Levelling up: investing in higher technical education at universities in England

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Politicians from all parties have emphasised the need for the UK to reboot its offer to people looking for vocational or employer-led education, often called higher technical education. Higher education, in this new offer, should be for people at all-ages and stages in life, not just aimed at young school or college leavers.

Modern universities, like those who are members of MillionPlus, are a driving force of higher technical education across the UK and by working in partnership with employers, HE students are offered the opportunity to learn using work placements, degree apprenticeships and by studying innovative courses that are simultaneously technical and academic.

Modern universities also work closely with further education (FE) colleges who share our mission to be engaged, technically focused and community-based institutions. Across the UK, 13 FE colleges are part of the group structures of MillionPlus member universities. This level of innovation in provision and partnerships is almost unheard of in many of our European neighbours.

Higher technical education at modern universities equips people with not only hands-on skills but the underpinning knowledge that will equip them well to deal with the changes in job roles wrought by AI and automation in the decade to come. The new government should commit to enabling greater diversity of provision which is focused on the workplace.

Ensuring this refreshed higher education offer is flexible and open to people throughout their working life is critical. Here modern universities, particularly those represented by MillionPlus, excel in what we offer.

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Levelling up: investing in higher technical education at universities in England

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Executive summary

The UK has strong provision of higher technical education in various forms, provided by a range of education institutions in programmes spanning different levels of education and training.

This report analyses this provision in England with reference to good practice in Scotland. The report sets out a series of recommendations to boost the take up and quality of higher technical education in England and the UK.

A shared strategic objective of the government and universities involved in higher technical provision is to grow overall numbers of those studying at level 4 and 5, whether in degrees or standalone qualifications. This is an aim shared especially by modern universities, who would wish to see this mode of study regain the numbers it once had, before the 2008 recession and various subsequent changes in government policy. Universities can, and will, play a central role in any solution to this sound policy objective. This is because – as is clear from the evidence presented in this report – universities already play a key strategic role in supporting and delivering level 4 and 5 education, possessing the expertise and infrastructure that is so valuable to this provision which might otherwise be wasted if it is not utilised in the further expansion of this space.

Recent policy decisions such as the lack of financial support for part-time students and the introduction in 2012 of higher tuition fees, plus the lasting impact of the financial crisis in 2008-10, have meant a reduction in the uptake of this important area.

The quality and variety of much of this provision in universities, and some other institutions, presents us with an opportunity in the 2020s to expand this distinctive provision by overcoming the barriers to the take-up of higher technical education by employers and prospective students. If the mantra of higher education reforms since 2012 has been student choice, then it is logical that students should be supported regardless of their choice. The costs associated with studying level 4 and 5 qualifications, with little in the way of loan or grant support, is in stark contrast to the situation for students opting to take full undergraduate degree courses. This needs to change – all students should receive appropriate and adequate financial support, though loans and grants, to enable them to undertake the education of their choosing.

An argument made by many commentators and politicians, in part driven by media perceptions, is that the UK has failed on technical education, caused by “too many” people going to university. This argument is far more complex than easy headlines or soundbites might suggest. While there is real opportunity to grow and develop high-quality technical provision above level 3, the rhetoric of a trade-off with degree provision is misplaced.
The debate often falls into the trap of pitting provision at universities in England against provision offered at other institutions, such as FE colleges. This misunderstands the higher education offer at universities. For many thousands of students in the UK, a university education is higher technical education, whether those students are taking sub-degree courses or postgraduate programmes, as it combines academic learning with technical training (based on training for a job role).

Whether called level 4 and 5, technical education, sub-bachelor or sub-degree provision, these courses are part of the wider context of UK higher education. Therefore, there needs to be a broader consideration of what is of value within technical and higher education in order to promote a dynamic and responsive education and training system. Modern universities have played, and will continue to play, a substantial and growing role in providing students and employers with high-quality technical education that will meet the need of the UK’s economy in the 2020s.

Recommendations

**THE UK GOVERNMENT IN ENGLAND SHOULD:**

- Introduce full maintenance grant support for all learners (including part-time and mature students) undertaking level 4 and 5 qualifications at registered providers to increase the take up of work-focused higher education.
- Encourage all providers of level 4 and 5 education to be registered with the Office for Students to guarantee that students receive a high-quality education experience and financial support during their studies.
- Recognise that colleges and universities are both key players in the provision of higher technical education and support collaboration between them to promote skills and qualifications.
- Improve and increase the data available on level 4 and 5 qualifications to enable a better understanding of the nature and scope of technical education at both colleges and universities.
- Ensure that all level 3 qualifications are designed to enable progression to further education opportunities, whether immediately or at a later point in a learner’s life.
- Provide adequate financial support to students undertaking qualifications at level 3 to remove barriers to study.
In order to understand the debate surrounding technical education, it is useful to be familiar with the Quality Assurance Agency (QAA) qualifications frameworks that structure higher education in the UK (Table 1). These map qualification titles to level descriptions. In England, level 2 education is equivalent to GCSE exams, and level 3 to A levels. Anything at level 4 and above is higher education, with a degree being classed as level 6.

A slightly different approach applies in Scotland, with level 7 being the first level of higher education, and level 10 being equivalent to a bachelor’s degree with honours. Both the English and Scottish qualifications frameworks correspond to a particular ‘cycle’ of the European Higher Education Area framework.

Definitions of technical education should not solely be limited by educational level but the debate surrounding technical education provision is currently limited to levels 4 and 5 in England. This raises another element of confusion in understanding this educational space; namely, the fragmented terminology used to describe or categorise this sort of provision.

Other terms for this form of education are often used too - these include “sub-degree”, or “sub-bachelor” and “other undergraduate”. These refer to a wide range of qualifications and teaching that occurs after level 3, but before bachelor’s degree study, which is defined as level 6. These terms usually refer to a wider pool of students than those who are studying courses that are designated specifically as level 4 or 5 qualifications within the qualifications frameworks, yet these are sometimes used almost synonymously as level descriptors within them.

It is not straightforward to impose a simple distinction on a field of study that is, by its nature, rich, complex and varied. Technical education is a now ubiquitous term in the education policy space but is one that has been used inconsistently, seldom clearly defined and often misunderstood. Those with a clear sense of what the term means and where this provision exists are few. Some of this confusion relates to evolving terminology as this area of education was often labelled vocational education, with some of the qualifications included called technician qualifications.

The current government’s working definition of technical education is largely based on the educational routes that were originally devised by the Sainsbury Review, commissioned by the Department for Education in 2016. The Sainsbury Review defines technical education programmes as those which are “focus[ed] on progression into skilled employment and require the acquisition of both a substantial body of technical knowledge and a set of practical skills valued by industry. […] it draws its purpose from the workplace rather than an academic discipline”.

The Sainsbury report segmented technical education into 15 technical and professional education (TPE) routes, based on an analysis of the UK labour market. These routes, when looked at collectively, appear very broad in their scope, and are likely to offer a range of opportunities to learners and trainees. On closer inspection, however, it is clear that this approach offers a much narrower perspective, relating only to a specific area of employment, rather than a broad set of skills, knowledge and behaviours that would equip an individual with the necessary resilience and transferability needed for success in the 21st century workforce.
A major complication in understanding technical education is that it encapsulates such a broad spectrum of qualifications and providers. Universities, FE colleges, private training providers and professional bodies each have an important role as awarding bodies and/or providers of these qualifications. Over recent decades the effects of devolution, changes in regulatory bodies and a shift in government objectives have each contributed in their own way to policy flux, creating divergence across the UK and a complex array of provision. Some complexity should not necessarily be seen negatively as it is important to emphasise the strength that lies in a diverse landscape of higher technical educational provision, offering a range of choice to students in different locations. This enables awarding bodies and providers of different stripes to respond effectively to local and regional labour market needs.

### Table 1: UK Qualifications framework

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>England</th>
<th>Scotland</th>
<th>European</th>
</tr>
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<tbody>
<tr>
<td>Doctoral degrees (e.g. PhD/DPhil, EdD, DBA, DClinPsy)</td>
<td>8</td>
<td>12</td>
<td>Third cycle (end of cycle) qualifications</td>
</tr>
<tr>
<td>Master’s degrees (e.g. MPhil, MLitt, MRes, MA, MSc)</td>
<td>7</td>
<td>11</td>
<td>Second cycle (end of cycle) qualifications</td>
</tr>
<tr>
<td>Integrated master’s degrees (e.g. MEng, MChem, MPhys, MPharm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary qualifications (or first degrees) in medicine, dentistry and veterinary science (e.g. MB ChB, MB BS, BM BS, BDS, BVSc, BVMS)</td>
<td>7</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Postgraduate diplomas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postgraduate Certificate in Education (PGCE)/Postgraduate Diploma in Education (PGDE)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Postgraduate certificates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor’s degrees with honours (e.g. BA/BSc Hons)</td>
<td>6</td>
<td>10</td>
<td>First cycle (end of cycle) qualifications</td>
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<tr>
<td>Bachelor’s degrees</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Professional Graduate Certificate in Education (PGCE) in England, Wales and Northern Ireland</td>
<td></td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Graduate diplomas</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Graduate certificates</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Foundation degrees (e.g. FdA FdSc)</td>
<td></td>
<td>NA</td>
<td>Short cycle (within or linked to the first cycle) qualifications</td>
</tr>
<tr>
<td>Diplomas of Higher Education (DipHE)</td>
<td></td>
<td>8</td>
<td></td>
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<tr>
<td>Higher National Diplomas (HND) awarded by degree-awarding bodies in England, Wales and Northern Ireland under licence from Pearson</td>
<td>5</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Higher National Certificates (HNC) awarded by degree-awarding bodies in England, Wales and Northern Ireland under licence from Pearson</td>
<td>4</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Certificates of Higher Education (CertHE)</td>
<td></td>
<td>7</td>
<td></td>
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Source: QAA
Many of the policy discussions within higher education, particularly since 2016, have focused on technical education and its place within the traditional higher education environment. This is now prominent terminology in the narrative concerning the English education system. In relation to higher education, the debate centres on a concern about the take-up of standalone qualifications at levels 4 and 5 in England. These levels refer to the stages of education that are equivalent to the first two years of a bachelor's degree, following A levels or other qualifications such as BTEC (and the forthcoming T levels), which are collectively referred to as level 3 qualifications (Table 1).

An argument made by many commentators and politicians, in part driven by media perceptions, is that the UK has failed on technical education, caused by “too many” people going to university. This argument is far more complex than easy headlines or soundbites might suggest. While there is real opportunity to grow and develop high-quality technical provision above level 3, the rhetoric of a trade-off with degree provision is misplaced. The debate often falls into the trap of pitting provision at universities in England against provision offered at other institutions, such as FE colleges. This misunderstands the higher education offer at universities. For many thousands of students in the UK, a university education is higher technical education, whether those students are taking sub-degree courses, or postgraduate programmes, as it combines academic learning with technical training (based on training for a job role).

Provision in modern universities at all these levels combines a practice-focus and a work-related curriculum, underpinned with relevant theoretical knowledge and understanding. For this reason, any attempt to create a hard and fast distinction between programmes that are technical and academic, by virtue of the implicit exclusion of qualifications that also comprise of educational or applied theoretical elements, would be a serious mistake in policy-making, and prevent them from meeting internationally defined standards within the qualifications framework.

The policy direction of the Theresa May government on technical education appeared to be built on the aim of creating an overly clear-cut distinction between education that is considered technical or academic. This distinction is clear from the consultation documents surrounding the creation of T levels, through to the proposals for a segmented suite of officially kitemarked Higher Technical Qualifications. The May administration presented T levels as part of a prescribed educational pathway from the age of 16 (level 2) that would direct students through specific qualification routes based on what they had already studied during compulsory education.

T levels are designed as alternative level 3 qualifications that can lead to a higher apprenticeship up to level 5, a level 4/5 BTEC professional qualification, or Higher National qualifications (HND/HNCs) at these levels, and in some cases to a degree. For many sector experts this appears to be creating a binary divide, similar to the one that existed prior to 1992. The risk of this approach is to ignore the excellent work done by modern universities in the last 28 years to design work-relevant, employer-approved qualifications at every level of the educational framework.

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The role and purpose of higher technical education as set out by the previous government in a 2019 consultation overlapped with their vision of apprenticeships. Apprenticeship standards correspond to an occupational area (a specific job role) and the competency of the apprentice is practically tested at the end and/or during the programme. Apprenticeship standards, which is an England-only policy, can include an educational qualification in them. Higher apprenticeships therefore can include a Higher National qualification or Foundation degree, or a technician qualification at the same levels. These apprenticeship standards are meant to correspond broadly with level descriptors in the Regulated Qualifications Framework for England, even though the practical content in them is not always educational in nature.

Behind both the reforms to apprenticeships and to the introduction of T levels was a government aim to improve the progression of students at the age of 16, and to increase the take-up of qualifications at levels 3-5 as part of an approach to provide a higher skilled workforce. This is clearly a laudable aim, but students interested in undertaking these qualifications will require appropriate financial support. The government also needs to ensure that education providers are of significant quality to ensure that learners are equipped with technical skills and theoretical knowledge to make a positive, long-lasting contribution to the economy.

Technical education: avoiding a policy cul-de-sac

The 15 Technical and Professional Education (TPE) routes in the Sainsbury Review were designed to create a clear and simple delineation of the boundaries of technical education, including up to level 5. Though it may be understandable to demarcate such routes in this way, there is a risk of creating strictly segmented sub-fields of technical education upon which rigid progression and career pathways are superimposed.

A narrow approach, by excluding the properly educational elements of higher technical education, also contradicts the current government’s approach to a ‘knowledge-rich’ curriculum for learners up to and including Key Stage 5 in England. A reductive ‘job training’ focus to higher technical education would also contradict Ofsted’s own conclusions on skills training for adults after they considered the relevant research in 2019. Ofsted concluded that any vocational/technical curriculum and mode of teaching must “prepare learners for further study and careers, not just for their immediate jobs.” Ofsted highlights a strong trend in the research on technical education that stresses the importance of relevant knowledge as well as job skills, knowledge that empowers the student and gives them access to career progression and a wider understanding of the discipline they are being educated in and the world around them. This is called by some ‘powerful knowledge’ which enables those who have it to move up and on in society.

Governments have frequently failed to address the diverse and dynamic nature of the UK and global economy. Though there is a clear need for coherent workforce planning in public services such as teaching, medicine or nursing, and action to address skills shortages in priority areas, a predict-and-provide approach to expected labour demand for private-sector roles at a national level has not been considered fit for purpose in determining the future training needs of employers. It would be ironic if this form of top-down planning was resurrected in a different guise, through plans for the qualification system for adults (via narrowly defined pathways from T levels, and/or any remaining applied generals, through to higher technical education qualifications).

As others have argued, the most judicious approach is to create an education system that, rather than attempting to predict change, and technocratically commission courses to address it, instead provides viable and flexible choices to people to enable them to adapt to changes in demand for labour when they occur.

Lifelong learning and reskilling will be essential for the next generation, joining the workforce that will look very different to now as the so-called Fourth Industrial Revolution takes shape and the role of artificial intelligence and automation takes hold. Children entering compulsory education now at the age of five may well face the prospect of a 60-year career as life expectancy and pension ages increase. We need a system that enables people to access education at all stages of their lives to reboot or refocus their careers. In this context it would be paradoxical for government policy to circumscribe the breadth of their education as adults by disincentivising prospective students from taking a degree.

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10 Krohn, A (2019), ‘We can’t predict the future but we can prepare for it’, Wonkhe, http://tiny.cc/ie12dz
Universities, and in particular modern universities, play a fundamental role in the provision of sub-bachelor, technical education at levels 4 and 5 in England. Nearly one-third of all learners studying at this level did so in universities. This amounts to almost 70,000 students studying level 4 or 5 qualifications, the majority of whom are at modern universities. This is, in fact, likely to underplay the role of modern universities because several of these institutions engage in a franchised arrangement with FE colleges. However, in this circumstance students are still categorised as college students even though the university plays a fundamental role in the provision of technical education on offer but with the teaching itself sitting with the college.

A second reason for this underestimation is that HESA records show there to be nearly 135,000 students studying at “other undergraduate” level (i.e. below degree-level study). This suggests that there are almost as many students studying in the sub-bachelor space at HEIs who are on courses that are not strictly designated as level 4 or 5 qualifications, but a proportion of which may well be technical education, providing learners with valuable work-specific skills.

The profile of these students demonstrates the vital contribution of these types of courses and qualifications to social mobility and their role in the workforce of today:

- 77% are over the age of 21
- 47% of all learners studying at levels 4 and/or 5 are doing so as part-time students

Modern universities are pioneers in providing opportunities for older students, those already in work looking to re-skill, and those re-entering education after potentially negative experiences in compulsory education. These qualifications are fundamental to enabling lifelong learning and retraining.

The supposed premise of some of the proposed reforms by the previous government (2016-2019) was that the current educational landscape was not fit-for-purpose, that higher education was not meeting demand, and therefore learners were being short-changed. The evidence, however, suggests the that this is an inaccurately simplistic analysis. Mapping the provision at level 4 and 5 in England’s universities onto the 15 technical routes reveals that 80% of the provision currently in place at these universities aligns with one of the technical routes (based on principal subject areas) (Table 2).

Figure 1: Where are level 4 and 5 students studying in England?


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For example, ‘Health and Science’, demonstrates that this accounts for over 40% of course provision at universities at these levels. Indeed, of all level 4 and 5 provision that can be mapped onto the “Health and Science” technical route, 89% is provided by universities in England. This is clear evidence of the pivotal role that universities – especially modern universities - play in training and supporting the future NHS workforce at this level.

When considering the broader scope of level 4 and 5 provision, the overlap between different types of provision within university programmes is even more significant. HESA data relating to “other undergraduate” study at HEIs, show figures by type of university attended. Of all the ‘other undergraduate’ study taking place at modern universities, 55% is in science subjects.

Any view that the university sector is somehow ‘not delivering’ on technical education is clearly not supported by the data. Modern universities are fundamentally committed to this provision but policy levers and the weak economic environment since the 2008 financial crisis have made it much more difficult to deliver at the volume that modern universities would aspire to.

Qualifications at levels 4 and 5 are not just ‘technical education’. They are work-focused ‘higher education’. Higher Nationals and Foundation degrees, for instance, are recognised as higher education qualifications and they must therefore have within them a substantive educational element. They are not simply training for a specific job role – they include underpinning knowledge and understanding that enables the student to perceive how a job role might evolve in the face of automation or future technological change – an important advantage and value-add in these qualifications.

Universities offering these courses provide learners with a form of work-focused education that is grounded in knowledge, equipping them with the understanding and skills that would serve them well over a career, including the transferable skills that are vital to progress or to shift roles. In the long run, this will provide value for money as it may reduce the need for more frequent retraining. Students undertaking this form of technical education will also benefit from the fact that the theoretical and academic elements of these programmes provide them with the ability to adapt their practice when technology inevitably moves on.
Technical education: a systematic, policy-driven decline in investment

Students see value in a full degree including the recognition this qualification gives them with employers and wider society. It is also only degrees, after all, that are recognised internationally as full HE qualifications. However, there has been a lack of growth of level 4 and 5 provision, for a number of reasons. The combination of policy change and economic weakness has dealt a body blow to higher technical education because a high proportion of students traditionally studied flexibly i.e. part-time.

This decline was precipitated by the withdrawal, from 2008, of public support for Equivalent and Lower Qualifications. This barred students who had previously experienced higher education funding from studying programmes to support retraining or for re-entering the workforce. The increase in university fees introduced from 2012 alongside the lack of financial support for part-time study and mature learners, also led to deep cuts in the number of students, especially those already in the workplace, taking up part-time study. The long-term impact of the 2008 financial crash on the training budgets of public and private sector employers also contributed to the sharp decline in higher technical education.

While first degree and postgraduate courses have seen numbers remain relatively stable, these declines have been largely concentrated at levels 4 and 5. In the data, these level 4 and 5 courses are grouped together as “other undergraduate”. This grouping includes commonly understood qualifications such as Foundation degrees, HNCs, HNDs or graduate certificates, but also other courses that don’t lead to these qualifications. Figure 2 shows that this level of provision has been declining since 2008, with a sharp drop taking place after the 2012 university fee changes in England introduced by the then coalition government.

Figure 2: Student enrolments by level of study in the UK

![Figure 2: Student enrolments by level of study in the UK](chart)

Source: HESA

12 Although the figures show relative stability overall in the numbers of postgraduate students, in many moderns this education has actually declined and been compensated for by a growth in postgraduate provision in research intensive universities.
The cumulative impact of higher fees, lower financial support and differing regulatory environments has left technical education at levels 4 and 5, whether provided by FE colleges or by universities, in a challenging place. The government has, through the Sainsbury Review and the introduction of the 15 routes, recognised that this area of education needs a new focus and targeted attention. However, those reforms are not going to be enough. Learners require financial support to study these programmes at levels 4 and 5 just as much as those that choose to study a level 6 (degree) programme. The latter ordinarily qualify for student loan support for fees and maintenance as a matter of course. The same approach is required for learners who wish to study level 4 and 5 work-focused, technical higher education. This is particularly true for learners currently in the workplace wishing to study part-time.

The establishment of the Office for Students (OfS) provides an opportunity to recognise that both FE colleges and universities are important and complementary players in the provision of technical education. Encouraging all providers of this education to register with the OfS will ensure a level playing field and mean that students can be confident of high-quality education and appropriate financial support.

**Recommendations**

**THE UK GOVERNMENT SHOULD:**

- Introduce full maintenance grant support for all learners (including part-time and mature students) undertaking level 4 and 5 qualifications at registered providers to increase the take up of work-focused higher education.
- Encourage all providers of level 4 and 5 education to be registered with the Office for Students to guarantee that students receive high-quality education and financial support during their studies.
- Recognise that colleges and universities are both key players in the provision of higher technical education and support collaboration between them to promote skills and qualifications.
Foundation degrees as ‘technical degrees’

This drop in Foundation degree (FDs) and other technical provision is regrettable. FDs are, in effect, ‘technical degrees’ at level 5. FDs are provided in England and Wales only and possess five advantages that make them apt for a revival. These positive aspects have been built into the programmes from their beginning twenty years ago and include:

- Their design is, in a sense, ‘compressed’ – two years if studied full-time.
- The curriculum, as part of the nature of the FD and the QAA guidance on them, must be employer-informed and work-related while retaining an educational (not just training) aspect, making it distinctively higher education.
- Delivery is flexible, ensuring that FE colleges can co-deliver elements of the qualification where appropriate. Many FDs are/were successfully designed and delivered with FE colleges, strengthening the skills infrastructure of the locality.
- ‘Topping-up’ to a full degree is also an integral part of their design, which often can be done in a further 18 months or so.
- FDs can be studied in both full-time and part-time modes: their work-focused aspect tallies well with part-time study.
The decline in student numbers demonstrated in Figures 2 and 3 (page 15/16) will be largely dominated by what is happening in England, since the proportion of students and institutions from that nation is so large. The sector in England has arguably experienced more fundamental changes in composition than in other parts of the UK due to marketisation policies.

This prompts the question: how does England compare with Scotland, the next biggest nation for higher education in the UK? In Scotland, there is a much greater level of integration between bachelor and sub-bachelor levels of study than in England. This is largely a result of the Scottish sector’s coherent and consistent use of articulation, a term referring to the structured progression between sub-degree and degree-level HE in Scotland. Through articulation students transfer from college, usually after two years, to a university for the last two years of a degree.13 The comparison with England is, of course, not a direct one because Scottish bachelor’s programmes are four years in duration.

Higher National Certificates (HNCs) and Diplomas (HNDs) account for 0.4% of students in English HE,14 whereas in Scotland 14% of the whole of the HE system is made up of students taking these qualifications.15 The Scottish Funding Council’s most recent report on articulation shows that over a quarter of first full degree entrants in Scotland arrived via the HNC/HND college route. Furthermore, the report emphasises the role that this pathway plays in widening access and participation in the country, with 42% of first degree students who are from the most deprived quintile of the Scottish Index of Multiple Deprivation having come via the HNC/HND college-to-university route.16

The Scottish system has certainly been more stable in terms of student numbers, although these have fluctuated somewhat over the past decade (Figure 4). The overall number of students in the Scottish HE system has increased by only 6% over a ten-year period, due to demographic downturn of young adults and tighter government control over capped funded places than has been the case in England (or Wales).

However, a decline of 45% in the number of students engaged in “other sub-degree” mirrors trends in England and the UK, demonstrating that these aspects of the sub-bachelor portfolio have been shrinking in Scotland as well.

Comprehensive data is more readily available on the full suite of undergraduate HE in Scotland; that is to say, sub-bachelor and bachelor programmes at both universities and FE colleges. This makes it much easier for policymakers, researchers and institutions to conduct more holistic analysis of the system and situate level 7 and 8 study (the Scottish equivalent to levels 4 and 5 in England) more effectively into its broader higher education context. There is little doubt that a lack of comprehensive public data, as well as the complex network of different sector organisations and regulatory bodies involved, present significant barriers to sound analysis and this has certainly compounded some of the confusion over higher technical education in England.

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13 It is usually the case that a student will study HNC or HND qualifications (Scottish Credit and Qualifications Framework levels 7 and 8), at college, before transferring to university where they take up degree level study (Scottish Credit & Qualifications Framework level 9 and above).
A further point relates to the way students’ learning pathways in the respective countries are understood within the qualification frameworks of Scotland and England. As has been explained above, students carrying out HNDs or HNCs in Scotland are unequivocally considered as being at levels 7 and 8 (i.e. level 4 and 5 sub-degree provision in England). Many of these students go on to articulate into, and graduate from, a modern university. Students are thus, while studying at college, building the foundations of their full university degree. Contrast this with England, where students in the first and second year of their degree are designated as bachelor students whose study at these levels is not returned in the statistical data aggregating the total amount of study taking place at levels 4 and 5. All bachelors provision in England is therefore statistically categorised as level 6 study, even though up to two years of the three year degree programme consists of level 4 and 5 higher education. This gap in reporting fuels a pervasive misunderstanding when examining level 4 and 5 study in technical areas in England as assumptions are made that only standalone level 4 or 5 qualifications fill this higher technical space. Though it may be true that the qualification aim for a bachelor level programme is higher (at level 6) than a standalone sub-degree programme, students in both sets of programmes are essentially at the same stages of educational development, participating in the building blocks of their full degree in the early phases of the programme, much like their Scottish counterparts. However, in England there is a pervasive notion of a ‘missing middle’ in technical education at levels 4 and 5.
This scant appreciation of the reality that bachelor's degree students do in fact participate in and complete level 4 and 5 study as part of their degree partly fuels accusations that there is a “missing middle” of sub-degree qualifications in the English HE system. The terminology emerged from recent influential reports from the Education Policy Institute (2016) and the Gatsby Foundation (2018), the latter of which helped coin the phrase. This ‘missing middle’ analysis explicitly underpinned the Augar panel’s understanding of the higher technical space and this is reflected in the final report.

Though the reports cited rightly view the UK’s diminishing number of standalone sub-degree qualifications as something that is concerning, they do go one step too far by assuming that the UK is generally deficient in higher technical education because students are taking supposedly ‘academic’ courses at a higher level. However, despite this problematic point the reports have value in that they have helped raise the profile of higher technical education, traditionally a neglected area in education policy. They also suggest positive changes concerning:

- the availability of full fee loans for all students/trainees at levels 4 and 5, which all types of providers can now ensure for their students/learners by registering with the OfS;
- promotion of better maintenance support for part-time students, something which will be of critical importance if higher technical provision is to grow as it should in the period ahead;
- drawing attention to the churn in policy on technical education in England, an area that has seen dozens of generally ineffective policy interventions in the past thirty years.

It is also worth noting that in two of these influential reports Degree Apprenticeships are also either excluded from consideration or treated peculiarly as a negative development that could supersede lower level apprenticeships even though these programmes are based on, and tested against, specific workplace skills and competencies and take place when the trainee/student is employed.

This distorts the true picture of higher technical education in England as no less than 56% of UK students entering university studying a full degree in 2017-18 can reasonably be aligned with one of the 15 technical routes, according to their principal subject area. There are therefore several hundred thousand degree students who are participating in level 4 and 5 study at the relevant stage of those technical and professional programmes, in addition to the smaller numbers of students studying for standalone sub-degree qualifications at those levels.

As noted previously, the way students are recorded in the data can be misleading and at first glance suggests a huge dearth of education provision taking place at levels 4 and 5. While these students may not receive qualifications at this level, they are certainly participating in study at levels 4 and 5 during the course of their degrees. An improvement in the way data is collected, recorded and published will avoid misleading assumptions and judgements about the nature of technical education, and counter these accusations of a missing middle.

19 Remaking Tertiary Education. p.10-11.
20 The Missing Middle, p.47.
21 Classified as a ‘First Degree’ programmes in Higher Education Statistics Agency data, https://www.hesa.ac.uk/data-and-analysis/students/what-study
The ‘missing middle’ narrative often contrasts the supposed lack of level 4 and 5 education with the higher level of full degree participation in the UK. The Augar Report for example states that England has “one of the highest university participation rates among OECD countries”. Yet when level 6 entrance rates (i.e. HE participation) are examined across the OECD we find that the UK is, again, certainly not an outlier. According to these data, the UK is mid-table among OECD nations, with multiple industrialised nations coming ahead of the UK. If we look further afield, for instance at South Korea or Taiwan, the proportion of the population experiencing higher education hits, or exceeds, 70%.

In England, according to the latest data, only 43% of English people at the age of 30 have experience of any level of higher education (including participation in college-based HE or in sub-degree HE generally).

Despite plentiful headlines and commentary, England is about a decade off the 50% target for higher education participation set almost twenty years ago by the then prime minister, Tony Blair. If we take international comparisons seriously, or have regard to such legacy benchmark targets, we can see that England does not have ‘too many students’ studying for full degrees. In fact, the evidence suggests that the UK needs more education to at least this level if it is to effectively compete with the best of the OECD.

The more fundamental, and perhaps more concerning, deficiency of skills and education attainment is the number of people who, by the age of 25, attain no higher than level 2 qualifications (i.e. no more than five ‘good’ GCSEs). A good example of this deficiency is shown in data contained in a Department for Education report (2018), which analysed a single age cohort of 620,000 young people in England, following them through the educational pipeline until they were 25. Strikingly, the report found that more people in the cohort at age 25 had qualifications at, or below, level 2 than had any qualifications at level 4, 5, 6 or 7. This data was foregrounded in 2019 in the Augar Report, a year after MillionPlus highlighted the importance of the data and its importance for progression opportunities and improving national productivity.

This age cohort data clearly represents an untapped area of potential growth towards level 3 attainment, which would, in turn, enhance our capacity to boost the number of younger people studying at a higher level further down the track - perhaps as mature students, or as those studying in the higher technical space.

This data should suggest to policymakers that the fundamental challenge is not a trade-off between progressing younger people either to level 4/5 or to level 6, but how we can best enable 16-25 year olds, and those later in life, to successfully complete level 3 study which can provide them with a gateway of opportunity for progression into higher education or directly into employment.

25 Ibid.
Recommendations

THE UK GOVERNMENT SHOULD:

• Improve and increase the data available on level 4 and 5 qualifications to enable a better understanding of the nature and scope of technical education at both colleges and universities.

• Ensure that all level 3 qualifications are designed to enable progression to further education opportunities, whether immediately or at a later point in a learner’s life.

• Provide adequate financial support to students undertaking qualifications at level 3 to remove barriers to study.
The outcomes, returns and the “value” of level 4/5 qualifications in England

There have been some attempts to analyse the relative financial gains accrued by individuals who have taken qualifications at levels 4 and 5 in the UK. What appears conclusive, across different sources, is that the average earnings of those who have taken these qualifications can vary greatly, particularly depending on the subject area of the qualification. Research from the Centre for Vocational Education Research (CVER)\(^2\) has disaggregated the data on level 4 and 5 qualifications by subject to assess average relative earnings. Their report outlines the marginal effects of these qualifications on daily earnings by gender.

The report’s findings show no significant effect on earnings for three subjects when taken by men – Leisure and Tourism; Education; Retail. These three subject areas neatly map on to one of the 15 technical routes that have been adopted by the Department for Education. This therefore brings into question the idea that directing would-be degree students to technically focused study at levels 4 and 5 will result in more productive economic results for society, which appears to be the foundation of a current strand of criticism aimed at universities. It also serves to undermine the idea that male degree graduates (level 6) in these three subject areas are “overqualified”.

The Augar Review made a series of recommendations relating to higher education and technical education. Its stated intention was to restrict what it described as “low value HE”. The concept of ‘value’, however, that lies at the heart of this assertion is a narrow one, being defined in terms of the monetary or financial value for graduates from the education they receive. Such a limited rationalisation of education is clearly problematic for a range of reasons, and it seems clear that the logic and strategic intention that runs through the report appears likely to fail on its own reductive terms, because a wide variety of standalone level 4 and 5 qualifications fail to deliver good earnings returns (compared to a typical degree), while simultaneously delivering an educational experience of less breadth and depth.

In reference to independent analysis on the finance of UK HE,\(^2\) the Augar Review focused its attention mainly on arts and humanities subjects. In particular, the report questioned whether the public investment (via fee loan support) for the creative arts subjects was “strategically desirable”.\(^3\) This statement was made despite the creative industries being one of the UK’s most successful and fast-growing economic sectors, fuelled by the availability and the quality of its graduates in these subjects. It might be assumed that the intention of the Augar panel is that some of these students are directed to sub-bachelor study in technical subject areas, perhaps to providers with lower fee rates. But there are fundamental problems with this supposedly ‘strategic’ approach. First, shifting higher education students towards the 15 technical routes does not necessarily solve the issue of a perceived imbalance of student numbers in creative arts subjects, as one of the government’s 15 technical routes is “Creative and Design”.

Furthermore, the research cited by CVER\(^4\) shows the marginal effects on earnings for level 4 and 5 vocational courses in “Arts and Media” to be negative for men, and around zero for women. Therefore, evidence does not support the suggestion that nudging students into creative industries courses at a sub-bachelor level instead of degrees will have a positive impact on national productivity or financial returns for the individuals concerned. Notwithstanding the fact there is clearly some correlation in the variation in returns based on subject of study across different levels of education in England, it would seem misguided to blame creative students based on the level of study they have undertaken and, equally, it might be short-sighted to punish or restrict future students on this basis.

\(^{28}\) Battison et al. (2019). Labour market outcomes disaggregated by subject area using the Longitudinal Education Outcomes (LEO) data, Centre for Vocational Education Research, Research discussion paper 021 http://cver.lse.ac.uk/textOnly/cver/pubs/cverdp021.pdf


\(^{30}\) The Independent Panel Report to the Post-18 Education and Funding Review. p.82.


This also points to a second, more general problem with the stated government intention to divert students away from level 6 study. Students entering such programmes do so after having the relevant information made available to them about graduate destinations and other student outcomes. Indeed, the clear majority of students in these disciplines choose to pursue these pathways precisely because they see a value beyond expected monetary returns, something that recent opinion surveys confirm.33

Student choice is a critical factor in how the HE landscape has developed both before and after the post-2012 changes to fees and funding. Any attempt to introduce a directive government policy towards sub-degree provision would have to fundamentally circumvent or constrain student choice in order to achieve such aims.

Published research that has attempted to compare the financial returns of level 4 and 5 with degree level study has confirmed a superior net graduate premium overall for those taking bachelor level study. Nevertheless, STEM qualifications at level 4 and 5 are seen to have genuinely high returns, most notably in construction and engineering, areas for which universities deliver around a quarter of total sub-degree provision.34 Observations of positive returns for standalone higher technical qualifications are reflections of successful trajectories of those who have studied at both college and university. Problems arise when the findings of such reports are presented in public debate to fuel an ‘HE vs. FE’ narrative. It is problematic and misleading when positive data on student outcomes, from both a college and university background, is used to undermine the reputation of either learning environment.

33 According to ComRes poll of 2,280 undergraduates and recent graduates in August and September 2019, “84% agree[d] that ‘My potential future salary wasn’t the only factor I considered when deciding to go to university’”, www.comresglobal.com/polls/universities-uk-value-of-university/
THE GRADUATE PREMIUM REMAINS STRONG

Comparisons of level 4 and 5 with full degrees that are often used to criticise current higher education provision often use data that analyses earnings up to the age of 29 (though this age point will get higher over time). Recent studies show there to be a considerable average graduate premium before the age of 30 for degree-level study.\(^{35}\) One rough trend that has been observed in the comparisons of returns to bachelor and sub-bachelor study is that, for the first five or so years after graduation, sub-bachelor students display superior average earnings. Over time, however, the trajectory of average degree graduate earnings catches up and surpasses sub-degree graduates by the age of 30.\(^{36}\) If this pattern were to continue beyond the age of thirty, it would be reasonable to assume that this gap would widen - particularly when considering that much of the significant gains accrued in the lifetime of a (degree) graduate are typically made in later decades as careers advance. Therefore, published earnings data gathered under the government’s graduate outcomes (LEO) analysis is still at an early stage and should not be used to make undue policy shifts.

OECD data on relative graduate earnings for different levels of education provides some indication of how the UK compares internationally. The data shows that relative returns to standalone sub-degree qualifications (level 5) are below the OECD and EU average for those countries featured in Table 3.\(^{37}\) Indeed, there is a sizeable gap between the relative earnings of level 6 bachelor’s degree graduates and those who have completed a level 5 qualification according to the data. This should provide some caution for policymakers who may feel that simply transferring students from a higher level to a lower level of study would deliver substantial benefits to the public purse.

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Table 3: Relative Earnings of level 5 and 6 graduates in OECD countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Level 5 Relative Earnings</th>
<th>Level 6 Relative Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>107</td>
<td>135</td>
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<tr>
<td>Austria</td>
<td>131</td>
<td>93</td>
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<td>Belgium</td>
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<td>117</td>
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<tr>
<td>Canada</td>
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<td>Chile</td>
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<td>Czech Republic</td>
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<td>Denmark</td>
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<tr>
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<td>Korea</td>
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<tr>
<td>Latvia</td>
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<td>136</td>
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<tr>
<td>Lithuania</td>
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<td>Luxembourg</td>
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<td>Poland</td>
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<td>Spain</td>
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<tr>
<td>United States</td>
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<td>164</td>
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<tr>
<td>European Union 23 members in OECD</td>
<td>121</td>
<td>138</td>
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<tr>
<td>OECD – Average</td>
<td>120</td>
<td>144</td>
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</tbody>
</table>

Source: OECD\(^{38}\)

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37 The data concerns citizens aged between 25 and 64 years old, showing data for the relative earnings of different educational levels across OECD countries, using upper secondary graduates as a baseline of 100 for each country.

Conclusion: valuing technical education in its diversity

There is real value to be found in a technical education system that is designed to have the capacity to respond to changes in society (in the workforce, skills need, and changing nature of education). This can foster an environment in which learners are able to educate themselves in a way in which makes them adaptable and open to future developments. One of the main ways to ensure this development would be to protect courses and qualifications that develop transferable skills in individuals, such as those that include relevant theoretical and educational components, as part of the broad spectrum of technical education. As we have outlined there is a concern that the 15 technical routes, which were the cornerstone of the May administration’s approach towards technical education, may be too rigid to enable the desired level of adaptability within our education and training system. Such routes should be designed so that they are responsive and adaptive to change. In short, the 15 technical routes must be our servant, not our master.

The Sainsbury Review, which initiated this strand of policy development, was keen to emphasise the importance of ensuring “flexible bridging provision” through any reforms to the English system. It understood that this would help support learners moving between education that is more academically or technically focused as they progress through different levels of education, stating that:

“We recommend the government undertakes further work to examine how to ensure clear progression routes develop from levels 4 and 5 to degree apprenticeships and other higher education at levels 6 and 7. This work should be carried out in the context of existing and proposed structures and funding rules for higher education provision in England.”

While much of the Sainsbury Review provides the central drive to the May government’s policy direction in this area, this crucial point was very much under-emphasised in some of the more politically focused speeches from figures in that government.

It is also vital to consider the value that lies in the diversity of learning environments for technical education. Modern universities contribute significantly to this space and support the supply of skills and increased productivity in regions around the country. If the strategic objective, as stated by the previous government, is to bolster and grow overall level 4 and 5 study, then it would seem necessary to promote and energise all areas of provision across all types of provider.

Reforms that prioritise or incentivise one element or section of technical education provision over others risk creating a new hierarchy of qualifications that redirects or reorganises the same pool of prospective students or work-based learners. This would likely fail to achieve the objective of expanding the total amount of high-quality provision taking place in this important space. A diverse choice of learning environments available to students supports overall participation. Indeed, students make informed choices when deciding to study technical education at universities, many choose this path precisely because of the unique learning environment that a university setting offers for higher technical education.

39 Independent report on technical education, p.12.
It is vital to recognise the value of progression and the flexibility of learning pathways in technical education. Creating an educational environment in which individuals can “step on” and “step off” of different levels of education will enhance the capacity of the population to upskill or retrain. England still stands to learn a great deal from the experience of other countries in establishing more flexible networks of education. Modern universities, through their partnerships and their recent incorporation of colleges into their structures, are making a positive reality of this flexibility.  

It is important to highlight the role played by universities in delivering technical education because this provision is widely overlooked in reports and discussions on advanced vocational or technical study. Much of the recent debate over technical education in England has at the same time limited itself to a rather narrow concept of value when comparing different educational levels, in relation to either public investment or graduate earnings returns in the UK. It would also be a terrible failure of ambition to see level 4 or 5 as the definitive qualification terminus for a large proportion of the population, disconnecting them from opportunities that accessing educational levels above this can bring.  

Whether called level 4 and 5, technical education, sub-bachelor or sub-degree provision, these courses are part of the wider context of UK higher education. Therefore, there needs to be a broader consideration of what is of value within technical and higher education in order to promote a dynamic and responsive education and training system. Modern universities will continue to play a substantial and growing role in providing students and employers with high-quality technical education.

40 MillionPlus (2018). Forgotten Learners: building a system that works for mature students, www.millionplus.ac.uk/policy/reports/forgotten-learners-building-a-system-that-works-for-mature-students