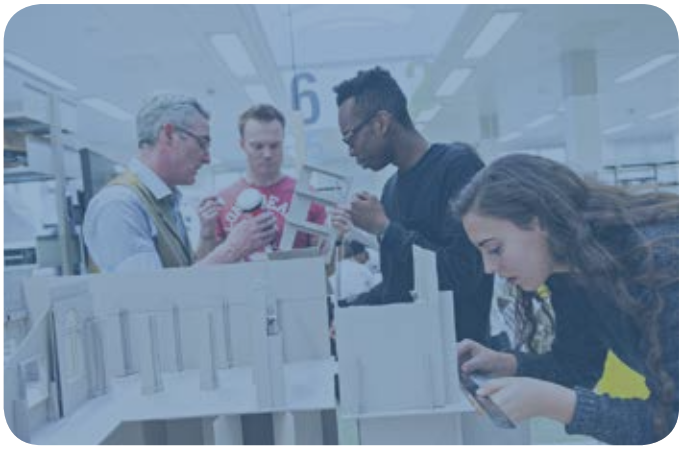
Ladders of opportunity:

Strengthening the role of universities in technical and professional education



University Alliance

Higher education qualifications at each level of the Framework for Higher Education Qualifications (FHEQ) in England, Wales and Northern Ireland[1]

FHEQ level	Typical higher education qualifications within each level
8	• Doctoral Degrees (e.g. PhD/DPhil – including new-route PhD; EdD; DBA; DClinPsy)
7	• Master's degrees (e.g. MPhil; MLitt; MRes; MA; MSc) • Postgraduate diplomas • Postgraduate Certificates in Education (PGCE) • Postgraduate certificates • Degree apprenticeships (master's level)
6	• Bachelor's degrees with honours (BA/BSc Hons) • Bachelor's degrees • Professional Graduate Certificates in Education (PGCE) • Graduate diplomas • Graduate certificates • Degree apprenticeships
5	• Foundation degrees (e.g. FdA; FdSc) • Diplomas of Higher Education (DipHE) • Higher National Diplomas (HND) • Higher apprenticeships
4	• Higher National Certificates (HNC) • Certificates of Higher Education (CertHE) • Higher apprenticeships

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Foreword

John Latham

Chair, University Alliance and Vice-Chancellor, Coventry University

The diversity of institutions that make up the UK's world-class higher education system, and the role they play in providing learners of all ages and all backgrounds with the knowledge, skills and behaviours they need to adapt to and contribute to a rapidly changing world, must be celebrated. This includes understanding the excellent technical and professional education that takes place in universities – through qualifications like HNCs and HNDs, degrees and degree apprenticeships and post-graduate study such as professional doctorates.

The fact that this makes up a significant proportion of the courses that universities teach makes it impractical to think of education as existing in two separate streams - 'academic' and 'technical'. Up and down the land, universities are offering courses that provide students with both broad-based knowledge and specific occupational competence.

This report showcases the distinct technical and professional education that Alliance universities offer their students, drawn from all parts of society, who go on to thrive in careers that contribute to the UK's industrial base and public services. With their roots in the first Industrial Revolution, Alliance universities still focus on the acquisition of applied knowledge and skills. Alongside this, they have invested in research, knowledge transfer and enterprise activity to strengthen their offer to the communities around them.

While the wide range of technical and professional learning options within higher education are excellent, there are barriers that need to be addressed to make the system work better. By better understanding skills gaps and shortages across regions and sectors, providing better information about the technical and professional education on offer and supporting the development of systems that support more flexible ways of learning, the current system could be in a better position to meet employer and student demand.

In the context of the ongoing review of post-18 education and funding in England and technical education at Levels 4 and 5, we welcome the opportunity to present recommendations that will help bolster the role of technical and professional education delivered by universities in strengthening our economy and society.

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Executive summary

Public debate about the UK's higher education system has long neglected the crucial role of universities in preparing students for specific career paths that meet the needs of industry or public services. This is what we mean by the term 'professional and technical education'. By delivering education of this kind, universities support productivity and, just as importantly, provide opportunities for students from a wide range of backgrounds to succeed. If politicians and policy makers do not understand the contribution that universities make to technical and professional education, they may waste time and public money in an attempt to recreate something that already exists rather than focussing more efficiently on how it can be improved.

This report first of all seeks to describe what university technical and professional education is so that the policy recommendations are rooted in the real world. It then identifies some of the barriers that prevent it from being delivered as flexibly as possible for the benefit of students. Finally, it makes some recommendations for government, universities and employers to work collaboratively to improve technical and professional education.

Most technical and professional education takes place in modern universities as a continuation and development of their mission to provide skills that meet the needs of industry and the professions. They have developed a distinct form of pedagogy that supports the acquisition of applied knowledge and skills, and invested in research, knowledge transfer and enterprise activity to strengthen their offer to the communities around them. Alliance universities make a distinctive offer to their students, which shapes the way in which their courses are designed and delivered. This has three key dimensions:

1. Real world pedagogy: Alliance universities incorporate work-based learning and practical projects based on real world problems in their courses. This helps to prepare students for the tasks they will be expected to tackle in the workplace.
2. Access and social diversity: Alliance universities are committed to recruiting and supporting students from low participation backgrounds. They are experienced at helping students fill gaps in their preparation for university and making sure they feel that they belong at the university, while helping them to build the social capital they need to succeed.
3. Regional and local engagement: Alliance universities work with local authorities, Local Enterprise Partnerships and employers to make sure courses align with local economic and social priorities and encourage employability. Through shared use of their resources and facilities, Alliance universities also encourage knowledge exchange and the development of responses to pressing community issues.

Technical and professional education is sometimes associated with sub-degree level higher education. While there is demand at Levels 4 and 5, employers and students also want technical and professional provision at degree and postgraduate levels. At **Levels 4 and 5**, many Alliance universities have developed courses to respond to specific industrial or local needs. They offer a wide range of higher apprenticeships, and work with further education colleges to provide students with opportunities to obtain a relevant qualification near home, and progress to further study should they wish to do so. **At Level 6**, Alliance universities are leaders in flexible modes of delivery, such as accelerated degree courses, and in modes of delivery that incorporate large components of work-based learning, such as degree apprenticeships and sandwich courses. At **Levels 7 and 8**, Alliance universities are expanding their postgraduate taught, professional doctorate and master's degree apprenticeship offer to meet demand. The student journey is at the centre of this offer. This report showcases examples of students from many backgrounds and their ability to achieve their academic and career objectives through the range of learning options available at Alliance universities.

Nevertheless, there are some barriers to optimal provision – many of which are common to other forms of education too. These include:

- Poor understanding of skills gaps and shortages at a sufficiently granular level (sector and location). Analysis of skills needs across the whole economy can mask wide variations in the extent to which they are required by different sectors and in different locations.
- Poor understanding, by employers and potential students and their advisors, of the extent and quality of technical and professional education on offer – and of what is achieved at each level. This lack of understanding can affect the likelihood that they will see technical and professional education as equal in prestige to other forms of higher education.
- Rigid systems (funding and reporting) that make it difficult for providers to innovate to meet employer and student demand.

To address these barriers, we make the following recommendations:

Better understanding of skills gaps and shortages

1. Ongoing programme of research into skills gaps and shortages by sector and place. To fully understand where there may be gaps in provision, we need an ongoing programme of research aimed at understanding the demand for and deployment of people with HE qualifications within sectors and across the country. This could be a function for Sector Skills Councils and local areas through their Local Industrial Strategies with the Office for Students bringing these together to form a national picture.

Improving understanding by employers and potential students and their advisors of the extent and quality of technical and professional education on offer.

2. Ensure National Careers Service advisers understand what technical and professional education is on offer at universities. Potential students do not always understand the huge diversity of degree programmes on offer at universities or that certain courses are necessary preparation for entering some careers. Excellent and well-informed careers advice could help them make the best choice for them.
3. Explicitly brand programmes as preparation for progression within a particular technical route. Programmes in many subject areas, from Level 4 to Level 8, could be branded as a continuation pathway for a particular technical route, where their subject matter, applied components and PSRB accreditation show strong alignment to that route. A Code of Practice could be put in place to ensure this is only done where appropriate, with the process overseen by route panels. This may help to promote flexible progression of learners from courses like T Levels and Level 3 apprenticeships to higher technical education at an appropriate time. It may help industry to understand which HE qualifications provide solid professional credentials. It may also improve clarity about where technical and professional excellence is being delivered in the higher education sector.
4. Bring employers into the assessment process. Many institutions already involve employers in elements of student assessment, in some cases by inviting them to provide real-world project briefs or advising on practical elements of the assessment for particular modules within programmes. However, this could be extended to encourage the involvement of employers more systematically in the whole assessment regime – for example by bringing employer members onto examination boards in the same manner as external examiners from other higher education institutions, and involving employers directly into the governance of provision through the institution's internal committee structure so they are more immediately involved in programme approval and standards-setting.
5. Directly recognise all achievement at Level 5. In some situations, it may not be clear that honours degrees lead to the same technical and professional proficiency as qualifications at a lower level in the same subject, even where programmes are delivered alongside each other. This is not well understood, and more research is necessary to improve the picture. However, to ensure there is strong comparability across these programmes, relevant degree programmes could have a more explicit interim point of assessment at the end of Level 5. For example, there could be a comprehensive skills-led assessment at the end of the second year which demonstrates the student's ability in applied technical components. This would reinforce the technical and professional credentials of relevant degrees and enable students to have more confidence in exiting at Level 5 should they be considering this.
6. A blended brand for apprenticeships. The government wants apprenticeships to stand as valuable qualifications in their own right, but at the higher level most employers continue to look for a degree qualification as a selection marker, and students rightly want to ensure they are not unduly disadvantaged in the labour market. To square this circle, government should affirm that Level 6 and 7 apprenticeships with sufficient learning volume should normally lead to degrees, and universities should consider amending their regulations, so the designation of the award shows it was achieved through the apprenticeship route. For example, the award might be BScAppr (Hons) 1st Class, in place of BSc (Hons) 1st Class (or a similar description). These would still be treated as classified degrees, with a weighting of 360 credits. Policy should lead towards these routes becoming more integrated, not separated.

More flexible systems

7. More flexible funding. In the short-term, allow holders of Level 6-8 awards to access an income-contingent loan for an explicitly occupational programme at Level 4-5, on the same basis as the new Master's Loan. There should be a clear system for acquiring approval for a programme to be funded this way, tied to rigorous technical and professional accreditation. In the longer term, the post-18 education funding review should look carefully at how the funding system as a whole might allow people to more easily blend full-time and part-time study, across different stages in a highly flexible way. One dimension of this might be to make it easier for students to use income-contingent loans to support modular study,

perhaps blending courses at different levels, and from different institutions, in a new form of portfolio award.

8. Responsible metrics. Outcomes metrics should be carefully designed to ensure they accurately reflect what should be regarded as success for students who exit at Levels 4 and 5, and that early exit with a Level 5 award from a programme with a Level 6 aim counts as successful completion. They should be designed to be meaningful for all modes of study and all types of students including mature and part-time learners.
9. Flexible final year of a degree. The final year of a degree (i.e. the Level 6 stage) could become more self-directed with more emphasis on multiple independent projects. In many cases, large parts of the final stage are already project-driven in applied subject areas, and in some sectors the substance of a final project is very important for employability. However, if it were more self-contained and self-directed this may open options for deferred progression, with some students choosing to exit at Level 5 and then (within a specified amount of time) completing projects that lead to a full degree award. Institutions often have procedures for accrediting prior and experiential learning (APEL) that a student has acquired before starting a course, but not usually for accrediting extended experiential learning after completing a course ("AEEL") – leading to supplementary award. This could allow people another route to completing a degree after exiting at Level 5, without returning to formal education. Not all institutional regulations would currently allow this, and this should be reviewed. Similarly, some universities already report that students, particularly those with extensive work placements or on sandwich courses, would like to stay with their employer and complete their degree as a degree apprentice.
10. Studentship funding for professional doctorates. The arrival of doctoral loans from Autumn 2018 is expected to help drive participation in Level 8 study, especially in applied programmes. However, there remains no grant funding for professional doctorates, either from public or institutional sources. There should be a competitive funding stream for professional doctoral programmes, to parallel existing research council doctoral studentships. This stream could be delivered by Innovate UK in its new role as a council within UKRI, helping to balance the portfolio of doctoral training support offered across the range of UKRI activities.
11. Postgraduate taught programmes. Provision at Level 7 seems to be working well, and will be further supported by Master's Loans. Careful monitoring of the interaction between home markets and international recruitment should be maintained, as many taught programmes at Level 7 are highly reliant on international students to be sustained. The Postgraduate Taught Experience Survey (PTES) could be allocated additional funding to extend its reach and understand the specific applied value of relevant PGT programmes to careers in industry and public services.

The technical and professional challenge

The government's new industrial strategy states that Britain will "establish a technical education system that rivals the best in the world to stand alongside our world-class higher education system."[2] This is a category error. The vision of two systems, with its implication of two different student pathways and two different forms of engagement with industry and public services, is not only at odds with the current reality but, if reinforced, will hold Britain back. In reality, a considerable part of our world-class higher education system delivers advanced technical and professional education, and this aspect of higher education's role is improving. We do need better-defined technical routes so young people from all backgrounds can effectively progress – but these routes should continue into, and through, higher education. To assure their role in this holistic system, universities have to become more applied, with more programmes linked to employers and delivered in work-based formats, more real-world learning experiences, a strong commitment to access from all sections of society, and deep engagement with regional and local economies. It is good to see that the recently announced review of post-18 education will look at funding in a more integrated way, but to do this it must get to grips with the realities of technical and professional education.

General education is a very important foundation for success in many careers. Achieving good grades in baseline national qualifications such as A Levels remain a very strong predictor of career paths and people who do not reach Level 3 will tend to be excluded from many sections of the labour market. Any successful progression through higher education will strengthen people's opportunities, and the extent to which they can move effectively in a labour market that demands ever more flexibility. Higher education, at any level, in any subject, and in any mode of study, will produce new knowledge, new perspectives, connections with others, and personal development. Some higher education pathways may also confer particularly 'high status' academic provenance, which may in turn be very important for later access to 'high status' occupations.

Some occupations demand specific knowledge, skills and behaviours. It may be that these roles require certain practical abilities, such as manual dexterity or the ability to use specialist equipment, as is often the case in health or engineering occupations. Many require extensive training in dealing with people – who may be in distress, or at risk in some way; social work being a prime example. These skills must frequently be combined with reasoning, critical analysis, problem solving, the application of learning to unfamiliar situations – many occupations in business and management, for example, involve these dimensions. Occupational effectiveness may also demand synthesis of ideas from other domains of knowledge or practice to be effective – the clearest examples may be on the border of professional practice and art, such as architecture or graphic design.

This kind of education is not confined to a particular level of study, or type of institution. As Professor Gareth Parry puts it: "Courses of higher education with a vocational or professional orientation are offered at all levels of undergraduate and postgraduate education... They are taught by the older and newer public universities as well as by further education colleges and by private providers. Some programmes are undertaken in partnership with employers and some are provided independently by businesses for their employees. However, there is no formal categorisation of programmes, subjects and institutions according to their academic, vocational or professional character. Rather, there is a spectrum of vocational provision, with large parts of undergraduate and postgraduate education concerned with professional formation, advanced vocational training and the continuing education and development of the workforce."[3]

At a national level, education of this kind plays an important role in maintaining and improving productivity – where the UK is known to have a problem. Where people have high levels of capability in their occupations, they are likely to be more effective, and at an aggregate level this drives economic performance. They may also remain in those occupations for longer, gaining experience and becoming more effective. On the other hand, any significant skills shortages may impede the performance of sectors. Recent exercises conducted to evaluate the UK's technical education system, including the 2016 Sainsbury Review, have referred to the "chronic shortage of people with technician-level skills" and the "challenges facing the development of fit-for-purpose qualifications at Levels 4 and 5 in England".[4] At the other end of the spectrum, people with vocational Level 7 qualifications are sought after for their advanced skills, with such qualifications conferring a strong labour market advantage. The government has created an income-contingent loan scheme for these courses to support student demand and improve fair access. A further scheme will shortly follow at Level 8 – where applied doctoral projects help to foster innovation within firms. In between, the value of Level 6 qualifications – chiefly three-year full-time honours degrees – has become increasingly contested, with concern over their occupational relevance and returns on investment. New forms of provision such as degree

apprenticeships and accelerated degrees may disrupt the picture, but for now the traditional degree remains immensely attractive to young applicants (though less so for those already in work who tend to need more flexible study options).

In this report, we are interested in **education that equips people (whether new to work or already in work), to follow specific career paths that meet the needs of industry or public services**, and we want to explain how **universities are important to achieving this across all levels of higher education**. We also want to reveal some of the challenges and barriers to universities improving how they deliver this kind of education and suggest some changes that might create improvement.

A note on language

In the short passage above we have already used a wide range of terms which swim around the debate on education and skills – 'academic', 'vocational', 'higher', 'further', 'applied', 'training', 'technical', 'professional', and so on. Because our main interest is the work that drives industry and public services, we are therefore focused on occupations and careers, and it follows that we mainly use the language of technical and professional education. This is also a pragmatic choice, as concern for both technical routes to success, and for access to the professions, has been growing in political and policy circles in recent years. However, we do not want in any way to diminish the role that more 'academic' forms of learning, in schools, colleges or universities, may play in forming capable people in many walks of life, nor do we object to the use of the term 'training' to describe many higher education programmes – indeed, the term has long been applied to medical training, research training, and legal training. What really matters here is what educational programmes are seeking to do for people, and how well they do it.

The role of universities

A very large number of university programmes have a technical and professional character. It is very hard to know precisely how many, as some programmes are much more explicitly applied than others, and at Level 6 there remains some provision of 'joint honours' in which students may choose to mix a more applied subject with a more conceptual one. However, we would estimate that the vast majority of university provision at Levels 4/5 meets the definition set out above, and likewise a majority of Level 7 provision. At other levels it is more mixed, but we think it would be realistic to say that between one third and one half of all Level 6 programmes would meet the definition, and this proportion is rising.

But there are clear and stark challenges for universities to show the worth of this activity. Perhaps the most serious expression of this comes from Craig Holmes and Ken Mayhew, of the highly-regarded SKOPE research centre on skills and economic performance. They say: "There are major questions about the internal organization of universities that have received insufficient attention. These include the quality of the offer, the efficiency of the operation, and the setting of priorities (teaching versus research; under-graduate versus graduate numbers). At the same time, it is far from clear that the HE sector has got to grips with either the threats or the opportunities presented by technological developments. These could dramatically change cost structures of HE institutions and also transform the labour market for which these institutions are preparing their students."[5] Many recent interventions in the media have expressed versions of this challenge, and there is now a great deal of pressure on universities to reflect on their role.

One way to see the challenge is that universities remain a uniquely suitable place for students to acquire four key forms of capital for the modern labour market:[6]

- Human capital (knowledge, skills and competences);
- Social capital (networks and connections);
- Cultural capital (wider knowledge beyond the immediate occupational field);
- Identity capital (character attributes such as self-confidence and self-efficacy).

But there are risks to this. For example, universities may not be regarded by some as being as strong in the skills element of human capital creation as other kinds of providers, and they may fall behind in other areas if organisations in different sectors come into the education landscape with new and highly innovative approaches. Universities may come to be regarded as an expensive way to achieve these goals, compared to alternatives.

In some areas, universities are clearly meeting the challenges. Prior to its closure, HEFCE released experimental research measuring how vocational subjects are, in respect of how reliably they place people in a small number of directly related occupations – examples of strongly vocational subjects include: health subjects, teaching, architecture, journalism, law, marketing, accounting, human resource management, and finance. The conclusions of the research were that: "the relationship between how vocational a subject is and employment outcomes shows that graduates in more vocational subjects are more likely to be employed in highly skilled roles. This holds even when controlling for individual and institutional characteristics, and when graduates in medicine and dentistry, veterinary sciences and subjects allied to medicine are excluded… more vocational subjects are associated with higher early career

earnings, again this result holds when other factors are controlled for."[7] There is also a crucial social justice and social mobility dimension to this kind of provision – it gives large numbers of students from disadvantaged backgrounds new advantages in the labour market by becoming more skilled, as well as access to key social networks and several forms of cultural capital. Access to universities from disadvantaged groups of young entrants has been rising consistently in recent years.

However, the challenges to universities must be taken seriously and there are some important things universities must do. Where programmes are vocational, it is crucial that their skills development function is very strong, or the programme will not give the student (or in due course, the student's employer) what they need. In addition, it is important that students who may be enrolled on new routes such as apprenticeships or accelerated provision are still able to access wider elements of the university offer which inculcate other forms of capital. Universities must also innovate deeply on learning and teaching approaches and find ways to become more deeply engaged with employers across the full range of sectors. Serious work also needs to be done to address the falling numbers of mature students entering university – many of whom would have chosen technical and professional subjects often with an intended exit award at Level 4 or 5.

Where there are progression routes, they should be made as flexible as possible, so students can participate, leave and re-join, and change direction as their needs change. Universities already form partnerships with colleges to deliver more opportunities at Levels 4 and 5, and then provide a clear and immediate progression path beyond that. It is important to remember that the vast majority of undergraduate students on full degree courses begin their study journey at Level 4 and during the programme rise to Level 6 – they do not begin at Level 6. This is an important aspect of the landscape for the review of technical education at Levels 4 and 5 to consider. It may be that in many contexts where we perceive a skills gap at Level 5, this could be a misperception if students on parallel degree programmes leading to Level 6 are acquiring at least the equivalent skills, knowledge and behaviours as those who complete a Level 5 programme in the same field. In principle, this should be the case, but universities should proactively ensure that it is, and that this is recognised. There could also be more flexible and innovative ways to continue the journey to Level 6 award, with more options to 'earn and learn', move into employment and complete degrees over time.

Care should also be taken on this boundary with criticism of 'downward progression' – around 15,000 students per year who already have a degree enrol on a Level 5 course. But this may be completely rational, for example graduates in many non-applied subjects may prefer to study a technical and professional qualification at Level 5 rather than an applied Master's degree at Level 7. These two different progression routes will confer different skills and abilities on students, and imply different career paths – but either of them may be right in the context of the student's ambitions.

In the following sections, we show how Alliance universities are working towards meeting these challenges. We then go on to explore some practical policy ideas for how the role of universities in technical and professional education can be strengthened.

The Alliance approach: how it makes a difference

Alliance universities make a distinctive offer to their students, which shapes the way in which courses at Alliance universities are designed and delivered. This has three key dimensions.

Real world pedagogy

At Alliance universities, many courses are designed to incorporate project work aimed at responding to real industrial and public service needs, which provides students with opportunities to 'learn by doing', gain and strengthen the professional and technical skills they need to succeed in future work and/or study, and interact directly with industry leaders and entrepreneurs.[9]

Technical and professional courses at Alliance universities incorporate work-based learning and practical projects that are aimed at solving real world problems in course content, and at equipping students for the tasks they are or will be expected to tackle in the workplace. Through these activities, students are gaining disciplinary knowledge and skills, as well as cross-disciplinary personal attitudes and capabilities that ensure they are well equipped to problem solve and adapt rapidly to changing environments. By focusing on sustained student success in technical and professional education, Alliance universities have developed areas of collective distinctiveness in learning and teaching, which include:

- Co-creation and co-production of courses with students, employers, community groups and service users;
- Immersive learning and assessment, using simulations of what students would experience in the real world;
- A commitment to explore and trial alternative modes of provision;
- Responsive learning environments.

To showcase, enhance and support these areas of distinctiveness, the Alliance has created a Teaching Excellence Alliance programme. As a collective activity between 16 Alliance universities, it will provide development opportunities, resources and recognition for course teams, and strengthen the real-world pedagogy elements within courses.

Access and social diversity

Alliance universities offer support to all types of learners from an early stage to ensure they can access the course they want, succeed on it, and progress to further study or a post-study career opportunity. For example, through measures set out in their access agreements, access and participation plans or fee and access plans, many Alliance universities conduct outreach work to inform prospective university students of all types of higher education study options available at a wide range of institutions across the UK. Many Alliance universities also offer a non-award 'foundation year' for international students to help ensure they are well prepared for their undergraduate course.

Ensuring learners are able to acquire the skills and the social capital they need to attain their personal and professional post-study objectives is a key component of the widening participation, access and social mobility activities of Alliance universities. Through the commitments set out in their access agreements, access and participation plans or fee and access plans, Alliance universities are strongly dedicated to constant

Regional and local engagement

Alliance universities are strongly committed to the success of the cities and regions in which they are located. Our universities work closely with local authorities and English Local Enterprise Partnerships to ensure their activities align with local economic and social priorities and support employability in their respective regions. Collaborations with FE colleges make our courses accessible to a wider range of students. Engagement with business on course content and development can lead to opportunities to advance research, innovation and enterprise by making use of the resources available on university campuses. Many Alliance universities host incubator and accelerator spaces on their campuses to help entrepreneurs develop new business ideas, and to help foster small and medium business creation amongst students and members of the wider community. Industry-relevant research may also be conducted alongside activities aimed at developing well-rounded graduates. For example, Coventry University's Institute for Advanced Manufacturing and Engineering's 'Faculty on the Factory Floor', developed in collaboration with Unipart, allows professors, researchers, industry professionals and students to collaborate on research projects aimed at developing solutions in sectors such as aerospace and automotive in a state-of-the-art facility.[10]

Employer engagement also figures prominently in course design and delivery at Alliance universities. For example, many faculties, schools and courses have formed employer advisory panels and boards to help ensure course content incorporates practice-based elements and remains aligned

with industry trends. The interactions with these panels and boards also help foster strong links between employers and students regarding future career opportunities. Furthermore, as the creation of new apprenticeships is driven by employer-led processes, Alliance universities have been building on their longstanding relationships – as well as developing new links – with regional and national employers to develop high quality programmes that meet employer and learner demand.

Alliance universities are continuously engaging with businesses of all sizes to ensure their courses meet industry needs. They also work closely with public sector organisations to ensure their students are well prepared to work in environments where day-to-day tasks may also have a broad societal impact. For example, the University of Brighton works closely with local NHS Trusts, such as the Sussex Community NHS Foundation Trust and the Brighton and Sussex University Hospitals NHS Trust, to ensure nursing students are able to benefit from practice-based learning and professional development opportunities throughout their studies.[11,12]

Alliance universities are also actively incorporating technical and professional education in their activities aimed at responding to pressing issues in their communities. For example, the Nottingham Civic Exchange (NCE) at Nottingham Trent University develops "communities of practice" comprised of students, researchers and partners to respond to public policy issues.[13] Among its current activities, the NCE is developing a research programme incorporating university staff, students and community members to better understand issues the economic and social challenges 'Ordinary Working Families' face in Nottingham and Nottinghamshire and to develop solutions addressing these challenges.


University of
South Wales
Prifysgol
De Cymru

Every level matters: overview

Levels 4 and 5

Alliance universities play an important role in the development and delivery of technical and professional courses at Levels 4 and 5. Twelve Alliance universities offer qualifications at Levels 4 and 5 from the outset (i.e. as 'target awards' and not only as 'exit awards' where people leave a degree programme early). These programmes are often delivered in partnership with further education colleges. This includes over 30 apprenticeship programmes on offer with a further dozen in development.

The Alliance universities that offer qualifications at Levels 4 and 5 have mainly chosen to do so in line with their commitments to community engagement and regional economic development. While some universities have developed a specialised offer at these levels (for example, the creation of a programme to respond to the specific technical and professional skills needs of an employer), others have chosen to offer a wide range of programmes across disciplines not only to meet industry demand, but to allow learners to obtain a mix of technical and academic skills needed for the modern economy.

The provision of qualifications at these levels may also allow learners who may not have previously considered university study to obtain a first qualification in a higher education setting, to build their confidence through the completion of a qualification and to provide them with opportunities to progress.

Level 6

Alliance universities focus on education at Level 6 with a technical and professional focus. They educate 39% of students taking sandwich courses with a year's experience in industry. Alliance universities were among the first to offer degree apprenticeships in England and are committed to developing and offering programmes that align with the government's apprenticeships agenda and the priorities of employer-led trailblazer groups. They currently offer close to 90 Level 6 degree apprenticeship programmes, with over 70 additional programmes in development.

Alliance universities are also leaders in flexible modes of course delivery at Level 6, offering students a wide range of choices that allow them to obtain a degree while balancing work and life commitments. For example, at least five Alliance universities currently offer accelerated degree courses, and many others are considering new accelerated degree courses when tuition fee cap uplifts are enacted. 41% of the UK's part-time students are currently enrolled at an Alliance university.

According to experimental statistics using the Longitudinal Education Outcomes data from June 2017[14], the proportion of undergraduate degree holders from Alliance universities in further study, sustained employment or both five years after graduation is higher than the average for Great Britain in 14 of 23 subject areas. In particular, over 80% of business and administration graduates, over 82% of social studies (excluding economics) graduates, and over 85% of nursing graduates from Alliance universities are undertaking these activities.

Levels 7 and 8

Alliance universities offer a wide range of postgraduate (taught and research) courses to meet learner and employer demand for advanced high-level skills. In particular, the number of students entering postgraduate taught study has increased over the last decade[15], and Alliance universities have expanded their offer to meet this demand.

They also currently offer nine Level 7 master's degree apprenticeship programmes, mainly in business administration. Close to 20 additional programmes will be launched in the coming years, pending standards approval.

All Alliance universities offer at least one professional doctorate and over 80 professional doctorate programmes are on offer across all Alliance universities. Over 70% of professional doctorates at Alliance universities are in four subject groups: biological sciences, business and administrative studies, subjects allied to medicine and education.

As part of its collaborative activity, University Alliance has launched the Doctoral Training Alliance (DTA) model in response to industry needs. The DTA is the largest multi-partner and only nationwide doctoral training initiative of its kind. It provides postgraduate research training through cohort-based learning and employer co-designed training programmes. There are currently three DTA programmes in Applied Biosciences for Health, Energy and Social Policy.

Images on opposite page: (top) Students in the University of South Wales' National Cyber Security Academy, (bottom) Engineering students at Oxford Brookes University

Innovative Alliance provision at Levels 4 and 5

INSTITUTIONAL CASE STUDY: THE OPEN UNIVERSITY
FOUNDATION DEGREE IN ENGINEERING

As part of its mission to offer opportunities for higher education to all, all Open University Level 6 (degree) qualifications as well as the Open degree are offered with milestone qualifications at Levels 4 and 5. The Open University has also developed a range of certificates and modules to help students already in the workplace obtain new skills to help them progress in their education and in their careers. For example, The Open University offers a Foundation Degree in Engineering alongside BEng and MEng qualifications to provide a more vocational route to a Level 5 qualification for students already employed in engineering. These qualifications include two work-based learning modules that include content and activities directly linked to the student's working practice and focus heavily on employability skills. The modules are generic, allowing students from a very wide range of work environments, from large companies to self-employment, to participate.[16]

INSTITUTIONAL CASE STUDY: UNIVERSITY OF SOUTH WALES
CERTIFICATE OF HIGHER EDUCATION (CertHE) IN HEALTHCARE NURSING SUPPORT WORKER EDUCATION

The CertHE in Healthcare Nursing Support Worker Education is a two-year part-time course designed to provide continuing higher education for individuals working as support workers in health care settings. The course serves several purposes. Its primary aim is to support the development of Healthcare Support Workers and promote standards of care across all contexts of practice. It also facilitates the promotion of completing students to Band 4 positions in the NHS and provides an exemption from the first year of a Bachelor of Nursing degree. The course provides students with access to a university experience and differentiates from an NVQ by providing theory to improve practice. It has core content combined with modules that align to students' field of practice, and is delivered through blended learning with eight study days. Each student is assigned a clinical and an academic mentor/tutor. The course had 140 students enrolled in 2017-18.[17]

INSTITUTIONAL CASE STUDY: UNIVERSITY OF CENTRAL LANCASHIRE
HIGHER NATIONAL CERTIFICATE (HNC) IN CONSTRUCTION, DELIVERED IN COLLABORATION WITH PRESTON'S COLLEGE

UCLan enjoys well-established, extensive links with 24 partner institutions, mainly across the North West of England. Each partner delivers a range of UCLan higher education courses, allowing students to study locally for their higher education award. Some partnership courses enable students to begin their studies at a partner institution and complete them at UCLan, while others are entirely delivered by the partner institution. Many of the courses run in partner institutions also provide the opportunity to progress onto study for a higher qualification at UCLan. Approximately 4,500 students are based in UCLan partner institutions each year, offering around 200 higher education courses.

For example, UCLan offers an HNC in Construction in collaboration with Preston's College. The course prepares students to move into areas such as project management, construction design, quantity and building surveying or architectural technology. It includes a mandatory workplace module and industry-based team project. While the course is mainly delivered at Preston's College, students also attend sessions at UCLan's construction labs as part of the course's Properties of Materials module. The qualification is recognised by major professional bodies such as RICS, TRADA and CIAT, and graduates may be able to progress onto degree courses in architecture, building surveying and construction management at UCLan.[19, 20]

INSTITUTIONAL CASE STUDY: COVENTRY UNIVERSITY/CU COVENTRY
HIGHER NATIONAL CERTIFICATE (HNC) AND HIGHER NATIONAL DIPLOMA (HND) IN LAW & PRACTICE

CU Coventry delivers higher education courses in a flexible manner through its unique timetable which covers one course module at a time. Learners are able to benefit from small group tutorials and dedicated employability support throughout their study. They can also take part in multi-campus learning across the institution's three campuses.

CU Coventry offers a Law and Practice programme which can lead to a Bachelor of Arts (Honours) after three years of study. A Foundation Year (Year 0) is also available for students who do not meet Year 1 entry requirements but wish to enter the programme. Students who complete one year of study are awarded an HNC, and students who complete two years of study are awarded an HND. The recognition of the knowledge and skills learners acquire throughout after each year of study allows them to exit and resume their studies based on their needs. There are also opportunities for students to obtain hands-on industry experience during their studies through work placements.[21]

INSTITUTIONAL CASE STUDY: UNIVERSITY OF BRIGHTON
HEALTHCARE ASSISTANT PRACTITIONER HIGHER APPRENTICESHIP

Incorporating the Health and Social Care Practice Foundation Degree, this Higher Apprenticeship (at Level 5) is suitable for people currently working in a health or social care setting. It develops knowledge and skills needed to undertake assistant or associate practitioner roles (for example, roles in Band 4 of the NHS pay scale).

The apprenticeship is delivered over a two-year period – with one study day per week for two academic years and 675 hours of external placements over two years. Building on the University of Brighton's longstanding partnerships with local health and social care sector providers, apprentices are able to gain work experiences in a wide range of healthcare settings and receive strong support from employers throughout their learning – on and off the job. As part of their off the job/on campus training, apprentices are able to benefit from the university's learning facilities, such as a clinical skills and simulation suite.[22]

INDIVIDUAL CASE STUDY: SIMON JONES
FOUNDATION DEGREE IN SCIENCE GRADUATE (VIA RUNSHAW COLLEGE), BA (Hons) SOCIAL WORK GRADUATE UNIVERSITY OF CENTRAL LANCASHIRE

Simon Jones was a former soldier who spent 26 years in the British Army but swapped the front line for the University of Central Lancashire (UCLan). The 46-year-old graduated with a First in BA (Hons) in Social Work in July 2017 and now works for Lancashire County Council's Children's Social Care team.

Simon's journey wasn't straightforward, and he was rejected from 13 universities because, although he held a range of management qualifications, he had left school before sitting his exams. UCLan offered him the opportunity to complete a foundation degree in science at Runshaw College and then progress to social work.

He still needed to get his GCSEs, so in his first year of study he was attending night school as well as studying for his degree and being a dad.

Innovative Alliance provision at Level 6

INSTITUTIONAL CASE STUDY: UNIVERSITY OF SALFORD
BSc (Hons) IN MEDIA TECHNOLOGY

This degree provides students with the theoretical and technical skills needed to work in areas such as broadcast technical operations, broadcast engineering, systems design and network and broadcast flow. This course is delivered at Salford's MediaCityUK campus, which provides students with opportunities to gain knowledge through a combination of lectures, seminars and practical operational skills workshops. Students also have the opportunity to work on industry live briefs and an Honours project on the technology area of their choice, all while learning about radio and TV broadcasting requirements in Britain and Europe. The course has links with key industry partners, such as the BBC, SIS, Granada, TSL and Megahertz UK, and has full accreditation by Creative Skillset.

This course – along with other undergraduate courses offered by the University of Salford – accepts students from a wide range of backgrounds, including Access to HE graduates, and BTEC National Diploma holders, as long as they meet the stated entry requirements. Mature students with relevant experience may also be accepted onto the course. Students may also enter the course through the Salford Alternative Entry Scheme – a bespoke assessment option for prospective students who may not meet the specific requirements to do so.[23, 24]

INSTITUTIONAL CASE STUDY: MANCHESTER METROPOLITAN UNIVERSITY
DIGITAL AND TECHNOLOGY SOLUTIONS DEGREE APPRENTICESHIP LEADING TO BSc (Hons)

Manchester Metropolitan University is a leading university for degree apprenticeships, building on its longstanding collaborations with regional and national employers. The university was among one of the first in England to start delivery of the Digital and Technology Solutions degree apprenticeship programme in September 2015. As of Autumn 2017, there are over 250 apprentices on the programme.[25]

As part of the employer-led process driving the development of new apprenticeship standards, the programme was created in collaboration with employers and has received Tech Industry Gold Accreditation from the Tech Partnership. It brings together expertise from the university's Business School, School of Computing and Department of Information and Communications to provide an academic IT education with practical work-based learning. The programme is delivered through part-time study over a four year period, using a mixture of day release and block teaching equivalent to 33 days per year. Upon completion of the programme, apprentices are awarded a BSc(Hons) Digital and Technology Solutions.

Building on the success of the Level 6 degree apprenticeship in this area, Manchester Metropolitan University is hoping to commence delivery of a Digital and Technology Solutions Master's Degree Apprenticeship in September 2018, once final approval has been granted by the Institute for Apprenticeships.

INSTITUTIONAL CASE STUDY: UNIVERSITY OF GREENWICH
BSc (Hons) IN PUBLIC HEALTH

The multidisciplinary content of this degree focuses on exploring strategies that will improve the UK's health. These include social changes, targeting inequalities, designing and implementing public policies, and investigating the impact of new services, better housing and local regeneration schemes. This degree has a strong focus on graduate employment and provides students with the opportunities to gain the knowledge and experience they need to become a registered public health practitioner via the UK Public Health Register. All students enrolled in the programme take part in a work placement opportunity in their final year of study. This programme is also offered as a sandwich course – where students complete a year-long work placement after their first two years of study. The university is continuously developing links with health and social care providers to help graduates into work and maintains close links with professional bodies representing the national public health workforce to ensure course content remains current.[26]

INDIVIDUAL CASE STUDY: VINCENT PERICARD
BA (Hons) BUSINESS MANAGEMENT AND ENTREPRENEURSHIP GRADUATE
UNIVERSITY OF PORTSMOUTH

Vincent was a professional football player who played for Juventus and at two Premier League teams. Unfortunately, health problems led to retirement at 29. Having no formal education to fall back on, Vincent was faced with questions about what to do next. He started an organisation to help support professional sports people deal with mental health problems, but a lack of formal business training meant he was making mistakes. He decided to apply to the University of Portsmouth due to his previous positive experiences of playing football for the city's club. At first he applied through UCAS and was declined due to his lack of formal education. However, by contacting the university directly, he was offered a place studying business. "They didn't just look at my grades, they looked at me, the person behind them. That personal approach was so important." he said. During his study, with the support of lecturers and Portsmouth's Innovation Space, he was able to put together a business plan and develop 'What's Up?' – an app that's all about asking 'how are you today?' Upon completing his studies, Vincent was able to leave Portsmouth with a qualification, two clients and links with partners such as Mind and the NHS.

INDIVIDUAL CASE STUDY: TOM DOUGHTY
BSc (Hons) CYBERSECURITY AND NETWORKS STUDENT
TEESSIDE UNIVERSITY

After working as a care assistant for six years, Tom wanted a different career. He decided to take up an apprenticeship in information technology, which provided him with an opportunity to gain the skills he needed in the field while gaining work experience and earning a salary. Two years into his apprenticeship he knew he had to work towards a degree to build a career in IT. Tom chose to study at Teesside University because of the university's proximity to his hometown of Hartlepool and its strong reputation. It was also one of the only universities to accept his IT apprenticeship. Although he applied to study computer science, he was directed towards cybersecurity during his interview as it was more relevant to his interests. The course is providing him with opportunities to expand his skills in areas such as network scripting, data acquisition and security.

INDIVIDUAL CASE STUDY: SAM REAVLEY
LLB BUSINESS LAW STUDENT
NOTTINGHAM TRENT UNIVERSITY

Sam first came into contact with Nottingham Trent University's Schools Colleges and Community Outreach team (SCCO), in year nine when he was about to start studying for his GCSEs. Sam was struggling with maths and took part in a one-day Raising the Grade Conference at the university, which helped to push him to achieve a C grade at GCSE. Sam had originally been set on a career in the RAF, however he was forced to have a major re-think about his future plans when he was told his eye sight was not up to standard. It was during this time that he made the decision to study for a Business Law LLB at Nottingham Trent University. To help him get to grips with managing his finances, Sam took part in a budgeting workshop with SCCO. He also joined a 'bridging event' for mature students and those who'd be living at home. Now he is the Equestrian Club's participation officer and he has become an official coach for the Riding for the Disabled Association. Sam is still very much involved with SCCO and has helped out with events for the university's Progression students.

Innovative Alliance provision at Levels 7 and 8

INSTITUTIONAL CASE STUDY: UNIVERSITY OF THE WEST OF ENGLAND (UWE BRISTOL)
FLEXIBLE PROFESSIONAL DEVELOPMENT PROGRAMME (MA, MSc, PGDip, PGCert)

This part-time course offers a highly flexible framework that allows previously completed credits to contribute towards a recognised qualification. The course enables students with professional experience to address their individual learning requirements and to reflect their individual or employer's needs, using the principles of credit accumulation and transfer to negotiate their own programme of study and to gain a UWE Bristol qualification at Level 7. Other than the completion of the compulsory UWE Bristol work-based learning project module the content will reflect individual choice.[27]

INSTITUTIONAL CASE STUDY: OXFORD BROOKES UNIVERSITY
MA / POSTGRADUATE DIPLOMA IN SOCIAL WORK

Oxford Brookes University offer two social work qualifications – a MA available to study on a two-year full-time (or up to five-year part-time) basis, and a PGDip, which can typically be gained in 22 months.

These qualifications are currently approved by the Health and Care Professions Council, and graduates are eligible to register as qualified social workers with the HCPC.

The course is evidence-informed and delivered via innovative mixed mode learning methods: classroom, distance and work-based. Students are able to develop the skills and knowledge they need to practice as a social worker in a wide range of settings through interactions with experienced researchers and access to a wide range of work-based learning opportunities in Oxfordshire and the surrounding area. Both the MA and PGDip require two practice placements.[28]

INSTITUTIONAL CASE STUDY: UNIVERSITY OF HERTFORDSHIRE
PROFESSIONAL DOCTORATE IN ENGINEERING

The EngD aims to develop future technological leaders and technical managers through improved specialist skills applied in an organisational setting. The EngD has been designed to help develop industry-based technical specialists for whom a PhD would be a natural next step, but who are looking for greater flexibility and enterprise focus. In particular the EngD is based on a portfolio of research work, which enables students to study at doctorate level but move away from the traditional 'single topic' focus of a PhD to centre the contribution to knowledge around the organisation.

The portfolio focuses on a key theme and then investigates different facets such as technical engineering improvements and enhanced business practices and processes. These projects are typically linked closely to the student's day-to-day work for maximum benefit.[29]

INDIVIDUAL CASE STUDY: VICTORIA RIGBY
MSc MECHANICAL ENGINEERING STUDENT
SHEFFIELD HALLAM UNIVERSITY

Victoria was awarded the first IMechE & AESSEAL Postgraduate Scholarship in September 2016 to study on the MSc Mechanical Engineering which is one of Hallam's first conversion courses, designed for students who didn't study engineering at undergraduate level. Most of Victoria's family work in engineering in some form, but when choosing career options at 18 Victoria didn't feel able to follow this career path at the time. Instead she decided to take up a BSc in Internet Computing at London South Bank University in 2005.

Since graduating she worked in various administration roles, including with the Department of Engineering and Maths at Sheffield Hallam University where she was inspired by the passionate staff she worked with. When the MSc scholarship was announced, Victoria took up the chance to follow a new career path. She hopes that her experiences encourage more women of all ages to consider the many different opportunities within engineering and make more informed decisions about their own futures.

INDIVIDUAL CASE STUDY: LYNN LOCK
CRIMINAL JUSTICE AND SOCIAL WORK GRADUATE, MASTER'S IN PROFESSIONAL EDUCATION STUDENT
KINGSTON UNIVERSITY

Lynn Lock is a mature award-winning student who gained her first degree in criminal justice studies with a diploma in social work at Kingston in 2005 and is now studying part-time on a Master's in Professional Education at the Faculty of Health, Social Care and Education, run jointly by Kingston University and St George's, University of London.

The Master's in Professional Education programme provides students like Lynn, who have a wealth of professional experience, with the opportunity to mentor and support current undergraduate social work students. Lynn juggles studying and teaching with a full-time job as a manager for a social enterprise company. She also volunteers with the Samaritans. She was named Practice Educator of the Year for her role in successfully motivating students to develop their careers in social work.

INDIVIDUAL CASE STUDY: HAYLEY GEE
PGCE PRIMARY (SALARIED ROUTE) GRADUATE
LIVERPOOL JOHN MOORES UNIVERSITY

Hayley taught in Hope School as a Teaching Assistant. She wanted to become a teacher and came to Liverpool John Moores University (LJMU) on a PGCE primary salaried route into teaching. Upon completion of the course she gained a PGCE with 60 masters credits – and achieved grade 1 (the highest grade possible) on her PGCE.

Since graduating she has been employed full time by Hope School and completed her Newly Qualified Year (NQT) from 2015-2016. During her NQT year she made the Senior Leadership Team aware that she was interested in working with the school's Special Educational Needs and Disabilities Co-ordinator (SENDCO) as she wanted to have a leadership role in education. She started working alongside the SENDCO in December 2015 and took over responsibility for pupils with attention deficit hyperactivity disorder and Educational Health Care Plans. Hayley then gained promotion to become SENDCO at Hope School and completed her SENDCO postgraduate award at LJMU, funded by her employer, while in the post.

Challenges and recommendations

Although, as the case studies show, there is a wide array of excellent technical and professional education going on within universities from Level 4 to Level 8, there are some challenges that need to be met to improve the system. We have grouped these into three categories and suggest practical things that could be done to address each:

- Poor understanding of skills gaps and shortages at a sufficiently granular level (sector and location)
- Poor understanding, by employers and potential students and their advisors, of the extent and quality of technical and professional education on offer
- Rigid systems (funding and reporting) that make it difficult for providers to innovate to meet employer need and student demand

Better understanding of skills gaps and shortages

Lack of high quality information about gaps and shortages: While there is considerable anecdotal evidence that there are skills gaps and shortages in particular occupations, sectors and places, it is neither sufficiently robust nor sufficiently granular to give a clear picture of where the gaps and shortages are or what is causing them. This makes it difficult to design effective policies and programmes to address gaps and shortages.

Recommendation:

1. **Ongoing programme of research into skills gaps and shortages by sector and place.** To fully understand where there may be gaps in provision, we need an ongoing programme of research aimed at understanding the demand for and deployment of people with HE qualifications within sectors and across the country. This could be a function for Sector Skills Councils and local areas through their Local Industrial Strategies with the Office for Students bringing these together to form a national picture.

Improving understanding by employers and potential students and their advisors of the extent and quality of technical and professional education on offer.

System is complex and hard to navigate: It is not always clear to employers and students which courses will be the best preparation for a particular profession or how taking particular courses might support progression. This can be particularly challenging if they want to engage in education in stages with periods of work in between. The introduction of new forms of secondary education make it even more important that progression routes are identified and signalled.

Recommendations:

2. **Ensure National Careers Service advisers understand what technical and professional education is on offer at universities.** Potential students do not always understand the huge diversity of degree programmes on offer at universities or that certain courses are necessary preparation for entering some careers. Excellent and well informed careers advice could help them make the best choice for them.
3. **Explicitly brand programmes as preparation for progression within a particular technical route.** Programmes in many subject areas, from Level 4 to Level 8, could be branded as a continuation pathway for a particular technical route, where their subject matter, applied components and PSRB accreditation show that they align strongly to that route. A Code of Practice could be put in place to ensure this is only done where appropriate, with the process overseen by route panels. This may help to promote flexible progression of learners from courses like T Levels and Level 3 apprenticeships to higher technical education at an appropriate time. It may help industry to understand which HE qualifications provide solid professional credentials. It may also improve clarity about where technical and professional excellence is being delivered in the higher education sector.

Although we have a very strong technical and professional education sector (and strong employment outcomes for students who take technical and professional degrees), employers still complain that some graduates arrive without the full range of skills that they would expect. By involving employers more fully in the assessment process they will be able to influence standards.

Recommendation:

4. **Bring employers into the assessment process.** Many institutions already involve employers in elements of student assessment, in some cases by inviting them to provide real-world project briefs or advising on practical elements of the assessment for particular modules within programmes. However, this could be extended to involve employers more systematically in the whole assessment regime – for example by bringing employer members onto examination boards in the same manner as external examiners from other higher education institutions, and involving employers directly into the governance of provision through the institution's internal committee structure so they are more immediately involved in programme approval and standards-setting.

Adverse selection by employers. Some universities have identified challenges in convincing some employers and industry bodies of the perceived value of qualifications delivered at Levels 4 and 5,

particularly outside sectors which have a heritage of professional development at these levels. Despite the results of employer surveys indicating a shortage of skills at Levels 4 and 5, in practice, recruiters tend towards selecting degree holders and indicate a preference for this in job advertisements. Students rightly want to leave education with the highest level of qualification they can reach and know that degrees carry the strongest currency and portability in the labour market. There are also notable challenges in making sure prospective learners, including those already in work, are aware of the full range of opportunities that are available to them.

Recommendation:

5. **Directly recognise all achievement at Level 5.** In some situations, it may not be clear that honours degrees lead to the same technical and professional proficiency as qualifications at a lower level in the same subject, even where programmes are delivered alongside each other. This is not well understood, and more research is necessary to improve the picture. However, to ensure there is strong comparability across these programmes, relevant degree programmes could have a more explicit interim point of assessment at the end of Level 5. For example, there could be a comprehensive skills-led assessment at the end of the second year which demonstrates the student's ability in applied technical components. This would reinforce the technical and professional credentials of relevant degrees and enable students to have more confidence in exiting at Level 5 should they be considering this.

Apprenticeship development and delivery. Demand for higher and degree apprenticeships continues to grow indicating that they are attractive to prospective learners and employers. Nevertheless, it is not always well understood that a degree apprenticeship includes a degree qualification – thus giving students a recognised and respected qualification should they be unable or unwilling to stay with their apprenticeship employer.

Recommendation:

6. **Blended brand for apprenticeships.** The government wants the apprenticeships to stand as valuable qualifications in their own right, but at the higher level most employers continue to look for a degree qualification as a selection marker, and students rightly want to ensure they are not unduly disadvantaged in the labour market. To square this circle, government should affirm that Level 6 apprenticeships with sufficient learning volume should normally lead to degrees, and universities should consider amending their regulations so the designation of the award shows it was achieved through the apprenticeship route. For example, the award might be BScAppr (Hons) 1st Class, in place of BSc (Hons) 1st Class (or a similar description). These would still be treated as classified degrees, with a weighting of 360 credits. Policy should lead towards these routes becoming more integrated, not separated.

More flexible systems

Funding and loans. There may be potential additional loan administration for students depending on their individual study intention and any changes made to it. Universities need to ensure they are able to manage implications related to students' loan eligibility and impact of Equivalent or Lower Qualifications (ELQs) a student may hold. Current policy around ELQs may impact a student's ability to obtain loans should they wish to obtain a new qualification at Levels 4 or 5 that enhances their skills if they already hold a qualification at this level or above.

Recommendation:

7. **More flexible funding.** In the short-term, allow holders of Level 6-8 awards to access an income-contingent loan for an explicitly occupational programme at Level 4-5, on the same basis as the new Master's Loan. There should be a clear system for acquiring approval for a programme to be funded this way, tied to rigorous technical and professional accreditation. In the longer term, the post-18 education funding review should look carefully at how the funding system as a whole might allow people to more easily blend full-time and part-time study, across different stages in a highly flexible way. One dimension of this might be to make it easier for students to use income-contingent loans to support modular study, perhaps blending courses at different levels, and from different institutions, in a new form of portfolio award.

Student outcome measurements. Qualifications at Levels 4 and 5 provide excellent employment outcomes for students and employers in specific industry areas – but they may not be classified as being in "graduate level jobs". The success of university graduates is measured by looking at how many of them progress into graduate level jobs and postgraduate study. Graduates with qualifications at Levels 4 and 5 are expected to acquire work suited to their qualifications, but this may be reflected negatively in a university's metrics if those jobs are not classified as 'graduate level employment'. This may happen in some cases, but not others. The negative impact on metrics is a disincentive to universities to offer these types of qualifications, and inaccurately reflects the success of graduates with qualifications at these levels. An additional problem is that where a student's initial qualification aim is at Level 6, the institution may be penalised in metrics if the student chooses to exit at Level 5, even if this makes sense for them.

Recommendation:

8. **Responsible metrics.** Outcomes metrics should be carefully designed to ensure they accurately reflect the what should be regarded as success for students who exit at Levels 4 and 5, and that early exit with a Level 5 award from a programme with a Level 6 aim counts as successful completion.

Modes of delivery. There is a growing diversity in course delivery within the current higher education system, and the Office for Students has been asked by the Universities Minister "to support and encourage greater diversity of provision"[30] as a way to increase student choice. With the proliferation of educational technologies and commitments to incorporating employability into courses, the ways in which undergraduate courses are delivered – for example, through a degree apprenticeship, a sandwich course, or innovative, flexible delivery models such as the Open University's OpenPlus model for science degrees [31] and CU Coventry's flexible offer in Coventry, Scarborough and London[32] – are more innovative than ever before. There are also commitments to try new delivery methods, as evidenced through government policy focused on expanding accelerated degree courses. As new modes are tested and tweaked, there is a challenge to offer even more diverse routes in a practical and sustainable way. It is risky to innovate, especially in many areas at once, and institutions need to balance this carefully.

Recommendation:

9. **Flexible final year of a degree.** The final year of a degree (i.e. the Level 6 stage) could become more self-directed with more emphasis on multiple independent projects. In many cases, large parts of the final stage are already project-driven in applied subject areas, and in some sectors the substance of a final project is very important for employability. However, if it were more self-contained and self-directed this may open options for deferred progression, with some students choosing to exit at Level 5 and then (within a specified amount of time) completing projects that lead to a full degree award. Institutions often have procedures for accrediting prior and experiential learning (APEL) that a student has acquired before starting a course, but not usually for accrediting extended experiential learning after completing a course ("AEEL") – leading to supplementary award. This could allow people another route to completing a degree after exiting at Level 5, without returning to formal education. Not all institutional regulations would currently allow this, and this should be reviewed. Similarly, some universities already report that students, particularly those with extensive work placements or on sandwich courses, would like to stay with their employer and complete their degree as a degree apprentice.

Postgraduate funding. Historically, access has been a problem at Levels 7 and 8, because aside from a small number of highly competitive doctoral studentships, students have needed to self-finance. New government-backed student loan funding is a good way of improving access, but it will not be available for all courses. Key technical and professional qualifications like the Graduate Diploma in Law as well as shorter courses such as postgraduate certificates and diplomas with a strong practice-based element will be excluded from the scheme. Though some individuals may find their employer will cover the cost of these qualifications, it is an area to which policymakers should give further attention. The arrival of doctoral loans from Autumn 2018 is expected to help drive participation in Level 8 study, especially in applied programmes. However, there remains no grant funding for professional doctorates, either from public or institutional sources.

Recommendation:

10. **Studentship funding for professional doctorates.** The arrival of doctoral loans from Autumn 2018 is expected to help drive participation in Level 8 study, especially in applied programmes. However, there remains no grant funding for professional doctorates, either from public or institutional sources. There should be a competitive funding stream for professional doctoral programmes, to parallel existing research council doctoral studentships. This stream could be delivered by Innovate UK in its new role as a council within UKRI, helping to balance the portfolio of doctoral training support offered across the range of UKRI activities.

International dimension. Many technical and professional courses are dependent on the recruitment of overseas students. In evidence gathered for the Migration Advisory Committee, for example, University Alliance found that international fee income is central to the sustainability of post-registration nursing and allied health programmes. This included lesser subscribed qualifications such as postgraduate diplomas in ultrasound and forensic radiography. In making choices about the future immigration system, the government should consider the impact of restrictions on these and other courses which are critical to the NHS and other public services.

Recommendation:

11. **Postgraduate taught programmes.** Provision at Level 7 seems to be working well, and will be further supported by Master's Loans. Careful monitoring of the interaction between home markets and international recruitment should be maintained, as many taught programmes at Level 7 are highly reliant on international students to be sustained. The Postgraduate Taught Experience Survey (PTES) could be allocated additional funding to extend its reach and understand the specific applied value of relevant PGT programmes to careers in industry and public services.

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