lead the Fourth Industrial Revolution.⁴³ Likewise, early investment in digitization and automation can improve productivity across a range of sectors.⁴⁴

The green economy also presents opportunities. England will create an estimated 700,000 direct jobs employed in the low-carbon and renewable energy economy by 2030, and this is expected to rise to 1.2m by 2050.⁴⁵ However, skills gaps in renewable energy, electric vehicles, green finance and sustainable agriculture could constrain progress.⁴⁶ Targeted education and apprenticeships in these fields, including incentives to study and a sustainable long-term funding base, would position England as a leader in the global transition to net zero.

Advanced manufacturing is another strategic priority. Digital technologies from robotics to 3D printing are transforming production.⁴⁷ Global competitiveness requires a digitally adept, high-skilled workforce. Collaboration on new qualifications between industry and universities would encourage this as a growth area. This investment in skills and training for smart manufacturing would result in increases in productivity and exports.⁴⁸

Finally, creative skills drive innovation across sectors. England's world-leading creative industries contribute over £115bn annually to the economy.⁴⁹ Ensuring continued success requires creative talent with technical abilities. Partnerships, placements and work-based learning facilitate vital knowledge exchange. In the age of automation and digitisation, creative skills will become increasingly important for industries such as advanced

manufacturing, where driving further innovations will become key to success.⁵⁰

Overall, early and joined-up strategic skills planning should extend beyond immediate shortages to drive the economic and social benefits of the future. Addressing deficits in digital skills, embracing green opportunities, fostering advanced manufacturing and nurturing creative talent can ensure England's competitive edge and innovation across industries. Investing in education and training aligned with strategic priorities will yield economic, environmental and social dividends.

A ROBUST APPROACH FOR IDENTIFYING PRIORITY SKILLS

While strategic skills planning is essential for England to fill current skills gaps and gain comparative advantages in new and emerging areas, this task is currently hindered by limitations in available data. Improvements in how skills data is collected and presented would enable more robust analysis to inform planning.

As it stands, national skills surveys provide a broad overview but lack granular detail on niche shortages. Wage data offers a retrospective quantitative snapshot without qualitative context on underlying reasons for skills deficits. Meanwhile, insights from employers and industry bodies are often subjective and not statistically representative. A mixed-methods approach combining granular quantitative data with in-depth qualitative perspectives would provide a more precise picture of where skills gaps exist and why. Enhanced data collection and transparency would strengthen the evidence base for strategic skills development.

42 Made Smarter (2022) Made Smarter: Technology Adoption Pilot Report. Available at: <https://www.madesmarter.uk/resources/publication-made-smarter-technology-adoption-pilot-report/>

43 World Economic Forum (2023) The Future of Jobs Report. Available at: https://www.weforum.org/reports/the-future-of-jobs-report-2023?gclid=CjwKCAjw9-6oBhBaEiwAHv1QvCeQsdQJVEI9HHhC3Q8tOqI7UH5Uiduvjip8p2pNUQK8SaABxaH9LRoC4pcQAvD_BwE

44 OECD (2022) OECD Economic Surveys: United Kingdom. Available at: https://www.oecd-ilibrary.org/economics/oecd-economic-surveys-united-kingdom-2022_7c0f1268-en

45 LGA (2023) Identifying and promoting green growth opportunities. Available at: <https://www.local.gov.uk/publications/identifying-and-promoting-green-growth-opportunities#:~:text=A%20report%20from%20the%20LGA,towards%201.2m%20by%202050.>

46 UK Government (2022) British energy security strategy. Available at: <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

47 IEA (2021) Net Zero by 2050: A Roadmap for the Global Energy Sector. Available at: <https://www.iea.org/reports/net-zero-by-2050>

48 CBI (2022) Invest in training. Available at: <https://www.cbi.org.uk/articles/invest-more-in-training-to-help-fill-long-term-skill-and-labour-shortages/#:~:text=Investing%20in%20reskilling%20can%20bring,business%20can%20make%20the%20change>

49 Creative Industries Federation (2021) The creative industries: 2020 economic estimates. Available at: <https://www.creativeindustriesfederation.com/statistics>

50 Department for Culture, Media and Sport (2017) Creative industries economic estimates. Available at: <https://www.gov.uk/government/collections/creative-industries-economic-estimates>

A robust mixed-methods approach combining quantitative and qualitative data would provide a more accurate picture of skills gaps. Large-scale employer surveys should gather granular data on vacancies and salaries by sector and occupation. This rigorous quantitative component would identify where shortages exist based on hard evidence.

In-depth interviews, focus groups and case studies with employers and educators would then provide more nuanced insights into the drivers behind persistent gaps. Understanding challenges around access, funding and perceptions would inform holistic solutions.

Innovative techniques such as AI analysis of job adverts and social media could also detect emerging niche skills demands in real time. Skills foresight exercises engaging experts would help anticipate future needs arising from workplace and technology trends. These approaches would enable agile policy responses that tackle skills shortages more immediately.

Finally, anonymised skills data should be openly published to inform decision making and spark innovation. Employers, educators, researchers and policymakers would benefit from transparent, timely data to evaluate policies, develop solutions and align skills provision with labour market needs. Overall, a mixed-methods approach harnessing qualitative, quantitative and predictive data would provide a rigorous, forward-looking evidence base for strategic skills planning.

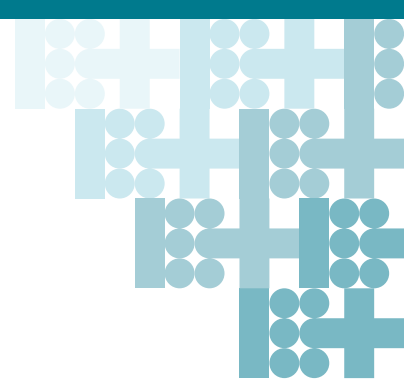
MODERN UNIVERSITIES AS SKILLS PARTNERS NOW AND INTO THE FUTURE

Our partner report, *Skills, skills, skills – the role of modern universities delivering the workforce for the future* illustrates that modern universities possess unique strengths in identifying and developing priority skills. However, the current system requires individual universities to undertake the task of building networks and systems to identify skills needs. This, unavoidably, leads to duplication and inefficient use of precious resources across the higher education sector. To fully realise the potential of modern universities in identifying and delivering skills, a supportive policy environment and an expansion of responsibilities are needed.

Modern universities can build on their current provision to meet the changing economy by using up-to-date labour market data. This data includes detailed job vacancy information and early identification of emerging trends, helping these institutions target and address specific skills gaps effectively. If supported to gain an even better understanding of employers' immediate and future talent requirements, modern universities can continue tailoring their curricula and work-integrated learning experiences to equip graduates with practical and sought-after skills. Investment by the Government in transparent skills data sharing would empower these institutions to provide the skills that would boost productivity and competitiveness.

Policymakers should encourage collaboration between universities, employers, and stakeholders to reduce duplication of work. Modern universities in particular can use their experience in leading local and regional bodies to convene regular labour market analyses, skills assessments and forward-thinking exercises, enriching the foundation for workforce development. With real-time qualitative and quantitative data, these institutions can diagnose and address skills gaps through customised education and training initiatives. Their insights support agile skills strategies more attuned to the rapidly evolving employer needs in the coming years. Supporting these partnerships and data sharing would unlock the potential of modern universities to shape local, regional and national economies.

Further to this, more stable funding for work-integrated and work-based learning would deliver work-ready skills and widen access to higher education to under-represented groups. This support for broadening access and retention in higher education would enhance inclusivity, especially for those from disadvantaged backgrounds. In turn, this would deepen the pool of graduates needed to meet the increased demand for graduate-level skills in the immediate future. In conclusion, long-term investment would empower modern universities to deliver a skilled, diverse workforce with real-world expertise in critical areas.



In summary, modern universities have existing strengths in collaborating with employers to identify priority skills needs both now and in the future. However, realising their full potential requires policy changes to provide access to detailed labour market data, promote partnerships between universities and stakeholders, and deliver stable public investment. With these supportive conditions in place, modern universities can play an even greater role in strategically developing the talent pipeline to drive productivity, innovation and inclusive growth. Their agility, community links and work-integrated learning models position them well to help build a skilled workforce equipped with expertise in the strategic areas vital for England's competitiveness and prosperity. But this depends on building policy environments in which modern universities are empowered with resources, data and autonomy to fulfil their missions as engines of opportunity.



SECTION 5

Towards a sustainable skills funding model

Realising the full potential of England's skills ecosystem requires an adequately resourced, coordinated funding regime. The current funding landscape relies heavily on individuals financing their education through loans. But skills provision which benefits the broader economy merits greater investment. A sustainable funding model encouraging employer contributions and Government funding for innovation and access would better support skills development. Replacement of lost EU structural funding and empowering modern universities to lead new funding arrangements also offers opportunities.

REPLACING LOST EU FUNDING

European Union structural funds previously provided significant financing for skills initiatives in disadvantaged regions of England. A range of funding under the banner of European Structural and Investment Funds (ESIF) directly supported projects boosting local skills, employment and growth. Two such programmes, the European Social Fund (ESF) and European Regional Development Fund (ERDF) alone provided over £5bn to England's skills system from 2014-2020.⁵¹

These funds allowed modern universities and other providers to deliver pioneering skills programmes benefiting communities. Initiatives aided those furthest from work, developed apprenticeships and technical education, and fostered collaboration between employers and educators. EU funds also provided stability, with providers able to plan long-term interventions.

However, following Brexit, structural funding ended. The UK Shared Prosperity Fund (UKSPF) replaced it, but with a much-reduced budget. The UKSPF has £2.6bn to allocate between 2022-2025, compared to around £2.4bn annual EU funding.⁵² Changes to the process of applying for funding and the length of that funding also creates instability.

A decline in place-based financing hinders local skills innovations. Restoring skills funding to levels outlined in 2015 would significantly boost struggling areas over the next decade.⁵³ Stable funding cycles targeted at specific occupations and regions where shortages are most acute would also help tackle skills inequalities at the regional and sectoral level. Meanwhile, ringfencing funds for collaborative pilot projects would allow testing of new skills training models targeted at groups in society previously underrepresented in higher education.

51 Institute for Government (2021) The UK Shared Prosperity Fund: Strengthening the union or undermining devolution? Available at: <https://www.instituteforgovernment.org.uk/sites/default/files/publications/shared-prosperity-fund.pdf>

52 Department for Levelling Up, Housing and Communities (2022) UK Shared Prosperity Fund: prospectus. Available at: <https://www.gov.uk/government/publications/uk-shared-prosperity-fund-prospectus/uk-shared-prosperity-fund-prospectus>

53 UK Government (2020) England 2014 to 2020 European Structural and Investment Funds. Available at: <https://www.gov.uk/guidance/england-2014-to-2020-european-structural-and-investment-funds>

Universities central to delivering the skills Britain needs



Shahid Omer is Director of Policy at Universities UK

When we reflect on the primary purpose of universities it is to equip individuals – and through them wider society – with the skills our country needs to prosper.

When we look ahead to the multiple challenges we face, be that the climate crisis or an aging population, one of the most striking features is the complexity of the challenges. When you ally that with the pace of change that is already emerging through the adoption of generative AI and other forms of automation it is clear that for individuals and societies to succeed and thrive both now and in the future the abilities to think analytically, respond positively to change and commit to learning and relearning throughout life will be essential.

These are exactly the sort of skills that universities are equipping graduates with. We're not just equipping graduates for their first job, which is important, but for the multiple careers and jobs they will experience throughout their lifetime. Over 80% of graduate recruiters expressed satisfaction with the adaptability, interpersonal skills, team work and problem solving skills of the graduates they recruited (ISE 2023). All of these skills will serve graduates and their employers well over many years.

However, universities, Vice-Chancellors, course leaders and careers staff are also very focused on the first job graduates will get – that initial transition to the labour market – because they know that this is key to universities' missions – to transform lives and to serve their community. To support this universities can call upon their long track record of providing technical training. Doctors, nurses, engineers, teachers, lawyers, architects, scientists have been taught by UK universities literally in their millions with many universities exclusively focused on technical skills. There are hundreds of professional and subject bodies that universities partner with – all of whom have a strong focus on employers' needs.

It is in UK universities' DNA to reflect on what industry needs. It is why universities have embraced the chance to develop and support new technical qualifications with degree, graduate and higher apprenticeships successful across the UK, strengthening links with employers and opening up opportunities. In England, universities, in partnership with Further Education colleges are developing Higher Technical Qualifications, piloting short course provision, supporting Institutes of Technology and ensuring progression options for T Level students.

To go further – and help the country, the economy and individuals face the many social and economic challenges of the future the sector needs to relentlessly focus on its engagement with employers. This means greater collaboration over the curriculum and stepping up work experience opportunities. We also need the Government to ensure that complex and duplicated regulation should be reduced to a minimum to maximise resources going to the front line. We have had ambitious better regulation initiatives in the past, we need one now.

Given the centrality of higher education in delivering the skills our country needs, we also need to ensure that there is a sustainable funding model. The tuition fee freeze means £9,000 from 2012 was worth only £6,880 in 2022. In the UK we have one of the most valued and respected higher education systems in the world, international students are voting with their feet. It is a unique selling point for investors in the UK and will be essential to meeting the current and future skills needs of the nation. To under-invest in higher education now would fundamentally undermine the future of the UK economy.

EMPOWERING EMPLOYER INVESTMENT

Employer underinvestment in workforce training contributes to skills gaps. The UK spent just 0.1% of GDP on job-related adult education in 2019, compared to the OECD average of 0.2%.⁵⁴ Leading economies like Denmark (0.5%), Finland (0.4%) and Norway (0.3%) demonstrate higher investment pays dividends for skills.

As Shahid Omer's contribution (page 29) recommends, universities should relentlessly engage with employers and industry to ensure skills needs are being met. In addition to improving skills provision, these links can open up new funding streams for skills education. This is key when the real terms value of tuition fees has fallen by around a quarter over the last decade.

Enhanced employer funding would expand England's skills capacity. The Apprenticeship Levy currently raises around £3bn annually for training.⁵⁵ However, only 2% of employers currently pay the levy. Broadening the levy into a wider 'Skills and Training Levy' could increase revenue and share the benefits of skills education to a wider range of employers.⁵⁶ For example, levy funds could also be widened from just apprenticeships to other certified workplace training. Giving employers more flexibility over approved uses would incentivise investments.

Stronger partnerships between industry and educators should also be encouraged. This would maximise workplace learning opportunities, create new revenue streams and ensure skills education is tailored to the specific needs of employers and the wider economy. Co-funding models that match employer contributions for training with government top-ups could also stimulate investment.

Employers would benefit from such models by gaining skilled workforces able to use new technologies and practices. Filling persistent skills gaps would also reduce the resource-heavy task of recruiting and other costs associated with skills shortages. Meanwhile learners get hands-on experience, skills relevant to the current and future labour market and can continue to work and earn.

The Government should consider incentives like tax reliefs for accredited training expenditures or additional payments for hiring apprentices. Public sector contracts could prioritise firms that are committed to training staff. Highlighting productivity gains from upskilling the existing workforce, rather than excess reliance on external hires, would encourage more employers to invest in their staff.

BACKING INNOVATION AND MODERN INSTITUTIONS

Delivering pioneering training requires sufficient funding for providers to innovate. But financial pressures faced by universities have caused overall higher education spending on knowledge exchange to fall.⁵⁷ Permanent decline risks skills offers becoming outdated.

Ongoing grants through bodies like UK Research and Innovation allow institutions to design, pilot and evaluate new programmes. But England lacks equivalents to the German Fraunhofer Institutes that undertake applied research and technology transfer. Bridging this gap is vital for translating skills innovations into practice.

Backing modern universities to lead local skills ecosystems would be an excellent start, however. Their integration and networks position them to coordinate a varied range of stakeholders, including industry bodies, employers, official bodies and local government. But uncertain short-term funding hinders their ability to build and maintain sustainable partnerships and interventions.

Core financing should recognise modern institutions' strengths as inclusive, career-focused providers. Outcomes-based funding models allowing flexibility to meet local needs are preferable to restrictive contracts. Competitive challenge funds encouraging cross-sector skills projects would also help drive innovation.

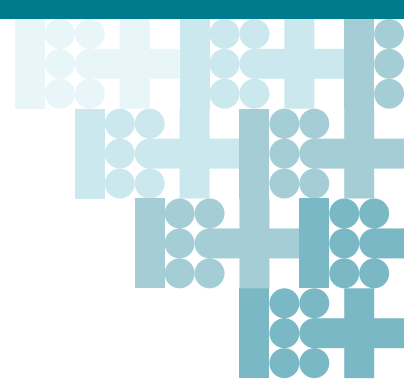
Ultimately, modern universities need autonomy and trust to advance regional skills systems. Their proximity to employers allows them to design relevant, accessible training. Strategic investment in their capabilities offers strong returns for national skills goals.

54 OECD (2023) Public spending on labour markets (indicator). Available at: <https://doi.org/10.1787/911b8753-en>.

55 DfE (2023) How are apprenticeships funded and what is the apprenticeship levy? Available at: <https://educationhub.blog.gov.uk/2023/03/10/how-are-apprenticeships-funded-and-what-is-the-apprenticeship-levy/>

56 Think (2023) Labour's "Growth and Skills Levy" – What Universities Need to Know. Available at: <https://think.uk.com/blog/labours-skills-and-growth-levy>

57 Millward, C. (2023) What happened to the masterplan? The relationship between government and higher education. HEPI. Available at: <https://www.hepi.ac.uk/2023/08/07/what-happened-to-the-masterplan-the-relationship-between-government-and-higher-education/>



ACCESS, AFFORDABILITY AND INCLUSION

If investment in skills education is to reap the greatest benefits, however, funding models must have access, affordability and inclusion at their core. The proposed reliance on loans (via a Lifelong Learning Entitlement) places the burden of cost for skills development on individuals. Graduates from poorer backgrounds are shown to be more debt averse, so deterring many who would benefit most from study.⁵⁸ Naturally, this constrains skills potential.

The Government's Lifelong Loan Entitlement from 2025 will allow more flexible access to loans. But uptake could be limited if disadvantaged and later-life learners remain debt-averse. A solution should be grants – means-tested where necessary – to lower access barriers. Scholarships and/or targeted funding could be built into such a model for sectors or regions with acute shortages to help build talent pipelines.

Workplace training models such as apprenticeships widen participation by paying wages. The recent scaling-up of apprenticeship provision and increase in demand from students shows a healthy appetite for this style of learning. An increase in incentives and marketing highlighting the potential of apprenticeships for up- or reskilling would create more inclusive entry points. Regulations and monitoring should also focus on widening access and attainment by traditionally underrepresented groups to aid with this.

Overall, sustainable long-term investment in skills requires recognising their social value. Funding should aim to engage marginalised and economically inactive groups. Diverse, affordable routes to training that provide a clear path to employment are essential for prosperity and inclusion.

England's skills mismatches won't be resolved without funding reforms. Employers and the Government must increase investment to develop talent. Replicating the scale and continuity of lost EU funds would rebuild place-based skills ecosystems. Encouraging employer contributions through levies, tax reliefs and co-funding would help expand workplace training opportunities, which in turn encourages greater inclusion. Strategic financing for modern universities to lead innovation and coordinate stakeholders locally would further enhance skills systems. This model of sustainable funding, providing affordable access and nurturing skills potential wherever it is in society, offers a clear and effective route to tackling skills shortages.



58 Callender, C. and Jackson, J., 2005. Does the fear of debt deter students from higher education?. *Journal of social policy*, 34(4), pp.509-540.

Recommendations

THE GOVERNMENT, POLICYMAKERS AND WIDER STAKEHOLDERS SHOULD:



Develop a **comprehensive approach to address current skills shortages in England** that combines insights from employers, educators and industry bodies to understand the reasons behind shortages.



Implement measures, such as **incentives for studying in priority areas** and efforts to increase the availability of workers with crucial skills, to address current shortages in public services.



Consider how best to **prioritise skills in strategic sectors** such as technology, the green economy, advanced manufacturing and the creative industries.



Work together with universities and employers to **scale up training and education, incentivise study and foster collaboration** between industry and academia in these strategically vital areas.



Make available **open-access and granular data on skills demands, vacancies and salaries**. Innovative analysis, including the use of artificial intelligence, should be encouraged to anticipate future needs.



Fully replace skills-focused structural funding with stable, **multi-year funding for specific regions and jobs**, as well as setting aside funds for creative skills training projects targeting underrepresented groups in higher education.



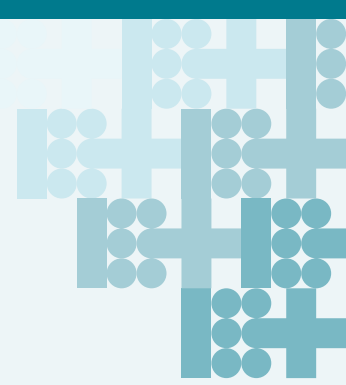
Work to broaden the Apprenticeship Levy into a **wider Skills and Training Levy and incentivise training spending** through tax reliefs, while prioritising firms committed to staff training in public sector contracts.



Work with employers and universities to **address challenges related to financial sustainability, access barriers, inequality, recognition of prior learning** and the lack of clear career pathways in the Lifelong Learning Entitlement.



Place **modern universities at the centre of England's skills strategy** where they can use their experience and expertise to deliver the right skills to the right places.



SECTION 6

Conclusion

This report highlights the persistent skills gaps faced by England across occupations and regions. The current shortages in areas such as healthcare, education, technology and construction constrain economic growth, lower productivity and are placing pressures on public services.

A complex interplay of factors drives these mismatches. Employer decisions around training and job quality interact with Government policies on education, migration and careers advice. Data limitations, economic conditions and individual motivation also shape skills imbalances. Tackling gaps requires coordinated efforts engaging all stakeholders.

Several opportunities exist to align skills supply with demand more effectively. The upcoming Lifelong Learning Entitlement will enable flexible learning tailored to evolving career needs. Making modular study accessible, a LLE facilitates continuous skills development for workers across all stages of their careers. However, realising the potential of the LLE depends on addressing financial sustainability, inequality and other challenges.

Strategic skills planning is also essential to identify current and future talent requirements. A robust mixed-methods approach combining granular data, employer insights and foresight can pinpoint localised shortages and emerging niches. Open data sharing and collaboration between universities, industry and government would strengthen this knowledge base to inform policy and provision.

In particular, empowering modern universities would enhance strategic skills planning and development. Moderns' strong employer links allow tailored, work-relevant training aligned with local labour market needs. Yet realising the full potential of these institutions in this area requires access to detailed skills data and stable public investment in work-integrated learning.

Sustainable funding reforms are vital for skills innovation and access. Replicating lost EU funds would rebuild place-based initiatives. Widening employer investments through levies and incentives would expand work-based learning. Outcomes-based financing for universities would also back local coordination and pioneering projects. Grants and affordable pathways for marginalised groups are essential for inclusion.

In summary, concerted efforts engaging all stakeholders can steer England towards a more dynamic skills ecosystem. But this hinges on empowering modern universities as anchors of opportunity through data, resources and autonomy. With the right conditions, they can help build integrated lifelong learning and funding models attuned to the needs of diverse learners, employers and local economies. This strategic approach offers a route to closing skills gaps, boosting productivity and enabling inclusive growth.





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