

The Training We Need Now



Essays on technical training, lifelong learning and apprenticeships

Edited by David Goodhart



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Contents

About the Authors	2
Introduction	5
The Missing Middle: Technicians, Innovation and Advanced Manufacturing By Paul Lewis	8
A post- Augar tertiary education system – an FE perspective By Alun Francis	15
Lifelong Learning: Time to Fix the Problem By Tim Blackman	25
Technology adoption and retraining are vital to recovery By Sir Charlie Mayfield	30
An apprenticeship alternative to university By Euan Blair	34
Lessons From Germany? By Bobby Vedral	39
What, If Anything, Can We Learn From Germany, Switzerland, Austria, the Netherlands and Denmark? By Ken Mayhew	44
A Practical Solution to the Craft Skills Crisis in the UK By Toby Baxendale	51

Introduction

Vocational education and training, especially for those not heading to university, has been one of the biggest public policy failures of the last 25 years. The Covid-19 economic crisis, and how we emerge from it, is an opportunity to do something about it.

The essays in this collection focus on several different aspects of the problem: the lack of decent apprenticeships for school-leavers, the loss of higher manual and technical skills and the decline of lifelong learning. Some of the essays were inspired by a seminar held at Policy Exchange in June last year just after the publication of the Augar review into post-school education and training. Many of them have also taken into account the current Covid-19 economic crisis. The economy could be on the point of a great reordering and in the process we may, temporarily, return to levels of unemployment not seen since the early 1980s. Whole sectors such as retail and hospitality could shrink and others leap ahead whether green technology, health sciences or import substitution businesses in many branches popping up to replace now suspect external supply chains. If the state can pay the wages of millions it can also support the necessary retraining of millions.

The collection should be seen as a companion publication to my own recent paper [A Training Opportunity in the Crisis](#). In that paper I summarised the training crisis in these broad brush terms. Too much of our education/training spend now goes on 18/19 year olds in higher education doing full time residential 3/4 year courses, meaning we over-produce then grade-inflate too many bachelor degrees. One third of graduates are not in graduate jobs, while we suffer debilitating shortages in skilled trades, construction and middle skill technician jobs (including the vital lab technicians we see on our TVs every night). We talk endlessly about lifelong learning yet adult education and re-education have been in freefall and the apprenticeship system is not working for school leavers.

And I proposed an emergency training package—aimed mainly at non-university bound school-leavers and adult retrainers—with three main ideas: an opportunity grant to train or retrain for every adult; a new apprenticeship system with government and employers splitting the cost; and a new category of applied university offering a much greater variety of courses. First, an “opportunity grant” of £3,000 for every individual over 21, the money to be drawn down by the providers of approved job-relevant courses. Individuals cannot see the costs and benefits of different courses of action so need an official training map to describe available courses and their costs, the job opportunities after a course, the average pay for that skill

etc The Government could use the map to guide people to skill shortage areas and might offer higher grants for a coder or construction electrician.

Second, suspend the current apprenticeship levy and replace it with a simplified model focused on school leavers (less than 10 per cent now enter an apprenticeship) with Government and employers splitting the full cost 50:50. The current levy covers only around one third of the total cost of a conventional apprenticeship, so many employers have used it on discretionary training for older workers. The Government should also promote good training by employers via public procurement rules.

Third, current bail out conditions provide Government with leverage to weed out weaker university courses and create a sub-set of “applied universities,” undoing the mistake of abolishing polytechnics in 1992. Many post-1992 universities are already largely vocational but Government should insist that they offer courses aimed at a wider range of students: 18 month/two year courses, part-time courses and so on.

Some of the essays in this collection dig deeper into these proposals. Paul Lewis explains just how damaging it is to lose a distinct culture of higher manual and technical skills and how it cannot simply be replaced by graduates. Only about 65 per cent of young people in the UK achieve level 3 or better (and the vast majority of them have academic A levels) compared to closer to 90 per cent in much of the rest of Europe with a more even split between academic and technical. And the proportion of the UK adult population for whom a technical level 4 is their highest qualification is about 4 per cent (it is even less for level 5).

Alun Francis provides a seldom appreciated perspective from the further education front line and how the wealth and weight of higher education threatens to thwart the revival of further education. FE colleges, once the centre of a thriving vocational culture, have become the impoverished Cinderella’s of the system—rather like adult social care in relation to the NHS—and face increasing competition from universities for the higher manual-technical qualifications at level 4/5 just below degree level that we are so badly missing.

We talk constantly about lifelong learning but have seen adult education and re-education both at higher education levels and at higher manual/technical levels in freefall in recent years (the adult education budget has been cut by about two-thirds since 2010). Tim Blackman, Vice-Chancellor of The Open University, explains what has been happening and how this has undermined the Government’s often repeated claim that the 2012 fee increase did not reduce participation in higher education of people from disadvantaged backgrounds.

The apprenticeship system is still not working for school leavers, despite the new levy, and the number of two year plus apprenticeships at level 3 (A level equivalent) or above for school leavers is just a few thousand. Moreover, there is little progression through the apprenticeship and technical system as there is along the academic path. Euan Blair, the co-founder of WhiteHat a company promoting apprenticeships especially in the tech sector, describes how this could finally be the hour of the

apprenticeship. Sir Charlie Mayfield, former chairman of John Lewis and now chairman of QA the UK's largest tech training provider, also provides valuable insight into the role of tech training in the Covid crisis.

A useful international perspective is provided by Bobby Vedral on the German apprenticeship system and from Ken Mayhew on what can and cannot be borrowed from the more successful northern European work-based training systems. And, finally, a warning from the business front line from Toby Baxendale, on why this is not just a matter of getting policies right but also about rekindling a spirit of purpose and work ethic in British young people.

Governments are aware of many of the problems and have not been idle. But in the past they have tended to wake up to the "bottom 50 per cent" problem, tinker about a bit, and then lose interest, which is one reason the landscape has become so complex and opaque. Recently we have seen the introduction of an apprenticeship levy, albeit flawed, a plan to introduce a new set of vocational secondary school qualifications (T-levels) and the excellent 2019 Augar review proposing a beefing up of non-university post-school opportunities and the FE colleges in particular. We also now have a Covid-19 crisis and therefore an opportunity to cut through many of the normal blockages and vested interests. Moreover we are likely to be moving into a period of high unemployment so the luxury of having such a wasteful mismatch between what our education/training system produces and what the economy, and individuals, require post-Brexit is no longer affordable.

The Missing Middle: Technicians, Innovation and Advanced Manufacturing.

By Paul Lewis

Introduction

The UK has a “missing middle” problem. This applies in particular to technician roles. Technicians are workers occupying roles that require ‘intermediate’—that is, level 3-5—skills in science, technology, engineering and/or mathematics. The category encompasses both ‘skilled trades’, such as laboratory technicians and maintenance engineers, and ‘associate professional/technical’ roles (examples of which include some varieties of manufacturing technician and production engineer). Many of us will have seen pictures of such workers recently, whether they be of laboratory technicians carrying out tests for Covid-19 or engineering workshop technicians using 3D printers to make visors for NHS staff. The goal of this brief essay is to explore the nature and causes of the so-called missing middle, as the UK’s failure to train sufficient technicians has recently been described.¹ The missing middle manifests itself in a number of ways. There is considerable evidence that skilled technicians are in short supply.² The UK has a smaller share of workers with intermediate-level skills and a lower number of apprentices relative to the employed workforce than its international competitors (Steedman 2010).³ Estimates suggest both that between a quarter and a third of UK graduates occupy roles for which a degree is not required and also that the scale of such ‘over-qualification’ is greater than in most other European nations.⁴

The following discussion will focus on how these problems manifest themselves in one particular part of the UK economy, namely advanced manufacturing, drawing on recent studies of the advanced therapies, aerospace, chemicals, composites, industrial biotechnology and space sectors.⁵ Technicians are of course centrally involved in routine production and maintenance work in such industries. What is less well understood is that they also make an important contribution to innovation, that is to the development and diffusion of new technologies. They do so in two ways. First, they are intimately involved in the installation, commissioning, and operation and maintenance of new technologies, contributing to firms’ capacity to make effective use of new methods of production and thereby facilitating so-called ‘radical innovation’. Second, their familiarity with established technologies enables them to contribute to the gradual improvement of methods of production (so-called ‘incremental

1. Field, S. (2018). *The Missing Middle: Higher Technical Education in England*. London: The Gatsby Charitable Foundation.
2. Augar, P. (2019). *Review of Post-18 Education and Funding*. Cp117. London: Her Majesty’s Stationary Office. pp. 25, 49-50.
3. Augar, P. (2019). *Review of Post-18 Education and Funding*. Cp117. London: Her Majesty’s Stationary Office. pp. 20, 26, 33-34.
4. Holmes, C. and K. Mayhew (2015). *Over-qualification and Skills Mismatch in the Graduate Labour Market*. London: CIPD. pp. 25-28; UKCES (2015). *Growth Through People: Evidence and Analysis*. Wath-upon-Dearne: UKCES. pp. 7, 57.
5. Lewis, P. (2012a). *Flying High? A Study of Technician Duties, Skills, and Training in the UK Aerospace Industry*. London: The Gatsby Foundation; Lewis, P. (2012b). *Space for Technicians? An Analysis of Technician Skills and Training in the UK Space Sector*. London: King’s College London and The Gatsby Foundation; Lewis, P. (2013a). *Skills and Training for Composites Manufacturing and Use in the UK: An Analysis*. London: The Gatsby Charitable Foundation; Lewis, P. (2013b). *Technician Roles, Skills and Training in the UK Chemical Industry: An Analysis*. London: The Gatsby Charitable Foundation; Lewis, P. (2016a). *How to Create Skills for an Emerging Industry? The Case of Case of Technician Skills and Training in Cell Therapy and Regenerative Medicine*. London: The Gatsby Charitable Foundation; Lewis, P. (2016b). *Technician Roles, Skills, and Training in Industrial Biotechnology: An Analysis*. London: The Gatsby Charitable Foundation. Other analyses which reach broadly similar conclusions include House of Lords Economic Affairs Select Committee (2018) *Treating Students Fairly: The Economics of Post-School Education* and Augar (2019).

innovation’). Where the skills of the technician workforce are deficient—due to shortages of technicians, or because they lack the requisite skills or theoretical knowledge—firms will suffer from a reduced capability to deploy new technologies, leading to slower innovation, lower productivity growth and reduced competitiveness.⁶

Technician skills matter, then, for innovation, productivity and growth. The following paragraphs will explore how firms in advanced manufacturing seek to fill technician roles, and how the institutional rules governing the funding of various types of education and training, often impede their efforts when they attempt to train apprentices.

How do employers fill technician roles?

Difficulties in recruitment and skill shortages

Many employers in advanced manufacturing struggle to recruit experienced, high-quality technicians from the external labour market. Many aerospace and space firms struggle to hire experienced, high-quality manufacturing technicians, for example, while firms in the aerospace and automotive industries that use composites parts find it hard to hire technicians skilled at working with that material. Most employers in the chemical industry, and in industrial biotechnology, struggle to recruit control and instrumentation technicians. Employers in industrial biotechnology also struggle to find manufacturing technicians skilled in fermentation, whilst advanced therapies companies struggle to find manufacturing technicians skilled in cell cultivation. Recruitment is perhaps especially problematic in relatively new industries, such as advanced therapies and space, simply because the industries in question have not been established long enough to develop a significant pool of experienced workers. The demand for such workers is likely to increase in the medium- to long term if, as has been mooted in some quarters, there is a push to repatriate more of the supply chain of manufacturing industries to the UK.

Frustration with the limited practical skills of graduates

Employers in the advanced therapies, chemical, and industrial biotechnology sectors have tended to fill most laboratory technician and many manufacturing technician roles, not by hiring or training technicians, but rather by hiring graduates. This is a case of what is known as *over-qualification*; the highest level of formal qualifications possessed by the workers exceeds the level required to carry out their job effectively. This reflects the fact that UK universities have produced so many graduates in the chemical and biological sciences that firms advertising technician roles are inundated with applications from graduates.

Interviewees noted that the use of over-qualified graduates to fill technician roles often leads to difficulties. First, whilst graduates have a higher level of theoretical knowledge than is needed to fill the role in question, they are also often under-skilled, because they lack the practical skills required to do the job well. Moreover, graduates often become

6. Underpinning this view is a model of innovation that focuses not just on R&D but also on the factors that encourage and enable the widespread diffusion of new technology through the economy (Lewis, P. (2019). *Technicians and Innovation: A Literature Review*. London: The Gatsby Charitable Foundation; Lewis, P. (2020). *Technicians and Innovation: A Literature Review*).

dissatisfied, both with the mundane, highly routinised nature of technician work and also with the relatively low wages on offer. This often leads to them leaving their employer soon after joining them, which is especially frustrating for employers who have invested time and effort in equipping them with practical skills, only to see them leave before that investment has paid dividends.

Increased reliance on apprenticeship training

The issues described above have encouraged more and more employers in advanced manufacturing to turn towards apprenticeship training. Older firms are reviving apprenticeships schemes they closed in the past, while newer firms are starting apprenticeship programmes for the first time. Employers report that training apprentices brings a number of benefits:

- it generates a supply of skilled workers to fill technician roles, in the face of shortages of skilled workers on the external labour market;
- having come up via a 'work-based' route, involving significant on-the-job training, the workers in question will have good practical skills as well as realistic expectations of what their job involves;
- apprenticeship also gives employers an opportunity to shape trainees' standards concerning how work must be done and to build loyalty;
- apprenticeship training also helps employers in more established industries to plan for the orderly succession of an ageing technician workforce.

Impediments to the use of apprenticeship training

However, many of the employers who have attempted to train apprentices have faced serious problems obtaining the education and training needed by their apprentices. Two broad categories of difficulty can be identified.

- First, many employers have had difficulties obtaining the off-the-job technical education their apprentices require. For example, employers in the space industry have struggled to persuade colleges to offer off-the-job courses for their manufacturing apprentices (HNCs in electronics) while firms in composites have found it hard to find colleges willing to offer modules on that material as part of their engineering apprenticeship programmes.
- Second, firms in the aerospace, composites, and industrial biotechnology sectors have struggled to obtain high-quality practical training. Provision may be entirely absent, as in the case of employers in the life sciences seeking training in cell cultivation under clean room conditions; or it may be inadequate, being delivered in poor facilities by lecturers unfamiliar with current good practice (as experienced by employers with apprentice aircraft mechanics and composite technicians).

The proximate cause of these problems lies in what might be called ‘the tyranny of small numbers’. All too often, the total number of apprentices firms want to train in a particular subject in the relevant geographical area is too small for it to be in the interest of colleges to offer them, given the cost of providing the training in question and the prevailing funding regime under which colleges and other providers operate. The upshot is a situation where employers that want to offer apprenticeships—to increase the supply of high-quality apprenticeship places—find it hard to get colleges and other training providers to offer the relevant education and training programmes.

Diagnosis: System Failure in UK Education

The findings summarised above for the case of advanced manufacturing—shortages of skilled technicians, the use of over-qualified but under-skilled graduates to fill technician roles, and the reluctance of education and training providers to meet the needs of companies seeking to train apprentices—are indicative of a system failure within English education system. The rules governing the provision of various kinds of education and training all-too-often discourage employers from demanding, and providers from offering, the apprenticeship training needed to develop the technician workforce required to deploy new technologies. The upshot is a failure to coordinate the accumulation of human and physical capital, with too many graduates being produced and too few people trained to technician level.⁷

The Augar review clearly identifies the underlying causes of the problem. First, the rules governing the provision of financial support make loans available to those studying for degrees but not to apprentices, while the rules governing investment in different kinds of teaching afford more generous support for universities than further education colleges, leading to a systematic bias in favour of university education:

Current arrangements set up an interconnected set of incentives which result in young people opting for full time degrees (level 6) and in institutions marketing and supplying full degrees at maximum price to the near-exclusion of other options.⁸

Second, even where apprenticeships were offered, the funding rules in place for most of the past two decades systematically encouraged providers to focus on shorter, cheaper, lower-level (2) programmes in subjects such as customer service and business administration, rather than the longer, more expensive, advanced (level 3-5) apprenticeships in STEM subjects required for advanced manufacturing.⁹ Recent reforms to the regulations governing eligibility for funding have arguably helped to address this problem, by leading to a very significant reduction in the number of poor quality, lower-level apprenticeships.¹⁰ However, problems remain. Declining capital funding has deterred FE colleges from investing in the facilities—the training workshops and up-to-date equipment—and the tutors conversant with current industry best practice that are needed to

7. For more on the concept of ‘system failure, and how it differs from the notion of ‘market failure’, see Lewis 2019, 2020.
8. Augar, P. (2019). *Review of Post-18 Education and Funding*. Cp117. London: Her Majesty’s Stationary Office. p. 37.
9. Wolf, A. (2011). *Review of Vocational Education – The Wolf Report*. London: Department for Education. p.60; Wolf, A. (2015). *Heading for the Precipice: Can Further and Higher Education Funding Policies be Sustained?* London: The Policy Institute at King’s College London. pp. 5-6, 9-12; Richard, D. (2012). *The Richard Review of Apprenticeships*. London: Department of Business, Innovation and Skills.
10. Henahan, K. (2019). *Trading up or Trading Off? Understanding Recent Changes to England’s Apprenticeship System*. London: The Resolution Foundation. pp. 2-4, 22-27; Mason, G. (2019). *Higher Education, Initial Vocational Education and Training and Continuing Education and Training: Where Should the Balance Lie?* LLAKES Research Paper 66. London: LLAKES. pp. 16-24.

offer level 3-5 STEM apprenticeships. Furthermore, according to the Augar Review, funding rules continue to offer providers insufficient incentives to meet the needs of employers in “emerging or small sectors”—such as advanced therapies, space and industrial biotechnology—who are seeking to train intermediate-level STEM apprentices for their businesses:

Developing new courses is always risky, especially if they require large amounts of equipment or the hiring of very specialist staff; given current conditions, launching new high-cost provision at level 4 or 5 is additionally risky and financially unattractive.¹¹

Providers therefore all-too-often lack the incentive to offer the kinds of courses needed by such employers, as described in Section 2 above.

In short, the rules governing the provision of education and training in England are such that there is a systemic failure to align workforce development and technology development, leading to a structural mismatch between the economy’s requirements and the kind of skills being produced that manifests itself, as described above, in employers experiencing shortages of skilled technicians, in the use of over-qualified but under-skilled graduates in technician roles, and in a reluctance on the part of education and training providers to support employers’ efforts to train apprentices.

A Potential Solution

A truly effective response to these problems requires significant reforms to the rules governing the provision of vocational education and training, as set out in the Augar Review. Failing that, overcoming these problems requires that ways be found to aggregate the demand for training, so that the number of trainees reaches the critical mass required to make it worthwhile for providers to offer training. One way of doing so is as follows:

- Develop in the relevant discipline a small number of centres of excellence, located in areas where there is a significant concentration of the relevant kind of manufacturer.
- Ensure that those centres offer training via distance learning, supplemented by periodic residential courses, in order to extend their reach beyond their immediate location;
- Offer the training in modular form so that it can be taken not only by apprentices but also by more established workers needing to ‘top-up’ their skills, further increasing demand.
- Reduce the initial financial outlay, and risks, associated with the provision of the practical component of the training by utilising existing facilities rather than building new ones.

Prominent examples of the relevant kind of facility are to be found in the Catapult Centres (technology centres where universities, businesses and government collaborate to facilitate the commercialisation of new

11. Augar, P. (2019). *Review of Post-18 Education and Funding*. Cp117. London: Her Majesty’s Stationary Office. pp. 26, 37; also see pp. 122-30, 149-50.

technology). Some Catapults have become involved in apprenticeship training to very good effect; but others have not. Using the Catapults for apprenticeship training will make it possible to avoid the cost of setting up a new organisation. Another advantage is that, because the Catapults are involved in process development, it is straightforward for them to ensure that training programmes are kept up to date and remain attuned to the needs of industry.

An example of what can be done comes from the advanced therapies sector, where employers are adamant that as they move towards full-scale manufacturing they will need to employ genuine technicians, rather than over-qualified but under-skilled graduates, in production and support roles. Funding from the Gatsby Charitable Foundation and Innovate UK was used to create a manufacturing technician apprenticeship programme, housed in the Cell and Gene Therapy Catapult Centres (whose facilities may also be used for some specialist training, and whose knowledge of new developments in the relevant technology will be essential in ensuring that the relevant training programme will be kept up to date). The off-the-job technical education in cell biology, chemistry and micro-biology required by the apprentices was provided by distance learning, increasing the geographical reach of the programme and thereby helping to ensure that the number of apprentices reached the ‘critical mass’ required for financial viability. Eighteen apprentices began training scheduled to embark on their training in September, with around fifty more coming onto the programme the following year.¹²

Conclusion

Industrial policy all too often focuses on technology development and R&D, with policy on intermediate-level skills being no more than an afterthought if it is considered at all. Such an approach is gravely mistaken. If new technologies are to be effectively deployed and to diffuse throughout the economy to create jobs, increase productivity and stimulate growth, then skills policy needs to be treated as an integral part of industrial policy.¹³ As a recent review of innovation policy in Scotland remarked, “The delivery of skills is not some sort of ‘secondary’ innovation - developing new skills and techniques to apply alongside new technological innovation is vital if such developments are to be embedded and made truly a commercial success”.¹⁴ The High Value Manufacturing Catapult Centres have recently set out a vision of how they can play a more consistent and effective role in the development of the technician workforce needed to deploy new technologies to good effect, consistent with the ideas sketched in Section 4 above.¹⁵ Their report outlines how the Centres can (i) harvest the information needed to identify what technician skills are needed to support the use of new technology and also (ii) help to provide the requisite training, both by offering it directly to early adopters of the relevant technologies and also by training college tutors to ensure that more providers are well placed to offer high-quality training as demand increases. Their plans offer a way of aligning workforce and technology

12. Lewis, P. (2016a). *How to Create Skills for an Emerging Industry? The Case of Case of Technician Skills and Training in Cell Therapy and Regenerative Medicine*. London: The Gatsby Charitable Foundation; Lewis, P. (2020). *Technicians and Innovation: A Literature Review*.

13. Lewis, P. (2019). *Technicians and Innovation: A Literature Review*. London: The Gatsby Charitable Foundation; Lewis, P. (2020). *Technicians and Innovation: A Literature Review*.

14. Reid, G. (2016). *Independent Review of the Innovation Centres Programme*. Edinburgh: Scottish Funding Council, p.38.

15. HVMC (2020). *Manufacturing the Future Workforce*. London: The High Value Manufacturing Catapult and the Gatsby Charitable Foundation. Available online at: <http://hvm.catapult.org.uk/mtfw/MTFWFull.pdf>

development, thereby supporting the creation of high-quality jobs and helping to ensure that innovative firms can acquire the technicians they need. Their initiative is well worthy of government support as part of a holistic approach to industrial policy that encompasses skills at all levels, as well as R&D and technology development.

A post-Augar tertiary education system – an FE perspective

Alun Francis

Introduction

The Augar Review split opinion. Every further education college leader in the country signed a letter supporting its implementation, but universities were sceptical about it – and sometimes openly critical¹⁶. Although the case for change was clear, before the C19 crisis broke there was uncertainty over which, if any, of the Review’s recommendations would happen. Either side of the General Election, Principals were hopeful and Vice Chancellors anxious, as the Review fluctuated in and out of favour. What will happen to the Augar Review when, eventually, the country begins to recover from Covid-19? Will it be forgotten? Or will it be a blueprint for change? And what might the challenges of implementation be?

Coronavirus and post-18 education

Now that the crisis has hit us, exposing the fragilities of the economy¹⁷ and placing new pressures on Government funding, the dilemma of higher education has been presented anew. There is no illusion about the importance of research and development in understanding coronavirus, its spread, management, and potential treatments and vaccinations. And British universities have been huge contributors, and often leading the world, in so many areas of this crucial work.

But this aspect of their role and function has never been in dispute. What critics question is how the knowledge-generating functions of universities have morphed into a virtual monopoly over “high skills” education and training, with the three year residential degree, delivered on campus, as the default way of achieving this. Tuition fees, both domestic and overseas, plus accommodation costs, are by far the largest component of most university income streams and form the basis on which institutions have borrowed, invested in new facilities, and supported expansion and diversification. The crisis has made this model appear fragile. Overseas and domestic tuition fees suddenly became unreliable, leading universities to predict dramatic shortfalls in income and to ask for a £2.6 billion bailout¹⁸.

At the time of writing, the Government has helped but has not given universities what they were asking for¹⁹. It has offered measures to ensure business continuity into 2020-21 academic year, and through the Office for Students put in place a set of measures to prevent aggressive competition for numbers. No commitment was given to a wider bailout package and

16. See Walker, G “Beware damaging higher education” <http://www.millionplus.ac.uk/news/press-releases/beware-damaging-higher-education-millionplus-warns-auغار-review>; and Conlon, G and Halterbeck, M *Assessing the Impact of the Augar Review – A Report for Universities UK* [London Economics 2019]

17. Wolf, Martin “Coronavirus crisis lays bare the risks of financial leverage, again”, *Financial Times* 28 April 2020

18. Foster, Peter “UK Universities braced for reform when crisis ends”, *Financial Times*, 7 May 2020

19. McVitty, D “The government’s Covid-19 package for universities”, *Wonkhe*, 3 May 2020 at <https://wonkhe.com/blogs/the-governments-covid-19-support-package-for-universities/>

talk has been about a “higher education restructuring regime” to deal with institutions which cannot balance the books. One of the challenges seems to be how the best of research and innovation might be protected (perhaps with a view to further investment). The logic of the Government’s approach is to stabilise the sector without committing to the status quo in the longer run, effectively buying time to think about more radical change.

The Augar vision for a new system

The Augar analysis looks at the tertiary system as a whole and argues that it is unbalanced. The university sector has expanded too far, while further education has been under-resourced and lacking a clear vision. Learners have had their options reduced to a one-size fits all residential-three year degree model for acquiring higher qualifications.

The Review addresses this with a series of reforms which do three things. First, they strengthen the position of the learner – especially the most disadvantaged – by giving more power to choose and more flexibility (individual learner accounts, capping tuition fees). Second, it improves the options they can choose from (removing low quality degree provision, and strengthening alternatives to the three year degree). Third, they address the provider side (the roles of HE and FE) by capacity building further education to provide the alternative qualification choices (setting out a vision for “a national network” delivering Levels 3-5, for young people and adults).

This offers a compelling alternative vision to the current system. It would give much stronger options to the 50% of young people who do not go to university, and to adults who choose to return to learning in later life. And it would give alternative options to some of the 50% who do go to university but end up with poor outcomes. All of these people would be able to acquire high skills, through part time or full time access to more affordable and credible programmes within their locality – with much clearer and fairer ways of paying for them. They could build their skills gradually, as their careers and lives develop. It would almost certainly cost less and, depending on how it was delivered, have a stronger link to local economic growth and business development than the current model. And it would ensure that new options at Level 4 and 5 were integrated with other reforms to technical and professional learning – notably the introduction of T levels and the reformed apprenticeship programme²⁰.

Make no mistake, this would not be an easy option for further education colleges. Sitting behind the proposals in the Augar Review, is a vision for further education which gives more, in return for demanding more. It would mean working more collaboratively in geographical clusters – especially in areas of technician training where numbers are small. But by doing this, they could develop integrated local pathways, combining work based and class room options, and a ladder of locally accessible qualifications, bespoke to the profession in question. The option of university progression would be retained, but only where it was

20. See the Report of the Independent Panel on Technical Education, April 2016 – otherwise referred to as the Sainsbury Review. This is not to say that either T levels or the apprenticeship funding system, including the Levy, are without flaws, but these are outside the scope of this discussion.

a requirement for entry into the career of choice. Alternative routes would be available where these are more appropriate. This would provide a focal point for employers, especially SMEs, to develop bespoke long term plans to meet the demand for skills within localities. While some colleges have an existing track record of delivering higher skills, and a few have good facilities, there will be a need to invest in staff and in equipment. There will be a need to decide which colleges play this role in each locality, and how they then relate to their neighbours.

Such a system would not just require partnerships within further education. It could not be delivered without strong FE-HE collaboration. Universities have access to cutting edge knowledge and research and innovation capacity which colleges, training providers and many employers do not have. This is not in question – and this is why the Government’s decision to review the way this is funded is important, and why it is urgent that universities work with them to develop a new and more sustainable research system ²¹.

What is at issue is the kind of learning system which shares that knowledge with employers, and how the accumulated academic and applied know-how needed to practice in technical and professional careers is organised into education and training programmes which prepare people for work, create wealth, and improve productivity. The aim of a new system, would be to create new partnerships for achieving this more affordably and effectively, integrated with the rest of the skills system. This would be best achieved through clusters of universities, colleges and employers working together, with a great deal more teaching and training done through further education.

Implementation and obstacles to change

However, there are reasons for the hesitant responses to Augar on the part of both the May and Johnson governments. The main one is that, disentangling the teaching function from the research role of universities is critical if new delivery models are going to work. But doing this is a real challenge. It is fair to say that, outside of this crisis, the current models of university centred innovation have not worked well. As Richard Jones and others have pointed out, they are usually based on a “spin out” model of engagement with business, and focussed on high value single sectors, resulting in weak impact on overall business practices and productivity²². Yet no Government would wish to jeopardise the university contribution to generating new knowledge, especially in science and technology, by directly or indirectly making decisions which have unforeseen consequences and damage one of the country’s most important comparative advantages.

This is arguably the major obstacle to implementing Augar, but it is not the only one. A further challenge is that universities have established a strong position in the national consciousness. They also have a very effective lobbying presence. They have three representative organisations – The Russell Group representing the elite, Million Plus representing the

21. See for example, Skidmore, C “Quality Time”, in Research Professional News, 5 May 2020.

22. Jones, Richard “Innovations, Research and the UK’s productivity crisis”, SPERI April 2016 at <http://speri.dept.shef.ac.uk/2016/04/14/new-speri-paper-innovation-research-and-the-uks-productivity-crisis/>

post-1992 universities, and Universities UK, which is the “collective voice of 137 universities”. In the Higher Education Policy Institute, universities have their own think tank. The combined resources of this group of organisations is substantially larger than that available to the Association of Colleges, the FE college body.

The strength of this voice is one reason why, when the Augar Review was first published, much attention focussed on the negative impacts for universities rather than the potential positive options for further education. This was despite the fact that just under 2 million people attend university each year, which is slightly lower than the 2.2 million who attend further education colleges. And it also explains why, when evidence to support Augar continues to grow, the counterarguments focus so strongly on defending the status quo – and so little on the alternative future which might be possible.

Further evidence for Augar’s approach has continued to grow since the Review was published. An example is the latest analysis of rates of returns to degrees. This confirms that, depending on subject choice (and possibly choice of institution), many have a positive effect on lifetime earnings and yield a tax return for the Government. For 20% of graduates, however, lifetime earnings are too low to make the cost worth it, and for 40% the Government does not recoup the costs of the qualification²³. The Government is acutely aware that 34% of graduates are in jobs which do not require a degree. The long term sustainability of the Student Loan Book – and therefore of the funding methodology which underpins the current system – remains bleak. Meanwhile, although the Government has been very determined about its willingness to invest in further education, until this happens the contrasting fortunes of FE and HE will remain very sharp²⁴.

In addition to protecting universities role in research and innovation, there have been three main defences directed at the Augar reforms. All defend the current system on the grounds that its critics have caricatured the work that universities do.

First, is the view that higher education is not just about work, and that universities offer a uniquely transformational personal experience to those who go. This is certainly one of the attractions for young people, who often see university as part of a rite of passage to adulthood. This view is not just championed by the universities, and many of their staff, but by former ministers and a number of campaign groups who see the extension of this experience to disadvantaged groups as an essential measure in the battle for improved social mobility²⁵

Second – in almost direct contradiction to the first - is the view that higher education is much more about preparing people for work than critics maintain. This is the argument supported by Million Plus which has produced a vigorous critique of Augar for allegedly failing to acknowledge the role of “modern universities” in technical education²⁶. It claims that Augar and a set of other reports into higher technical qualifications overlook the contribution of the new universities in this field, that their

23. Institute of Fiscal Studies, *The Impact of Undergraduate Degrees on Lifetime Earnings*, 2020 p 7-9]

24. Wolf, A “Heading for the Precipice – Can further and higher education policies be sustained?”, (Gatsby 2015) at <https://www.gatsby.org.uk/education/latest/heading-for-the-precipice-can-further-and-higher-education-funding-policies-be-sustained>

25. See the Willets, D A *University Education*, Oxford 2017; “Jo Johnson warns against cutting university tuition fees”, *The Guardian*, 4 January 2020; and see the work of The Sutton Trust, which strongly associates university with social mobility, at <https://www.suttontrust.com/our-programmes/>.

26. See “Levelling Up : investing in higher technical education at universities in England”, Million Plus, March 2020.

provision represents the “knowledge based” excellence which work based learning does not provide, and argues that they should be the vehicle for driving forward an expansion of new Level 4 and 5 options – with an associated refocussing of further education on Level 2 and 3 qualifications.

Third, is an argument based on the idea that further and higher education should not be pitched against each other in an adversarial conflict over scarce resources²⁷. This is a feature of the Million Plus argument – which seeks to redraw the boundary between the two sectors around levels of learning. Others are concerned more generally about how the two sectors can co-exist. Numerous Vice Chancellors have come out in support of more funding for further education, while maintaining that this could be achieved without any change to the higher education part of the system²⁸.

What should be made of these defences? In terms of the “university experience” it should be noted that, from the point of view of students, the social rather than intellectual aspects of residential three year degrees, holds the real attraction²⁹. A number of commentators suggest that not only has the academic element declined in significance but that learning is ephemeral and soon forgotten³⁰. Others point to declining academic standards³¹. While it is important not to generalise, it is possible that the element of the “university experience” which costs so much in tuition fees – the classroom part - is the least transformational and long lasting³². A similar transformational social experience might just as easily be given through other means, but alternatives – which might be lower cost and more aligned with the labour market – have just not had the same level of investment, so find it hard to compete³³. There is evidence, for example, from those who study high quality apprenticeships that such alternatives are already available³⁴.

The argument that universities already deliver a significant volume of vocational and higher technical degrees is an important one which, as Million Plus rightly point out, arises from the misconception that university study is “academic” in contrast to non-academic vocational routes. This is a very British way of viewing the skills system, which may have deep roots, but can certainly be traced back to the introduction of NVQs, which were introduced in the 1990s, and aligned vocational learning with workplace, occupational competence³⁵. However, the suggestion that university designed higher technical learning, is the way of “putting knowledge back in” is an assertion, not supported by any evidence. And it is a claim which ignores the wider needs of the whole system of technical and professional education and training, to have a strong knowledge content³⁶ – and of the critical role of universities in general, along with employers, to support the dissemination of knowledge in all forms of learning.

What the Million Plus argument does, is seek to answer the problem of the skills system, by readjusting further education to fit into a world made in the image of universities. It does not consider any of the wider implications of this. It does not consider costs, or ramifications for geographical coverage, impact on local economies, engagement with employers, or the impact of any of this on the lowest qualified and most

27. Westwood, A “Don’t Play HE off against FE in election battle”, TES 6 November 2019 <https://www.tes.com/news/dont-play-he-against-fe-election-battle>; and Hughes, D “The Augar Review – AOC Response”, <https://www.aoc.co.uk/news/post-18-review-aoc-response>

28. See for example, Hillman, N “FE versus HE, HE versus FE?”, HEPI 12 March 2020 – which cites the views of a number of influential observers and participants. reference to impact, value for money and fairness.

29. The two strongest proponents of this view are Arum, R and Roksa, J *Academically Adrift : Limited Learning on College Campuses*, Chicago 2011; and Caplan, B *The Case Against Education - Why the Education System is a Waste of Time and Money*, Princeton 2018.

30. Caplan, *ibid*.

31. There is a large literature on this, but the following summarises the evidence : “Universities with biggest shares of 2:1s and firsts revealed”, THES 8 February 2018.

32. It should be noted that there is sufficient anxiety about what students actually learn at university, for there to be a HEFCE funded research project into “learning gain” led by the LEGACY consortium.

33. There is a paucity of British literature on the personal development and intellectual content of high quality vocational learning, although there is a strong history in the USA (John Dewey), Germany (Georg Kerschensteiner) and France. Two more recent works on the transformational qualities of vocational learning are Crawford, M *Shopclass as Soulcraft : An inquiry into the value of work* Penguin 2010; and Unwin, L “Growing Beans with Thoreau : Rescuing Skills and Vocational Education from the UK’s Deficit Approach”, *Oxford Review of Education*, Vol 30, no 1, March 2004.

34. See for example, the work which EDGE Foundation has been leading on “Apprenticeships – learning from the world”, at www.edge.co.uk/research/research-reports/apprenticeships-learningfromtheworld

35. See Jessup, G *Outcomes – NVQs and the Emerging Model of Education and Training*, Routledge 1991

36. This is a key theme in the reform of T levels and end point assessment in apprenticeships. My own college has placed huge emphasis on using “knowledge based” theories of teaching, learning and assessment and has successfully applied this to classroom and work based programmes, through our “Teaching for Distinction” programme. The principles are set out here : <https://teacherhead.com/2019/01/23/teaching-for-distinction-the-oldham-college-cpdinfo-programme-is-working/>. The programme recently won a national award - <https://www.fenews.co.uk/press-releases/37617-princess-royal-recognises-44-leading-business-for-ld-programmes>.

disadvantaged. Finally it asserts an HE/FE partnership which appears benign, but is often not.

Million Plus is essentially saying, “can’t FE be better funded, without anything being taken from universities”. Given the vast sums involved, this view seemed unrealistic before the current health crisis, but it is even more so now that the pressure on public finances post-crisis will be extremely acute. Furthermore, it presents an entirely uncompromising and unreflective view of the need for HE reform. This is out of step with almost any other sector dependent on public funding – whether it be FE, health, local or central government, or the criminal justice system – all of which have accepted, at some point or other, the need to work differently, operate more efficiently, and the need for change. This has been especially true of the years of so-called “austerity”, which have, for higher education, by contrast, been a period of significant expansion³⁷. And the most important area of reform, is the need to address the impact of too much of the wrong kind of competition in post-18 learning.

The inequalities of post-18 competition

The post-18 education marketplace is an extremely competitive one. There are good examples of collaboration between higher and further education and different organisations behave in very different ways, so generalisation always has to operate with caveats. However, for some universities, one of the features of expansion, as their own sector has become more intensely competitive, has been diversification into areas of provision which were previously considered the preserve of further education. A perusal of the accounts of a number of post-1992 institutions shows, for example, growing income streams, not just from tuition fees and accommodation costs, but contracts with the Education and Skills Funding Agency³⁸. These are often substantial.

Universities have a particular interest in the two markets which might potentially challenge the dominance of the three year residential degree : Level 4 and 5 provision and degree apprenticeships. In terms of the former, one vice chancellor – in an argument very similar to the Million Plus argument about higher technical learning - has reviewed the marketplace and set out the case for universities to become their chief providers³⁹, with the knock on being that further education colleges refocus their provision onto Level 2 and 3. In terms of the latter, there is a big head of steam building up behind universities and work based learning – once the main preserve of colleges and training providers - with substantial amounts of time and money going into degree apprenticeships⁴⁰, leaving colleges and private training providers to meet the needs of those at lower level qualifications.

Universities defend these practices in terms of their capacity, know how, ability to deliver and brand recognition⁴¹. Much of this is true, but there are wider issues to consider. A recent review of the operation of the Apprenticeship Levy between 2017-19, suggests that the rapid growth in degree and postgraduate apprenticeships absorbed a hugely

37. The fact that there does not appear to be any self critical view, or self managed reform agenda, led by higher education is a source of irritation and frustration to Government and other partners, and creates the impression of a sector which is “out of touch” and self interested.

38. This essay is not setting out to criticise or support any individual organisation. It is about the overall structure of relationships and so I have opted not to cite evidence from particular cases – but a perusal of the accounts of a cross sections of organisations does support my point.

39. Phoenix, D “Filling in the biggest skills gap : Increasing Learning at Level 4 and 5”, HEPI Report 110 (2018)

40. See Universities UK, The Future Growth of Degree Apprenticeships <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/downloads/FutureGrowthDegreeApprenticeships.pdf>; “The Future of Degree Apprenticeships” [(2019) <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Pages/future-of-degree-apprenticeships.aspx>]; and the work of University Vocational Awards Council, which has established a dedicated centre (members only) to support universities to deliver degree apprenticeships. <https://uvac.ac.uk/>

41. See Phoenix, 2018

disproportional share of the available funds, mainly in more costly provision for older learners, already in employment, leaving less to spend on younger apprentices who start at lower levels⁴²

Would the same happen in the Level 4 and 5 market? Here, colleges have an immediate disadvantage due to the fact that they do not control their own qualifications – a problem which can be remedied, but not quickly. There is also a David and Goliath mismatch in the resources which universities and colleges can respectively throw into developing new provision⁴³. Although the base funding rate for 16-18 year olds has been increased, and there are new funds for investment in FE, including facilities and new provision, the average FE college has little capacity to invest in new ventures. Universities, by contrast, are not just able to support multiple lobby groups, they organise and resource support agencies, with the sole remit of training and coaching their members to grow their share of new markets which have been designed to challenge the traditional three year degree⁴⁴.

This amounts to the tertiary education version of the “Matthew Principle”, according to which more accumulates to those who already have. It does nothing to shift resources away from the 50% who already have, to those who do not. By taking the resources designed to compete with the status quo, both in terms of the learners and institutions, and absorbing them into the current system, it does nothing to create greater equality for learners, or to rebalance the tertiary system.

Does this matter? If the aim is to create a better skills system, which has real impact on individuals, communities, business and the economy, then yes it does. Further education colleges have a lot to do to deliver their part in a more effective skills system, including investment in the skills of staff and their equipment and facilities, and moving away from some models of delivery which are shaped by the wrong incentives⁴⁵. However, as the Augar Review acknowledges, further education colleges have a set of untapped qualities and know-how, which are not fully utilised. They have a very strong local focus and excellent geographical coverage. They have extensive expertise in working in their communities, responding to the particular needs of learners, especially those who have not had a good experience in the rest of the education system. They usually have a very strong sense of mission and purpose, and have the expertise and infrastructure to support those the system most needs to upskill. They also have a unique relationship with local employers, especially those SMEs which are critical to economic growth but fall outside of the normal business support mechanisms, and have a specialist skills set in working across the domains of education and the workplace across all levels of learning. And the lack of balance in the tertiary system, between HE and FE, does not just affect the market place for skills, as Augar explains. It is also a factor in the weak impact of research and innovation on economic growth and improved productivity, and has important implications for the ambition to “level up” for so-called “left behind” people and places⁴⁶.

42. Richmond, T “Runaway Training – Why the Apprenticeship Levy is broken and how to fix it”, EDSK 2019.

43. There is a stark contrast between the income for colleges and universities in the period since 2010. There is a stark contrast between the income for colleges and universities in the period since 2010. My own college had its peak year in 2013 when income reached £28m. It is now improving but has only just reached £25m again. This stasis is commonplace within the sector. By contrast, a nearby university has, during the same period, increased its tuition fee income from £325m to over £400m.

44. See for example, Universities UK, Million Plus, and the work UVAC at <https://uvac.ac.uk/> which specifically supports HE organisations in terms of capacity building to deliver higher apprenticeships.

45. The best example of this is the adult skills system as a whole, which incentivises the delivery of lower level qualifications, often short courses, which do not have a line of sight to work.

46. There is a huge literature on the failure of city growth and industrial strategies, in which universities are usually central, to reach out geographically, sectorally and to smaller employers, and strong arguments for a greater role for further education in addressing this issue. For the latter see The Cumberford-Little Report, One Tertiary System: Agile, Collaborative and Inclusive (February 2020). Also see the work taking place, across the four nations, to set a vision for the development of further education – The Independent Commission on the College of the Future at <https://www.collegecommission.co.uk/>

Solutions and Recommendations

Unless further action is taken to address the inequality between HE and FE and create the foundations for more effective collaboration and competition between the two sectors, the success of the Augar reforms will be placed at risk. There are four actions which could be taken to level things up, make the relationship more equal, and mitigate this risk.

1. The national system of qualifications

First, the qualifications system. Alongside the Augar Review, has been a review of higher technical qualifications. This work resulted in a set of recommendations being put to Government in July 2019⁴⁷, advocating a national set of Level 4 and 5 qualifications, aligned with occupational standards, approved by the Institute of Apprenticeships and overseen by the Office for Students – so that employers and learners can have access to recognised, credible qualifications and can have confidence in the organisations delivering them⁴⁸.

As yet, the Government has not committed to a response to these recommendations, but establishing such a system, with affordable fees and costs, along with clear criteria about the qualities, standards and capacities of those approved to deliver them, is an essential feature of reform. It would make a significant contribution to levelling up the relationship between higher and further education.

2. Strengthening the status of colleges

Second, Augar recommends that college title is given a protected status similar to that enjoyed by universities. This has been something the sector has supported for some time, and is welcomed. However, this needs to go further, by linking protected status to a kitemark – not just for Level 4 and 5 qualifications – but for any organisation which is delivering technical or professional education and training. This is a specialist form of educational provision which requires distinct qualities from tutors and assessors (their dual specialism – as teachers and as industry specialists), and an organisational infrastructure in terms of equipment and facilities, experience of working with employers, and curriculum design, which are all different from generalist education. The characteristics of this specialist form of learning were clearly described by the Commission into Adult Vocational Teaching and Learning which reported in 2013, but have not been turned into a criteria which determines who can or should deliver it⁴⁹. Unfortunately, the qualifications system, which for many years allowed almost anyone to deliver vocational subjects⁵⁰ still means that organisations and individuals are allowed to teach without having pedagogical specialism, industry experience or the skills and capacity to work with employers⁵¹. Such a kitemarking system would reduce competition, and provide a focal point for driving change in technical and professional learning, in terms of improving skills of staff, investing in facilities, and avoiding dilution as reforms are introduced.

47. See Department of Education, "Higher technical education : current system and case for change", July 2019 at <https://www.gov.uk/government/publications/higher-technical-education-current-system-and-case-for-change>

48. For a summary of this body of research, a useful overview is provided in House of Commons Library, "Level 4 and 5 Education", Briefing Paper 8732, 4 November 2019.

49. "It's All about Work", Commission into Adult Vocational Teaching and Learning (2013).

50. The Wolf Review in 2011 described the rapid growth of vocational qualifications in the schools system, which was a symptom of the lack of controls over who could apply to teach them.

51. Awarding bodies do not make it a requirement of approval, that tutors have industry experience. Post 16 job adverts often illustrate the absurdity of our current system. In FE Week this month, one college advertised for a health and social care tutor who, should the need arise, could also teach sociology. Subject specific pedagogy, which includes being able to tailor teaching, learning and assessment based on industrial knowledge, should surely be central to any high quality system.

3. Developing a clear strategy for employers

Third, if this was combined with strengthening the role of further education in relation to employers, the prospect of building a transformational system would be enhanced. The “clear line of sight to work” and the “two way street” with employers are the building blocks of excellent vocational provision⁵². Employers help shape curriculum, support events, trips and visits, work experience, and masterclasses, and the ultimate test of education and training should be its impact on the workplace in the fullest sense.

While further education colleges already have good relationships with employers, particularly among local SMEs, and often in the “everyday” or “foundational” aspects of the economy, who are not reached by traditional business support, these could be much stronger. The current relationship is usually under-resourced, and focussed either on selling a product (apprenticeships) or asking for voluntary contributions (work placements and so forth). From the employer’s point of view, the system as a whole is complex and can be hard to manage. This is almost certainly worse when there are multiple providers asking employers different things. And these requests are usually made in isolation from any wider analysis of the needs of the business, including job design and skills utilisation. Business support is usually fragmented, incoherent, in short supply⁵³.

In this context, it is not surprising to hear calls for a more coherent approach to business support⁵⁴ and for further education colleges to be given a much stronger role “to support business, particularly in pursuit of productivity gains and inclusive growth”⁵⁵. Extending the role of colleges, as expert providers of work related learning, into the provision of basic business support, makes even more sense when placed in the context of the current concern for “levelling up” and meeting the needs of “left behind people and places”. Further education colleges are, as already mentioned, uniquely placed to fulfil this role, given their geographical coverage, mission and core role. In fact, they are the only institutions that can play this role, operationally and strategically – if the country wants comprehensive coverage. The experience which colleges have, of working with the most inclusive and heterogenous bodies of learners in the whole education and training system, is an additional advantage in this context.

4. Creating collaborative structures

The fourth measure, would be to address the absence of structures for systematic FE and HE collaboration. The relationship between them is too often limited to validation or franchise arrangements for the delivery of degrees, without any wider educational, economic or social remit. There is a huge amount to be gained by greater understanding across the sectors and an ideal solution to the problems described in the Augar Review would be to build better understanding and more collaboration in a structured and strategic manner. Working in this way, and being prepared to consider options to redesign of the higher skills system within a framework of common commitment to local impact, might produce co-

52. See the Commission into Vocational Teaching and Learning (2013)

53. Round A, Hunter J and Longlands S “SMEs and Productivity in the Northern Powerhouse” (Institute for Public Policy Research February 2019), and Round A, Hunter J “Perspective on SMEs and productivity in the Northern Powerhouse – Final report” (Institute for Public Policy Research, June 2019).

54. See Round et al. .

55. See Cumberland- Little, Op Cit

designed solutions which the Government could support.

At the present time, there is no national forum which could lead to such an undertaking. One might have assumed that the various iterations of skills policies championed by Combined Authorities under various devolution deals might have invented a local forum where such collaborations could be incubated. But local enthusiasm to control the Adult Education Budget, and sometimes to extend this to 16-18 and apprenticeship funding, is often accompanied by such a profound lack of understanding of the “skills system” that universities are not considered part of it. And the role which universities have in city growth plans, probably does not help in this respect. Their focus has become on their global recruitment and their contribution to importing highly skilled talent to places, and the value of this, and their contribution to physical infrastructure, has put them in a very different place to colleges⁵⁶.

Such an approach would create a more coherent framework for thinking about the relationship between colleges and universities. In a rebalanced system, the strength of such arrangements would be measured by the combined impact of both partners in solving local (and therefore national) economic and social problems. This would give both sectors a much stronger basis on which to engage with Government – as constructive partners, serving the general good, rather than pursuing their own interests.

Colleges would need to change to embrace this kind of role, but so would universities. This is all the more important at a time when they are being asked to show that they are “working for the benefit of everyone in the UK, vigorously addressing perceptions that it is serving an elite and its own interests, while engaging more constructively with government and key external stakeholders”⁵⁷. There would be no better test of this commitment, than a sector wide willingness to address the problems of productivity and “left behind people and places”, by working with a renewed further education sector as an equal partner in a reconfigured tertiary system.

56. There are some grounds for using the “somewhere” and “anywhere” analysis which David Goodhart uses to describe modern political divisions, to the university (anywhere) and college (somewhere) sectors. See Goodhart, D *The Road to Somewhere: The Populist Revolt and the Future of Politics* (2017).

57. Hudson, L and Mansfield, I *Universities at the Crossroads*, Policy Exchange, February 2020.

Lifelong Learning: Time to Fix the Problem

Tim Blackman

The collapse of lifelong learning

The Covid-19 crisis facing British universities, and the attention the crisis has received in media and policy circles, has been all about whether international students will still come, whether young school and college leavers will change their minds, and how social distancing can be squared with large lecture classes and packed halls of residence. Occasionally the commuter student appears in the conversation; will they still be safe on the bus or tube making their journey to campus? Online learning has also figured, but as an emergency measure by universities striving to continue teaching when an unprecedented and sudden lockdown has made face-to-face lessons impossible.

As is typical in so many conversations about higher education, the part-time learner, often an adult studying on-line alongside a job and looking after the kids, is forgotten. To the extent that they are considered at all, it is that we do not need to worry about them. Yet these learners are often in just the low paid, part-time and insecure jobs that are most threatened by the health risks and economic shock of Covid-19. Indeed, it is these economic circumstances that motivate so many adult learners to choose higher education as a route to professional careers.

Let's think back to normal times and run a thought experiment. It is a thought experiment about England where, in contrast to other parts of the UK, we have a higher education sector dependent on high fees and tax-subsidised loans for both full-time and part-time study. Imagine if the Government raised student fees so high that the number of young people studying full-time courses collapsed. No government could survive the political consequences. Yet this is exactly what has happened to part-time higher education. In 2011/12, a year before student fees were trebled, there were 209,000 entrants to part-time undergraduate study. By 2018/19, the number had more than halved to just 83,000. Full-time study was hardly affected by the fee rise: last year the number of full-time undergraduate entrants had, after an initial dip, recovered to 373,000, one per cent higher than its 2011/12 level.⁵⁸

Young learners looking for a full-time experience were not deterred by the 2012 hike in fees, safe in the knowledge that they would only be paying back their loans if they earned a decent salary after graduation. Part-time learners, overwhelmingly aged over 21 and often already in work and with other financial commitments, were far less ready to borrow,

58. HESA data <https://www.hesa.ac.uk/>

especially as many would have to start paying back their loans while still studying.

Today, there are fewer than half the number of students aged 21 or over accessing undergraduate higher education than there were ten years ago.⁵⁹ Incredibly, this now amounts to over 1.2 million adults who would have accessed higher education but have not done so; their lives quite different – and almost certainly with less opportunity – than if they had achieved the qualifications that open doors for many thousands of full-time graduates every year.⁶⁰ Despite the claims often made about progress in supporting more disadvantaged students to access higher education, this is not true beyond just school-leavers. Since 2011/12, there has been a 16 per cent fall in the number of students from disadvantaged areas if you include part-time as well as full-time.⁶¹

It would be a national scandal for hundreds of thousands of school and college leavers about to take the next step in their education to have that step removed from under their feet. For part-time learners that is exactly what happened. But instead of annual waves of unplaced school and college leavers, these lost opportunities are scattered throughout our communities, largely hidden from any media attention. There are no angry parents writing to MPs and few senior civil servants, ministers or journalists knowing the pain and joy of achieving a degree by part-time study, often while working, bringing up children or just proving that failure to blossom at school does not mean lifelong failure to achieve. This is the hidden story of the collapse of lifelong learning.

The main driver of the collapse was the 2012 student funding reforms

What caused this decline? The answer is the 2012 student funding reforms. The higher education minister of the time, Lord David Willetts, has admirably held his hands up, telling the Treasury Select Committee that ‘I plead guilty on part-time students’ and observing that ‘The lesson I learned from this is a very important one for education policy, incidentally, which is there is not a single model that works for all students. The evidence is that repayable loans work for some, like 18 year olds going to university for three years, and do not work for others, like part-time students. You need a different model for part-time students’.⁶²

When fees in England were trebled in 2012 to replace deep cuts in teaching grant, mature students - to the surprise of policymakers - proved substantially more price sensitive than young students, even though fee loans were extended to part-time study.⁶³ Combined with abolishing the means-tested part-time fee grant that had previously exempted 57,000 part-time students from paying any fees at all, the effect was catastrophic.⁶⁴ It added to the impact of the previous Labour government’s decision in 2008 to end public funding and loans for students who already had an equivalent or higher qualification to the one they now wanted to study, even if they were wanting to change career or reskill in a shortage area.⁶⁵

59. The number of English-domiciled undergraduate entrants to universities in the UK aged 21 and over has fallen from 331,155 in 2008/09 to 162,635 in 2018/19 (HESA)

60. This compares what the total number of English-domiciled undergraduate entrants to university in the UK aged 21 and over would have been between 2009/10 and 2018/19 if they had remained constant at 2008/09 levels – 3.3 million – to the actual number of entrants over the period of 2.1 million (HESA)

61. See “Is there really a record number of disadvantaged students in HE”, Mark Leach, WonkHE <https://wonkhe.com/blogs/is-there-really-a-record-number-of-disadvantaged-students-in-he/>

62. Oral evidence to the House of Commons Treasury Committee, 13 December 2017 <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/treasury-committee/student-loans/oral/76315.html>

63. Department for Education, *Impact of the student finance system on participation, experience and outcomes of disadvantaged young people: Literature Review*, May 2019 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/805078/Impact_of_the_student_finance_system_on_disadvantaged_young_people.pdf

64. Department for Business, Innovation and Skills, *Interim Impact Assessment: Urgent Reforms to Higher Education Funding and Student Finance*, November 2010 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/32410/10-1309-interim-impact-assessment-he-funding-and-student-finance.pdf

65. House of Commons Innovation, Universities, Science and Skills Committee, *Withdrawal of funding for equivalent or lower qualifications (ELQs)*, 2008 for an overview of the policy <https://publications.parliament.uk/pa/cm200708/cmselect/cmdius/187/187.pdf>

This impact was mainly driven by policy rather than market or demographic trends. Northern Ireland, Scotland and Wales have not seen this decline because they have dedicated policy measures that keep the cost of part-time study low. In Wales this now include access to maintenance loans and grants for distance learners that have attracted more students to this mode of study.⁶⁶ This is a straightforward political commitment in these nations, where part-time study is seen as of both intrinsic and economic importance. Even when, as in the case of the Augar Review, there is an appetite for reform in England, it is to shift resources to further education and propose making higher education more selective. The part-time higher education student, often with lower prior attainment because of challenges and adversity when they were young, frequently working in low paid or part-time employment, and trying to improve their circumstances and their children's life chances, is a policy blind spot. It is few politicians' cause and rarely a media headline.⁶⁷

Part of the reason for this was that by the time official data about the impact of the 2012 fee rise on part-time student recruitment was published in early 2014 the fee rise had already been heralded as a success. Full-time data was available earlier and showed little impact on recruitment. There was now no political incentive to address a huge problem that the later data started to reveal because the problem had already been proclaimed not to exist.

Flexible lifelong learning is essential to economic prosperity and opportunity for all

Part-time higher education is of immense economic value. London Economics has estimated the total increase in lifetime earnings associated with an undergraduate part-time degree completed at age 37 – the average age of someone graduating from The Open University – to be £377,000 for male students who begin their studies with prior qualifications just at GCSE level or below, which is a common entry profile for OU students.⁶⁸ This is equivalent to a net present value of £188,000, which is split roughly evenly between students and the public purse.⁶⁹ From the perspective of the Exchequer, the estimated internal rate of return to the public purse is 25 per cent for male graduates and 19 per cent for female graduates. Furthermore, this estimate of the earnings and tax revenue benefits of part-time study ignores the wider benefits of lifelong learning, which research suggests are substantial.⁷⁰

Around 40 per cent of the UK's workforce has skills materially misaligned with their jobs, making the country's skills challenge much more to do with reskilling the existing workforce than just preparing young people for their first skilled employment.⁷¹ Under-skilled workers are a much bigger problem than over-skilled or over-qualified workers. There are significant shortages of higher technical and professional skills as well as interpersonal skills such as critical thinking, creativity, negotiation, communication, teaching and training.⁷² These demand a mix of academic

66. For example, there are now 105 Welsh domiciled first-year undergraduate students aged 21 and over per 10,000 people aged 21-64 years old in Wales compared to 51 English-domiciled first-year undergraduate students aged 21 and over per 10,000 people aged 21-64 years old in England. Source: HESA 2018/19 student numbers data and ONS mid-2018 population estimates

67. See, for example, *Unheard: the voices of part-time adult learners*, HEPI, 2010 <https://www.hepi.ac.uk/wp-content/uploads/2020/02/Unheard-The-voices-of-part-time-adult-learners.pdf>

68. Halterbeck, M. and Conlon, G. (2018) *Estimating the returns to part-time undergraduate degrees*, London Economics. The estimate for the total increase in lifetime earnings is adjusted for inflation but is undiscounted. The net present value estimate applies a discount rate of 3.5% in line with the HM Treasury Green Book. The undiscounted increase in lifetime earnings for female students with entry qualifications at GCSE or below is estimated as £196,000 and, for students with entry qualifications at A-level or above, it is estimated as £238,000 for male students and £147,000 for female students

<https://ounews.co/around-ou/ou-speaks-out/studying-part-time-can-increase-lifetime-earnings-by-up-to-377000/>

69. The estimated £188,000 net present value of a part-time degree for a male student with entry qualifications at GCSE or lower graduating at age 37 is divided between a net present value of £93,000 to the individual and a net present value of £95,000 to the Exchequer

70. See, for example, Department for Business, Innovation and Skills, *The benefits of higher education participation for individuals and society: key findings and reports "The Quadrants"*, BIS Research Paper 146, October 2013

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/254101/bis-13-1268-benefits-of-higher-education-participation-the-quadrants.pdf

71. 2020 *Annual Report*, Industrial Strategy Council, February 2020 <https://industrialstrategy.org/sites/default/files/attachments/ISC%20Annual%20Report%202020.pdf>

72. Industrial Strategy Council, 2020 *Annual Report*, February 2020 <https://industrialstrategy.org/sites/default/files/attachments/ISC%20Annual%20Report%202020.pdf>

and vocational skills rather than overly narrow occupational training that risks over-specialisation and rapid dating, given that one in eight workers with low or intermediate level qualifications is at high risk of their jobs being automated within twenty years.⁷³

The increasing speed of technological change is making lifelong learning not just a choice but an economic necessity, both to retrain in the face of structural change and to upskill so the UK economy can take full advantage of new technologies with a workforce that is equipped to utilise them effectively.⁷⁴ Flexible lifelong learning for people both in and out of work is crucial to achieving this.

Flexible lifelong learning is also crucial to the UK Government's aspiration to level up opportunity across the country, and all the more so when coronavirus threatens to entrench economic inequalities. Many of the 'left behind areas' being targeted by the UK Government as part of its Towns Fund initiative have been particularly impacted by the decline in part-time study opportunities on which these areas depend disproportionately for access to higher education and for social mobility.⁷⁵

Policy proposals for revitalising flexible lifelong learning

The recommendation made by the Augar panel for a lifelong learning loan allowance, a universal entitlement to up to four years of full-time equivalent higher education that can be taken up module-by-module over a lifetime, would be a step in the right direction that would remove some of the barriers to flexible study.⁷⁶ It would allow students to access the student loan system to finance the cost of tuition for modular study rather than commit to the cost of a full qualification all at the same time. The Augar recommendations would also go some way towards removing the current rule that generally students cannot access public funding for a course if they are already qualified at that level.

The main reform that would rebuild part-time higher education in England, however, is a substantial increase in teaching grant to enable the fee for part-time study to be reduced significantly. There are economic arguments for this – in terms of skilling the existing workforce and the lower cost to the Exchequer of part-time study due to more of the loans being repaid⁷⁷ – and social arguments, given how it is students from disadvantaged backgrounds who disproportionately study part-time.

It is also important to address the maintenance costs of part-time students. While face-to-face part-time students studying at degree-level can access maintenance loans, students who choose – or often need – to study by distance learning are not entitled to support. This is a major inequity in the current system which deters many mature learners from studying and pushes others towards less flexible modes of study and longer, more expensive qualifications which may be ill-suited to their needs.⁷⁸ The experience of Wales following implementation of the recommendations from the Diamond Review illustrates the impact this could have.⁷⁹ The introduction of the maintenance elements of the new Welsh system in 2018/19 led to a 34 per cent increase in the number of part-time students

73. Office for National Statistics, *The probability of automation in England: 2011 and 2017*, 2019 <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/theprobabilityofautomationinengland/2011and2017>

74. See e.g. HM Government, *Industrial Strategy: Building a Britain Fit for the Future*, 2018 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/664563/industrial-strategy-white-paper-web-ready-version.pdf

75. For example, Towns Fund constituencies are more than twice as likely as other constituencies to be found among the 10 per cent of constituencies with the highest part-time HE market share in 2016/17. Source: OU analysis of HESA data

76. Department for Education, *Independent Panel Report to the Review of Post-18 Education and Funding ("The Augar Review")*, May 2019 <https://www.gov.uk/government/publications/post-18-review-of-education-and-funding-independent-panel-report>

77. See Department for Education, *Student Loan Forecast 2018 to 2019*, 2019 which estimates the RAB charge on part-time loans of 41% compared to the RAB charge on full-time loans of 47%

<https://www.gov.uk/government/statistics/student-loan-forecasts-england-2018-to-2019>

78. See Department for Education, *Consultation on Part-Time Maintenance Loans*, 2016 for the UK Government rationale for introducing part-time maintenance loans, which touches on these points

<https://consult.education.gov.uk/part-time-maintenance-loans/part-time-maintenance-loans/>

79. Welsh Government, *The Review of Higher Education Funding and Student Support in Wales ("The Diamond Review")*, 2016 <https://gov.wales/sites/default/files/publications/2018-02/higher-education-funding-final-report-en.pdf>

receiving tuition fee support even though only first-year students were eligible.⁸⁰ This has had a particularly strong impact on disadvantaged learners.⁸¹

Recent ONS accounting changes mean that there is scope to reconsider the most effective mechanism for funding lifelong learning.⁸² An important driver of the current funding system was the UK Government's desire to reduce the deficit in the public finances and the ability to achieve this by shifting higher education funding away from direct upfront support via grants to indirect support via writing-off student loans. This rationale no longer holds as the anticipated long-term expenditure via the student loan system now has to be recognised upfront in the public accounts. This opens up an opportunity to shift towards more upfront support for mature students with limited impact on the public finances. Indeed, a more attractive flexible lifelong learning proposition could result in some students shifting away from more expensive three-year full-time residential degree-level study, creating a more efficient (and greener) funding system.

Conclusion

The Covid-19 crisis and the next UK Government's Spending Review are major opportunities to reset policy and revitalise flexible lifelong learning by rebalancing support towards part-time study. The last decade has seen England moving backwards with achieving better access to higher education among disadvantaged groups and in 'left behind' areas because of the collapse of part-time study. While there has been a small increase in higher education participation among 18 and 19 year olds who live in disadvantaged areas, this is far outweighed by the dramatic decline in the participation of 20 plus year olds. Now is the time to reverse this costly unintended consequence of the 2012 changes.

80. Student Loans Company, *Student Support for Higher Education in Wales, 2019*. This is a proxy for part-time students studying towards full qualifications at sufficient intensity to be eligible for maintenance support

<https://www.gov.uk/government/statistics/student-support-for-higher-education-in-wales-2019>

81. *Jump in part-time students accessing support following introduction of most generous support package in the UK* - Welsh Government, 31 January 2019 <https://gov.wales/jump-part-time-students-accessing-support-following-introduction-most-generous-support-package-uk>

82. Office for National Statistics, *Student Loans in the public sector finances: a methodological guide*, January 2020 <https://www.ons.gov.uk/economy/governmentpublicsectorandtaxes/publicsectorfinance/methodologies/studentloansinthepublicsectorfinancesa-methodologicalguide>

Technology adoption and retraining are vital to recovery

By Sir Charlie Mayfield

We went into ‘lockdown’ on 23 March with the UK close to full employment. We’re awakening now to a very different outlook. The negative impacts of much higher unemployment will be many and obvious, but, could this be the shock that leads us to reach for ambitions we’ve discussed for years but never got round to enacting?

Among those ambitions, technology adoption and retraining are two of the areas where the imperative, importance and opportunity align most strongly. On retraining, having recently completed 20 years in retail, I know well the impact the crisis will have on those employed in that sector and in others like it – we are about to see a need for training and retraining on a scale not seen in decades. And, on technology adoption, my involvement with Be the Business⁸³ and at QA, the largest IT and technology training provider in the UK, has given me an insight into the scale of the opportunity, what barriers must be overcome and some experience of how that could be achieved.

That technology is changing everything must be one of the most hackneyed phrases around. And yet the last 3 months have brought a fresh blast of reality to it. One of the lessons from this crisis is that technology is as crucial to resilience as it is to competitiveness. It’s one thing for a technology investment to compete for priority. It’s another entirely when that investment in technology is the difference between having a business or not. Many business leaders have realised in the last few months that online and cloud based systems are vital to survival.

But, when it comes to adoption of technology by businesses, while we have some brilliant technology led businesses, they’re a tiny fraction of the whole. The reality is we’re 20th in Europe⁸⁴ on tech adoption - the average UK business today has adopted technology only to the level that businesses in Denmark had reached in 2009. This comparison is not even about advanced technologies in AI or data science, but the adoption of more basic and established tools such as online and cloud based HR, Finance and CRM.

The good news is we could be on the cusp of a dramatic pick up in tech adoption. Playing catch up is easier than finding a new path and it’s likely that today’s business leaders are now acutely aware of the importance of technology.

At Be the Business, we’ve spent hours listening to the businesses that make up the real fabric of our economy. We’ve heard from those who

83. Be the Business is a public & privately funded organisation established to support improvements in competitiveness and growth of businesses across the UK

84. OECD

have adopted technology successfully, from those who haven't, and from those who are fearful of doing so. We're gaining an understanding of what it will take to boost tech adoption. So what should we do?

First off, make technology adoption by businesses a key focus for national recovery. Now is the time for an engaging campaign around how technology can make your business more resilient to future shocks, building on both the confidence borne of two months on Zoom and the realisation of how good tech systems can be the make or break of operations. In every town we should build awareness of the tech opportunity and make available a trusted platform where business owners can share experience, offer advice and make good choices about technology. Be the Business have built such a platform and are working right now with combined authorities and local enterprise partnerships to deploy it.

Second, Big Tech needs to help – this is their moment to lower the barriers to adoption, to innovate their products and services to achieve mass adoption. The reality today is that some of the providers with the best technology have no business model to serve millions of businesses that could benefit from using it. We must close this gap and several of the UK's best technology companies have come together with us to establish what we can do to make this step change now. We'll have answers by mid-Summer.

Retraining for the tech future

Post Covid skills and competencies are going to matter more. At least for some time there will be fewer jobs. With more people chasing each one competition will rise. But the requirements in those jobs are changing fast. It's a well established trend. US research⁸⁵ shows that between 2002 and 2016 the digital content of jobs more than doubled. Pre-Covid the digital demands of jobs were expected to increase rapidly. Post-Covid, with socially distanced working and customer interaction, whether it's enforced or preferred, these requirements will race ahead.

Even before Coronavirus came to limit our freedom, skills, or rather the lack of them, was a big issue. Research published recently by the Industrial Strategy Council⁸⁶ suggests that by 2030 nearly 90% of the working population may lack the digital skills needed. That's a shocking prediction. If we want the recovery to replenish our jobs, our lives and the health of our society, that prediction has to change.

Fortunately it's perfectly possible that it could. Catching up on technology adoption will increase the demand for these skills and maybe, just maybe, this crisis will be the spur to closing the yawning gap that's opened between education and work. At a time when technology is changing the way we work so profoundly it's bizarre that education is what we 'do' up to the age of 21 or 22. The Augar Review challenged the status quo. Changing it will require a fresh and determined effort on a number of levels – among business leaders, in the rapid delivery of in demand skills, and in education.

One of the most effective interventions at Be the Business has been

85. Brookings - Digitization and the American Workforce, November 2017

86. Industrial Strategy Council - UK Skills Mismatch 2030, October 2019

a collaboration between major businesses and universities to make experience based learning accessible and attractive to local business leaders – precisely the people who will lead the recovery. 200 business leaders have already participated in mini-MBA programmes run by Be the Business in conjunction with the universities of Lancaster, Bath, Aston, and Strathclyde, with business sponsors including BAE Systems, Siemens, Airbus, Lloyds Bank, John Lewis Partnership and Rolls Royce.

The format is simple and very effective. It runs over 12 months, requiring around a day and a half a month from delegates. The curriculum is experience based involving visits to sponsoring businesses, mentoring and lots of team working, and is all about enhancing the confidence and capability of business leaders in pursuing business transformation. The results have been dramatic with businesses reporting immediate and sustained improvements in business performance. This approach could be adapted to focus on everything from continuous improvement to AI. We could have a programme like this, tailored for the local needs, running in every major city or town in the UK by the autumn. Why not?

If we're successful in accelerating tech adoption that will fuel demand for a better skilled workforce to use it. It will also provide the impetus for training investment generally - OECD research shows a strong positive correlation between tech adoption and training by businesses. Pre-Covid there was already significant unfulfilled demand for skilled workers. Post Covid, with higher levels of unemployment, we're going to need more targeted and purposeful retraining of scores of people.

Vacancies already exist. For example, in February there were nearly 50,000 vacancies in England alone, in software development, Cloud computing, DevOps, and data science, with starting salaries of £35-50k. While that demand may have dimmed temporarily, these are all areas where it's likely to bounce back post-Covid.

Existing responses to these demand signals offer some clues as to what's possible. QA has trained over 1,000 people in software development, DevOps and Cloud computing, all privately funded, in 10-12 week intensive bootcamp style academies. Traditionally 'bootcamps' have been a stomping ground for young people entering the labour market for the first time - as a mechanism to close the gap between the tech skills taught in education and those needed in the workplace. But our experience shows they can be just as, if not more, effective for re-training tenured employees into digital roles; whether that's people returning from a career break, or, more likely now, people facing redundancy. Furthermore we've found that this approach is attractive and accessible to a much more diverse audience who have traditionally not had access to these parts of the labour market.

Again, employers have a role to play. The bootcamp works best as a collaboration between employers and training providers. We've delivered work ready skilled employees to companies ranging from BAE Systems to Santander. With news of redundancies multiplying by the day, this kind of intervention could be used where there are skilled workers leaving one

organisation who could be retrained quickly for another. Post Covid there will be raised expectations on businesses to play their part in the recovery. Sponsoring academies like these could be a great way of supporting a return to work for thousands and addressing pressing skills gaps.

These examples won't be enough of course – there isn't a universal solution. Even if there was, we don't have the time it will take to find it. Instead we need momentum, urgently. The key to progress is to get started, and learn as we go.

Success depends on our addressing both the demand and supply side. From a policy perspective, if the response leans towards the supply side, don't be surprised when the take up is disappointing. And, from a delivery perspective, stimulating demand and ensuring responsive supply is most likely when the two are closer together – as in many other policy areas, this is an opportunity that's best unlocked locally. Combined authorities and local business leadership groups are more likely to know their turf. They'll know which businesses and sectors are more represented and which aren't. They'll know the employers, the universities, FE colleges and training providers. We should use them vigorously.

All of the ideas described could be developed and deployed locally and quickly. They could be among the most valuable and effective tools in tackling the risk that people are scarred by unemployment and regional inequality is exacerbated by the crisis.

The crisis has forced us to reappraise our world in so many ways. It's an opportunity to make an ambitious commitment to driving tech adoption and retraining. The chance is there for us. If leaders in business and government get behind this we could use it well.

An apprenticeship alternative to university

By Euan Blair

One central objective of our education system is to ensure citizens have the skills they need to serve and thrive in the economy of the future. But something is going badly wrong on that score in the UK.

A skills crisis may be slow in the development but, as Hemingway once said of bankruptcy, it engulfs you 'gradually, and then suddenly'. Our stubbornly low level of productivity - that has resisted every policy solution the Treasury has thrown at it - is an indicator that we need to change course before it is too late.

Training represented just 11.7% of the fiscal stimulus packages in advanced economies after the 2008 recession. As we prepare to weather another contraction, it's clear that was not enough⁸⁷.

The last thirty years might reasonably be characterised as a push for university education above all else. Governments of every kind have contributed to policies that have seen the proportion of the population attending university reach record levels.

The aspirations of most university champions are beyond reproach: widen university study beyond a small section of society and you give more diverse groups access to top jobs and decision-making power. In the absence of a revolution, this approach has had some success. Universities may not have obliterated all the obstacles to social mobility, but access to university courses no longer ranks among them.

There have been some unenviable, unavoidable side effects however. The democratisation of university access and the prioritisation of higher education in policy makers' minds has led to a one size fits all model for people's careers. A university degree has become a stamp in the passport that grants entrance to what are often called 'graduate careers'.

Lack of competition has enabled a widening gap between what universities provide and employers actually want. HR Directors report that only a fifth of graduates are ready to hit the ground running, with the same proportion deemed emphatically not ready⁸⁸. Despite some innovation in the sector, most universities still teach in the same ways they have for over a century.

More alarmingly, few see it as their responsibility to teach even basic human skills. Consider a humanities graduate at a top university, of the type that has been overrepresented at the top of government for decades. These individuals are taught by academic staff appointed for their research rather than their pedagogical abilities, and tested almost exclusively on

87. *International Labour Office*, 'Lessons from the implementation of training and retraining programmes in response to the Great Recession', 2014, [link](#)

88. *People Management*, 'One in five graduates 'not workplace ready'', 17 December 2019, [link](#)

their ability to write essays that draw in as much knowledge as possible about a subject. Whether or not they learn the skills needed for a successful career - time management, communication, the ability to have difficult conversations - is left entirely to chance as they study for a degree.

These graduates are then churned out into an increasingly uncertain labour market. The best available analysis suggests that 85% of the jobs that will exist in 2030 are yet to be invented⁸⁹. Survival will depend on having the core skills needed for a career, that can be applied in a variety of different roles. We should be making it a priority to teach these skills.

Ending the university obsession

The obsession with university has had some unarguably negative consequences for social cohesion. In a divided society, educational level is now the biggest division of them all. In the EU Referendum those with A Levels alone split equally between the two camps while those with degrees were twice as likely to vote Remain.⁹⁰ The fact that an increasing number of graduates do not have any non-graduates in their circle of friends should be setting off alarm bells.

Moreover, society is paying through the nose for the privilege of creating this division. Regardless of whether the tab is picked up by students in fees, or wider society via grants and general taxation, a university degree has a cost that must be met and a considerable one at that. Outstanding university debt, at £117.8 billion, is more than the market capitalisation of all but three FTSE 100 companies. It will take time for the figures to become available but it is certain a substantial number of graduates will never command the graduate premium to cover the costs of their degree. Does a university degree really represent the best investment among the other options available?

There is an enormous opportunity to do things differently and better, and fortunately the tide is turning. A series of top employers - Google, Facebook, Apple, Penguin Random House to name a few - have dropped the requirement for a university degree from their job adverts. For all the mixed headlines around the Apprenticeship Levy, as a policy it has encouraged companies to diversify their hiring practices away from graduates alone, with half of all large employers saying they now recruit more apprentices as a result⁹¹.

By any reasonable analysis, apprenticeships should have a significant part to play in the solution. At WhiteHat, the tech startup I founded, we believe apprenticeships can be an outstanding alternative to university. The Government's repeated backing of apprenticeships suggests they agree. In terms of numbers, we believe that it is not beyond reach to expect 35% of school leavers to go into an apprenticeship by 2030, the current figure is around 10 per cent.

The intrinsic advantage of apprenticeships come from their high levels of integration with employers, who pay apprentices and work with the Institute for Apprenticeships to design the standards against which they assessed. More relevant training leads to better job prospects, which is

89. *Institute for the Future*, 'The Next Era of Human Machine Partnerships', 2018, [link](#)

90. *YouGov*, 'How Britain Voted', 27 June 2016, [link](#)

91. *Grant Thornton*, 'Generation Apprentice', March 2018, [link](#)

reflected in the fact apprenticeships have a higher rate of positive outcomes than university degrees⁹².

In addition to what gets taught, the way education is delivered is increasingly important. Apprentices test the things they have learnt immediately in real life situations and this form of applied learning has clear advantages over the academic approach practiced by universities.

Perhaps most importantly when it comes to widespread uptake, apprenticeships are a known commodity whose existence is recognised by parents and employers. The label is part of our common language.

Reputation is, of course, a double edged sword. While the vast majority of parents believe apprenticeships offer good career options⁹³, there is still a general prejudice, summed up by former Prime Minister Theresa May, that they are something ‘for other people’s children’. There is solace for reformers here. The journey for parents to go from a positive perception to active consideration is shorter than introducing a whole new category of training from scratch. There are also obstacles that can be removed without too much effort required; more information for parents, teachers, and young people, is essential, as is changing the way school league tables record pupil destinations, moving beyond university as the desired outcome in and of itself.

Making apprenticeships work better

So how do we ensure apprenticeships have the capacity to meet the skills challenge faced by the UK, and provide a credible, long-term alternative to university. The Apprenticeship Levy is playing its part. Despite the original fall in numbers after its introduction, apprenticeship starts rose almost 5% last year to just below 400,000⁹⁴. By forcing employers to foot the bill through a use it or lose it approach, a wider range of firms are engaging with what they actually want from their training. Poor providers are going out of business and we are seeing clear signs that apprenticeships are adapting to the skills needs of the 21st century workplace.

Across the world there has been remarkably little pushback against the idea that the bill for post-18 education and training should be funded by either the individuals themselves or the general taxpayer. One of the radical things about the Levy is that it pushes the financial burden onto employers instead. This move makes a great deal of sense; employers benefit from access to a more skilled talent pool to employ at the outset, and can use apprenticeships to adapt to the structural changes in skills that their existing workforce requires.

The next step is to focus on greater access to apprenticeships for Small and Medium-Sized enterprises, since they represent the majority of employment in the UK. Currently non-Levy payers struggle to access funding, though we have seen a meaningful increase in Levy transfers from big employers. Lowering the contribution threshold from an annual wage bill of £3 million would provide valuable cash and allow more companies to feel the benefit.

As an expansion happens, a relentless focus on quality is essential.

92. 91% for apprentices (Gov.uk, ‘Further education: outcome-based success measures, academic years 2013/14 to 2016/17’, 24 October 2019, [link](#)) vs 89% for students (Office for Students, ‘Differences in student outcomes’, [link](#))

93. <https://www.accountancyage.com/2018/03/05/changing-attitudes-apprenticeships-uk/>

94. 2017/18 Full Year Total: 375,761, 2018/19 Full Year Total: 393,375. (Gov.uk, ‘Apprenticeships and traineeships data’, [link](#))

But it is an easy mistake to confuse quality with academic levels. If an apprenticeship at degree level is badly designed or executed, and fails to teach people what they need to know, the outcomes will be drastically worse for the individual and employer than an effective apprenticeship at a lower level. Likewise, high quality Level 2 qualifications can have a transformational impact on those who do not thrive in an academic setting.

In fact, the whole approach of aligning technical apprenticeships with academic levels makes little sense. Parents, employers and individuals struggle to understand a system which implies, for example, that the natural step after A-Levels is a degree level apprenticeship. In fact the level of technical know-how required, combined with the pressures of work, mean an intermediate step to introduce someone to technical learning is essential. Rather than trying to invent equivalency, a logical approach would be to introduce three tiers - entry-level, intermediate-level and advanced-level.

Alongside the quality of what is taught there needs to be a focus on training people in areas that are most resilient to the changing world of work. At WhiteHat we only offer coaching in areas that are future-proofed; with a strong focus on skills like data analytics, software engineering, business operations, and project management. There are too many apprenticeships that are training people for jobs that likely won't exist in five years time.

Next, we need to encourage genuine diversity of who gets placed on an apprenticeship and avoid recreating the mistakes generated by the university system. A two tier apprenticeship system, where degree-level training spots at top employers are disproportionately taken up by those from top schools, while those from less advantaged communities are relegated to less prestigious training, is an obvious pitfall we must avoid. The same goes for diversity around ethnicity, where while universities have improved somewhat at recruitment, they still have huge challenges in attainment and outcomes⁹⁵.

At WhiteHat we have taken a number of decisions to mitigate these risks. We have built a tech platform that measures competencies, values, and potential through the recruitment process, rather than just prior attainment, which can often be simply an indicator of how good your school was. Other fast growing startups have developed similar platforms to root-out bias in recruitment, and the success of these products demonstrates employers at least recognise there is a problem⁹⁶.

And the third and most important element for transforming apprenticeships? Community. We know that one of the main forces driving young people towards university courses, even when they are plainly inappropriate, is the fear of missing out on the social side of university. It is seen by many as the natural place to make friends, meet a partner, and form the relationships to set you up for life. There is absolutely no reason why university should have a monopoly on this experience, and it is essential that it becomes a core part of an apprenticeship.

95. 78% of white students who graduated in 2017 ended up qualifying with a first or a 2:1, 66% of Asian students achieved the same, and just 53% of black students (*Universities UK, 'Tackling gaps in BME students' achievements at university', 8 June 2018, link*)

96. McKinsey: companies in the top quartile for racial and ethnic diversity are 35 percent more likely to have financial returns above their respective national industry medians (*McKinsey, 'Why Diversity Matters', link*)

A number of companies have begun offering graduation ceremonies, to allow course completers to celebrate their achievements with colleagues and family, but this is just the beginning. At WhiteHat we have built a thriving on and offline community of apprentices who meet up for social events, networking, sports teams, and sessions focussed on specific life skills like budgeting and public speaking. It allows them to build lifelong friends and professional networks, and because these things are even more important to develop during the COVID-crisis, we have opened up our community to include apprentices we do not train.

The best communities are attractive membership propositions. In the same way that university alumni can be powerful advocates for the education they enjoyed, we give our apprentices both the ability and desire to act as champions for their experiences. This is vital for inspiring the next generation.

Our analysis shows an active community has a radical effect on people's success as well. Apprentices taking part in a community of their peers are more likely to pass their qualifications, more likely to get a distinction, and more likely to enjoy their apprenticeship than those who do not.

All the things necessary for systemic change are within reach. We are right now seeing the university system's monopoly on great careers being broken. We are working with apprentices at companies ranging from Facebook and Salesforce, to Morgan Stanley and Clifford Chance, and they are thriving. An increasing number of graduate programmes are being rebadged as early careers programmes as school leavers become a key part of the intake.

And the extent of the prize is huge: get this right, and we can deliver real social mobility, future-proof the UK's workforce, and solve our productivity puzzle. We can build an environment where school leavers are forced to make a tough choice over which path they pursue, but can make it entirely based on what best suits them. This is what a modern, high-impact education and employment system should look like, and Britain can be a true world leader in this area.

Lessons From Germany?

By Bobby Vedral

Germany is *Weltmeister* when it comes to apprenticeships. No other nation has a yearly rate of more than 50 per cent of its school-leavers pursuing one of the 325 officially recognized crafts (*Handwerk*) or vocational professions (*Berufe*). And while in England (all the figures in this piece apply to England alone) there are some excellent employer-led initiatives, if you exclude all the adult upskilling or retraining courses labelled as apprenticeships only about 10 per cent of school-leavers take up an apprenticeship, one fifth the German level. And while the absolute number of apprenticeships increased significantly during the coalition government (2010-15), ever since the introduction of the Apprenticeship Levy in 2017, the numbers have been shrinking. So, looking at England's performance in relation to the *Weltmeister* makes sense, even given the well-known difficulties of "cherry picking" policy ideas from other countries with different histories, institutions and mentalities.

The value of apprenticeships

Vocational training in Germany doesn't just have an economic value by providing industry with skilled workers for an advanced manufacturing and service economy and contributing to Germany's status as an industrial powerhouse and *Exportweltmeister*. There are also important social advantages. First, it leads to very low youth unemployment. Second, far fewer young people are burdened with educational debt once they start their working life. Third, "earning-while-learning" allows those youngsters who don't know yet what their final calling is, to stay independent and keep their options open. Fourth, a nation-wide recognized qualification increases personal pride and self-esteem. Fifth, apprenticeships promote the importance of 'place', allowing young people to stay in their communities, without the need to emigrate to metropolitan centres to pursue university studies. Sixth, locally assessed and nationally certified vocational training provides a certain degree of job protection. In fact, it could be argued that EU internal migration (the famous 'Polish plumber') had a bigger impact on Britain than Germany, because to be a plumber in Germany you need a two year apprenticeship in German, while the barrier to entry is much lower (if any) in the UK. In addition, if your profession is a craft (*Handwerk*) like carpenter or baker, then you need to have the highest qualification (*Meister*) to set up a business in Germany. Finally, it boosts the amount of youngsters interested in technical/engineering jobs, as they get attracted by the practical experience, without the need for academic studies (although this can always be pursued after). At the end of the

day, to be a digital marketer or a Python coder, you do not need a BSc in Computer Sciences.

Where might England need some German ideas?

While England has seen a dramatic increase in apprenticeships, from less than 100,000 in the late 1990s to about 400,000 now, the OECD identifies four key shortcomings.⁹⁷ First, the overall percentage of apprenticeships in England is still very low, especially when compared to other Northern European countries. Second, the average quality is not very high, with few apprentices in crafts or skilled trades, like construction and engineering, with most being in the lower paid service sector. Third, English apprenticeships are typically much shorter with an average of 18 months compared with 2-3.5 years in Germany. Fourth, the growth of young people pursuing apprenticeships in England is very low, with around half of starting apprentices being incumbent workers. Even worse, the number of 19-24 year-olds going into entry-level apprenticeships in 2017/18 was half what it was 3 years previously, while the number of those over 25 taking higher level apprenticeships (educational levels 4 to 7) has more than doubled.⁹⁸ This seems to be one of the consequences of the Apprenticeship Levy on larger companies. Before getting lost in technical details two big picture differences between German and English apprenticeships stand out: prestige and governance.

The importance of parity of esteem and role models

Most UK politicians and business people consider apprenticeships a great idea, but do not consider them equal to graduate studies. By contrast, in Germany, apprenticeships are seen as a foundational base. In fact, on a recent visit to Berlin with a UK delegation, the German Education secretary of state (equivalent to a British minister) explained how he had just recommended his daughter to do an apprenticeship first. The rationale was, in his words, “to get a proper job” before pursuing an academic degree. And that is not unusual. Former apprentices are widely represented in the highest level of German society. In Chancellor Merkel’s current cabinet three of the most senior ministers started their working life as apprentices: Interior Minister Seehofer, Health Minister Spahn and Education Minister Karliczek.⁹⁹ The same is true in business, where senior managers like Hilmar Kopper (former chairman of Deutsche Bank) or Werner Wenning (former chairman of Bayer) started that way. Same is true for many of Germany’s richest entrepreneurs, like Klaus-Michael Kühne (Kühne logistics) and Klaus Gehrige (Lidl supermarkets). In fact, most sport personalities have one: the legendary Franz Beckenbauer trained as an insurance salesman and Juergen Klinsmann trained as a baker. Of the current Bundestag (lower house of parliament), 67 members have an apprenticeship.¹⁰⁰ By contrast in the UK, there are few prominent members of the House of Commons who did an apprenticeship (one is the Conservative Gillian Keegan who left school at 16 to train in a car factory near Liverpool).¹⁰¹ This points to an important handicap of the British

97. Kuczera, M. and S. Field (2018), *Apprenticeship in England, United Kingdom*, OECD Reviews of Vocational Education and Training (Paris: OEC Publishing)

98. Dunn, W. (2019), ‘Q&A: Anne Milton’, *Spotlight - NewStatesman*, p. 6

99. BPA, Presse und Informationsamt der Bundesregierung (2020), *The Federal Government*, <https://www.bundesregierung.de/breg-en/federal-government/cabinet>

100. UNICUM (2019), ‘Politiker ohne Abschluss’, <https://karriere.unicum.de/berufsorientierung/branchencheck/politiker-ohne-abschluss>

101. Chichester Observer (2019), ‘Chichester MP appointed as apprenticeship ambassador’, <https://www.chichester.co.uk/education/chichester-mp-appointed-apprenticeship-ambassador-110133>

political and economic system: the lack of role models and understanding in order to define effective policy.

While it will take at least a generation to see the past decade of apprentices rise to the higher echelons of UK business and politics, three things can be done in the meantime. First, top-down, emphasise the advantages of apprenticeships and their equivalence to graduate studies. Second, make it attractive for foreign firms from countries with deep apprenticeship experience to settle in Britain and roll out their best practises. Third, increase the “prestige” of apprenticeships, maybe starting by rebranding the highest qualifications. For example, in Germany the Level-7 equivalent is called a *Meister*. I certainly know which title I would rather have on my certificate.

Differences in the national political economy

While Germany is said to have a *coordinated market economy*, i.e. one where firms depend more heavily on non-market relationships and collaboration, Britain is said to have a *liberal market economy*, where firms coordinate primarily via competitive market arrangements and formal contracting¹⁰². This difference in their political economic structure goes some length in explaining why Germany may have a comparative advantage in manufacturing, while Britain seems to have an edge in innovation and creativity. Hence, it could also be argued that the German ‘collaborative approach’ makes the apprenticeship model easier to implement. In broad terms that may be true, but since in the UK there is neither clarity nor consensus on what apprenticeships are or how they should be delivered, there is a good opportunity to look east of the Rhine for structural inspiration.

Very broadly speaking, in Germany apprenticeships are organized at three levels. Standards are set at the federal level, with any of the 325 apprenticeships being either a *Beruf* (profession) or a *Handwerk* (craft). This ensures that each *Lehrling*’s (apprentice) training assessment is done under the same standards and hence recognized nationwide. At the *Land* (federal state) level, the vocational teachers are employed and paid, while it is at the local/community level that industry agrees which infrastructure (vocational schools and training centres) to pay for. For *Berufe* (non-craft professions), the training is coordinated by the chambers of commerce (*Industrie-und Handelskammer*, IHK), while for crafts it is organized by the respective guilds. Chamber of commerce/guild membership is compulsory for all companies, hence ensuring a collaborative approach for all kinds of general training, like German, maths, civic studies, programming and more. Lastly, the defining feature of the apprenticeship is a special contractual relationship between an apprentice who works and an employer who trains in return. This overall structure is so successful, that in 2018 the industry had 589,100 apprenticeship positions to offer, of which only 574,200 got filled, hence creating a surplus of 17,800 apprenticeships.

In contrast, the English system is more ‘liberal’. First, there is no

102. Hall, P. and Soskice, D., 2001. *Varieties Of Capitalism*. Oxford: Oxford University Press.

common standard, as each nation of the United Kingdom pursues its own policy, which doesn't help with regional mobility. Second, unlike in Germany, where the coordinating body is the chamber of commerce (controlled by industry), in England the coordinating body is the Institute for Apprenticeships (IFA), an executive offshoot of the Department for Education. Third, the apprentice-company relationship is governed by a normal contract and much of the training is outsourced to external third-party training providers.

It therefore might make sense to consider the following ideas. First, make the Institute of Apprenticeships a standalone agency working with all Departments, including Business, Education and Defence (the Armed Forces are the biggest provider of apprenticeships in the UK). Second, the IoA should define a unique set of professions and delegate the educational curriculum and qualification assessment to specific industry bodies with the specialist knowledge and experience. For example, in the construction sector, The Chartered Institute of Building (CIOB), with nearly 200 years of history, is probably better equipped to define degree-level standards for the building industry than a central body in Westminster. Third, at constituency level, local businesses and educational establishments should meet frequently under the auspices of their respective MPs to ensure the required infrastructure is in place to provide the required training (something like this is happening at a more regional level with the Government's Skills Advisory Panels). The more employers have a say in designing and setting the standards for apprenticeships and degree apprenticeships the better in their respective industries and regions, the less they will be able to blame central government for their own failings.

Towards a uniquely English system

While looking to Germany should be seen as a benchmarking exercise, it is clear that Germany has many problems of its own. Among them is a failure to provide good "lifelong learning", especially if this requires cross-industry re-training, and to swiftly update the work areas that apprenticeships cover. Also it is not clear if the German system of specialisation and 'incremental change' is still future-proof in an era of digital disruption. Hence England should regard this opportunity to design its apprenticeship system (almost) from scratch as a unique opportunity and study other countries' system carefully, and borrow best practises where possible.

EASY CHANGE

Increase the kudos of technical education by giving it a proper title. “Master Technician” or “Meister” sounds better than “Level-7”.

ASPIRATIONAL CHANGE

Make the Institute for Apprenticeships (IFA) an independent agency, owned/funded by industry and responsible for setting national standards and to supervise designated industry bodies (institutes, associations or chartered societies) who in turn supervise training and assure final-assessment quality.

What, If Anything, Can We Learn From Germany, Switzerland, Austria, the Netherlands and Denmark?

By Ken Mayhew

A strong message to emerge from the Augar Review is the need to build a strong vocational pathway into the world of work. Today roughly half of young people in England go into higher education. For the other half attractive choices are limited. Despite numerous government attempts to revive apprenticeships, that route remains massively flawed and available to relatively small numbers. Further education colleges have seen their role diminished and have been starved of funding. Too many employers seem unwilling to train unless government cash is thrown at them. A proportion of the “lucky” half who do go to university subsequently find themselves in non-graduate jobs, meaning that they get little if any financial return from their three or four years in HE. Many other countries have well established alternative pathways. What, if anything, can we learn from them?

First, a cautionary note. There is a large academic literature on policy borrowing, which warns us that it can be dangerous. For example, imagine that English policy makers were concerned to reduce income inequality. They noticed that Sweden once had a tradition of solidaristic wage bargaining, which had effectively limited the dispersion of earnings. Simply borrowing that aspect of the Swedish labour system would not work. It only worked in Sweden because it was embedded in a broader set of complementary institutions. At the same time, institutions change and often perceptions of what other countries are doing can rapidly become outdated, as we will illustrate later when discussing the German and Danish systems. Nevertheless, if care is taken and a pick and mix approach is eschewed, it is possible to learn from other countries.

Amongst others, five European countries – Germany, Switzerland, Austria, the Netherlands and Denmark have dual systems, giving young people a variety of pathways and a real alternative to university. The US looks to be closer to the English system but also has lessons to offer us just as do the five European countries.

How the other countries do it

The German dual system combines an apprenticeship in a company with training at a vocational school (*Berufsschule*). In its present form, it dates back to legislation in 1969 and was modified by further legislation in 2005. It is part of the corporatist culture of the country whereby employers and unions cooperate with government in setting national standards for more than 300 occupations. Though the present institutional form is relatively modern, it is embedded in a long history of apprenticeship, such that the country appears to have fewer issues concerning parity of esteem with the academic route than is the case in many other countries including England. However, they have not been entirely absent and are perhaps illustrated by a recent development.

More and more school leavers have been opting for higher education rather than taking the initial dual system route, Initial Vocational Education and Training (IVET). This has occasioned some concern about the future of the latter when, as Hubert Ertl of the Federal Institute for Vocational Education and Training in Germany, puts it, some “fields and types of VET... are in danger of being substituted by higher education provision”.¹⁰³ He shows that policy makers have reacted in two ways. The first has been to change the incentives for young people whose school performance has been good enough to remain at school after the age of 16 and study for the Abitur. If they choose the IVET path instead, there is now an opportunity for them to move subsequently into HE. This requires them to complete their training and work in the relevant occupation for at least three years. The second development has been the construction of dual study programmes. As Ertl puts it, these are programmes “in which HE institutions collaborate with companies to offer courses that combine theoretical, academic learning and practical, vocational learning resulting in competencies directly relevant for the world of work”.¹⁰⁴ Most of these programmes are provided by Fachhochschulen (or universities of applied sciences) rather than by traditional universities. It is possible that this development is yet another example of qualification inflation and of HE crowding out traditional vocational routes.¹⁰⁵ But it also reminds us of the existence of a diverse HE sector in Germany where the universities of applied sciences are fairly new and account for a significant proportion of the increase in HE participation.

Switzerland also has a dual system, which combines employment at a company with classes at a VET school. The programmes cover about 250 occupations and many professional qualifications can be obtained at the upper secondary level, whereas in many if not most other countries similar qualifications would require some form of post-secondary participation. At the tertiary level, there are universities, universities of applied sciences and arts and Advanced Vocational Colleges. Only about 30% of young people follow the academic route at the tertiary level.

In Austria too the post-secondary years offer students a choice between an academic route and a variety of vocational ones. Over three quarters of them opt for the latter. They have a choice between dual system

103. Ertl, H. (2020) “Dual study programmes in Germany: blurring the boundaries between higher education and vocational training”, *Oxford Review of Education*, 46 (1), February.

104. Ertl, H. (2020) “Dual study programmes in Germany”.

105. For a fuller discussion see Lauder, H., and Mayhew, K. (2020) “Higher education and the labour market: an introduction”, *Oxford Review of Education*, 46 (1), February.

apprenticeships, middle vocational schools and higher vocational colleges. The dual system offers more than 200 forms of occupational training. It can lead directly to employment in skilled trades or to further or higher education. Attendance in middle vocational schools usually lasts 3 or 4 years and again offers the option of employment or enrolment in further and higher education. Importantly, specific occupational training is combined with more general education. The same mix is offered by the higher vocational colleges. After five years students emerge with “double” qualifications, one which enables entry into HE, the other which allows entry into “senior occupations” and the regulated professions. In contrast to Germany and Switzerland, it is the school-based route which has proved the success story in recent years, and in particular the higher vocational colleges (BHS). Not only is this providing for direct entry into the labour market, it is now also producing more people with the qualifications to enter traditional HE than is academic upper secondary education. Unusually the sector also concentrates on preparing people for self-employment. Furthermore, commentators note a potentially important demonstration effect, with large numbers of leading figures in business and the economy having come through the BHS system. Austria also has a differentiated higher education system. With academic universities, polytechnics and teacher training colleges.

The Dutch start to separate pupils from the age of 12 into three broad streams of “general secondary education”. The first is “pre-university education” (VWO), lasting until 18 and leading on to study at research universities or at universities of applied sciences. The second provides “integrated lower and upper secondary general education programmes” (HAVO) up to the age of 17, after which most students move into higher professional education. Finally, the third stream has two “general programmes” (VMBO), theoretical and mixed, for four years, at the end of which students usually transfer into upper secondary vocational education (see below) and occasionally into upper secondary general education. There is also a vocational secondary route: lower secondary pre-vocational school-based programmes (VMBO) until the age of 16; and for some of these students this is followed by upper secondary vocational education (MBO), offering 2 and 4 year programmes. The MBO is yet another example of a dual system. It can either be school based or an apprenticeship with a company. Even if it is the former, a substantial proportion of time is spent training in a workplace. Interestingly there is research to show that those who follow the apprenticeship route do better in the early labour market years but those who follow the school route do better in later years.

The Dutch have separate vocational and academic paths through tertiary education. A “higher professional education” is provided (usually) in universities of applied sciences. It takes 4 year and is at bachelors level. In addition, these institutions offer shorter associate degree courses. There is also, of course, the more conventional academic route to the bachelors and beyond in so called research universities. Finally, there is lower level

continuing vocational education and training.

The Danish system has come in for great attention in recent years. Vocational options start with upper secondary school, at the end of compulsory schooling (16 years of age). Vocational schools, which are run by business and trade associations and involve the unions, offer two programmes – basic and main. Work-based training is a compulsory component. The basic programme is undertaken at school and usually lasts a year. The main programme is partly school based and partly work-based, involving a training contract with an employer. The duration can be anything from 1.5 years to 5 years depending on the level of the qualification. A key feature of the system is the large variety of occupations for which education and training is available. In an attempt to make the vocational route more attractive, the EUX programme was introduced in 2010. It offers a mix of general education and vocational training, it is intended to offer students the options of entering the labour market or of going on to higher education. Recently there has also been a drive to introduce short cycle HE programmes offered by business and technical academies.

However, not everything in the garden is rosy. There have been persistent problems over parity of esteem. Last year the Danish government had to start to develop a whole series of initiatives to increase take-up and reduce dropouts. Carstensen's study of the Danish system, describes the historical "internal tensions" within it.¹⁰⁶ Those tensions relate to three sometimes competing concerns: the extent to which the state has control; the extent to which economic efficiency considerations are allowed to dominate and the extent to which equity or distributional concerns are accommodated. He describes how reforms in the 1950s and 1970s increased the control of the state and brought changes which enhanced equality. After many years of tension between equality and efficiency he contends that the 2014 reforms represented a victory for the advocates of efficiency by "introducing grade requirements for admission and by privileging strong students". However, he argues, "the reform does not challenge the regulatory framework of occupational self-governance. If anything, it serves to strengthen the role of the social partners in regulation and practical implementation of VET-policies".

We have described five national VET systems which have much in common but also many differences. Despite the tendency of commentators to describe them as if they are stable systems, they have also undergone significant changes over time. What can English policy makers learn from them?

Learning from the five

The first two lessons concern matching demand and supply. First, the supply of skills produced by the education and training system need to match the skills demanded by employers. If they do not, then not only will there be efficiency consequences, there will also be loss of trust in the system. Employers will become frustrated. Young people and their parents

106. Carstensen, M., and Ibsen, C. L. (2019) "Three dimensions of institutional contention: efficiency, equality and governance in Danish vocational education and training reform", *Socio- Economic Review*, 30 March 2019.

will become disappointed. This has clearly been a problem in England. The shortage of STEM skills at all levels provides one example. The low to non-existent pay uplift obtained by many university graduates provides another. Second, the demand for the various forms of education and training on offer needs to match its supply. At least until recently this has been a problem in England, as many parents have wanted their children to go to university and have regarded work-based training as a last resort. Some schools have reinforced this attitude. The other countries we have discussed are not without matching problems of both kinds but generally they appear to be less severe.

One thing these other countries have in common is institutions based on corporatism – on social partnership between government, employers and unions. Their VET institutions have been built over a long period of time through dialogue and action among the social partners. England is not a corporatist state. Even before the days of Mrs Thatcher, its corporatist institutions were weak and now they have largely disappeared. This is one environmental feature which is not suddenly going to be invented in England. However, it is essential that employers are more intimately involved. This is not simply a matter of appointing figureheads to task forces and the like or even of the sector deals, which are part of the government's current industrial strategy. It is much lower level day to day coordination in evaluating precisely what occupational skills are needed and devising or adapting the training courses needed to obtain them. At the moment we do not have the strong institutions, such as the German chambers of commerce, needed to achieve this. It could be argued that the Local Enterprise Partnerships (LEPs) could fulfil this role, but they are poorly funded and usually lack any serious research base. They are also multi-sector when a sector by sector approach is needed. We have many employers' associations and industry representative bodies. A proportion of these could be given a central role. This would not just involve individual representatives meeting occasionally to plan T levels or whatever. They would have a central and ongoing role, alongside educational and government officials, in running the VET system for their sector. In other words, a deeper and more systematic involvement than we see at present. Hopefully union representatives would also be part of the system. The political establishment may not want the country to become a corporatist state, but something resembling corporatism at a sectoral level is needed. Employers should be central participants but the Danish experience tells us that government also needs to retain firm control.

All of this would need to be supported by more extensive and systematic labour market intelligence to help ensure that the outputs of the VET system match the needs of the economy. Manpower forecasting is a dark and dangerous art but CEDEFOP (the European Centre for the Development of Vocational Training) cites the Netherlands as an example of good practice. The key is to disaggregate as much as possible by occupation and type of education and training, and to "forecast" for only a limited time ahead – in the case of the Netherlands, for no more than

5 years. Not only is this forecasting used to adjust educational pathways, but it is useful for students in planning the best routes for themselves. The capacity and expertise exist in the UK, for example in the Institute for Employment Research at Warwick, to engage in these processes – it is a matter of funding.

Problems with parity of esteem will not go away but they can be mitigated. Some other countries have done this by ensuring that upper secondary VET provides pathways into higher education for those who wish to take advantage of them. Of course, nothing succeeds like success, as the large numbers opting for vocational education in Switzerland and Austria illustrates. To the extent that decisions made by teenagers and parents are primarily influenced the economic rewards from any given set of educational decisions, then it is important for these signals not to be distorted or misinterpreted. Thus, for instance, whilst it is true that on average university graduates earn more than non-graduates in England, that does not necessarily mean that attendance in HE was necessarily the most effective way of obtaining these higher earnings. With a different set of institutions, the same end point might have been reached with lower level, shorter duration education and training. But this brings us to the main lesson that we learn from the comparisons made above. The other countries possess these institutions and England does not. Essentially in the upper secondary spheres we have schools, sixth form colleges, further education colleges and universities., alongside a smattering of university technical colleges. It would be fanciful to believe that we could build a whole set of new institutions. We have to make the best of what we have got.

US community colleges for the UK?

Assuming that the sort of employer involvement described above can be achieved, then there are a number of steps that could be taken. The first is to ensure that FE colleges receive much more generous funding, be it from government or employer, so that they can provide a wide range of vocational qualifications, mainly at sub-degree level but also with possible pathways to higher level qualifications. The second is to induce segments of the HE sector to modify their "product" in favour of a higher proportion of shorter duration vocational courses. This is where the US experience becomes relevant. The American HE sector is more diverse than ours. community colleges are an important part of the HE scene there and the better ones provide exactly these sorts of courses. This leaves the ticklish question as to how costs are shared between, government, employer and student but that has to be the subject of another paper.

As for schools, the experiment with T levels is about to start and, for the moment, the jury is out. However, what is clear from the experience of other countries is that success is most likely if they are embedded in arrangements with employers that go far beyond the episodes of work experience currently envisaged.

Conclusion

The changes being suggested here ought not be impossible to achieve. However, apart from issues of funding, there is one other important factor to consider. The aim is to extend the vocational offer at all levels and that raises the question - where are the teachers and trainers to come from? To put it mildly it would be dangerous to assume that they are already out there. One clear message from the countries discussed in this paper is that they are largely embedded in public institutions, with the private sector playing a relatively minor role.

The aim must be to construct robust alternative pathways from school to work. The countries we have described here have not necessarily followed smooth paths and today some of them are experiencing difficulties. It would be a mistake to try to emulate too closely their institutional configurations, but their experiences do give us important clues about how we might proceed.

A Practical Solution to the Craft Skills Crisis in the UK

By Toby Baxendale

Background

From 1991 to 2010 (when I sold it), I created from nothing, the UK's largest fresh fish wholesaler/processor to the food service sector Direct Seafoods. At the time we employed 700 people. By the late 1990s, already half of the skilled staff were foreign and it became virtually impossible to domestically recruit people with craft skills. The Eastern Europeans came in the early 2000 and they had the craft skills, so the labour side of the business, largely survived and prospered, as these people would recommend people they knew back in Poland/Romania, to come and replace them if they went home. We eventually secured a continual flow of good quality skilled people.

Depressingly, I and my core staff found ourselves actively discriminating against young Brits who would apply for jobs. Why? Their sense of entitlement, of how they were doing you a favour for even turning up for work, if you did employ them, was astonishing. It almost makes you feel ashamed to be a Brit, so bad is the work ethic of many of the young folk today. This is not an uncommon experience. Many fellow entrepreneurs I know face the same problem. One of my most trusted master builders I have worked with often over the years sent me an email recently in which he usefully sums up and explains the problem & makes some tentative suggestions to solve our crisis. He writes

Apprentices cost you money.

When an apprentice starts to work with you, they take more time than they save you. If they are keen they will learn quickly but in my experience many are not at all keen. Many employers are not willing or cannot afford to lose the time. I think for a successful scheme to prosper there would have to be a reasonable financial incentive to the employer to take the apprentice on and spend time teaching them.

Expectations.

All the young guys that we have had come and work with us think that they should earn an unreasonably large amount of money. It seems that they believe that even though they can't do anything productive, just their appearance deserves a large salary. They need to realise that they are investing in their future. You progress and earn more, don't progress and don't earn more. This cannot be a wishy washy attendance based scheme. It should be a knowledge and progress based scheme of targets agreed between the employer and training college that is enforced.

Involve the parents.

I still have the contract from around the late 1940s that my father's parents had to sign with the employer who offered him an apprenticeship. The apprenticeship was 7 years long and had specifics on pay in future years if he progressed. My father certainly made sure I was not slacking after he paid for my apprenticeship college fees. I think a clear explanation of what is expected with regards to time keeping, performance and work ethic should be set out and agreed by the apprentice and his parents.

Actions and consequences.

If an apprentice doesn't turn up or is not pulling their weight stop their pay. A safe guard would have to be put in place to stop unscrupulous tradesmen using this as a way of just not paying people. But these kids need to learn that there is a consequence to their actions.

... The Romanian guys who work with me on a daily basis are astonished by the English youngsters who don't take advantage of the opportunities that are constantly put in front of them. They expect nothing that they have not worked for and take full advantage of and greatly value our schools, colleges and every opportunity for work that they can get. If we can just install this work ethic into our own youngsters they will have a bright future. Perhaps starting earlier in school with work related education?

In School Time Training: The Master/Apprentice & the Artisanal Internship

Like my master builder friend, I see part of the solution in the final years of education. Maybe at 14, or as late as 16 years old, those who are not in the academic stream should remain in the school system but be seconded to do work experience, assigned to a master craftsman, in a business in the local area. Training is a personal thing and I would not licence companies to train, but the master craftsmen¹⁰⁷ (and assistants) themselves. I think there could be a good place for both the schools and trade unions, to work hand in hand with master craftsmen in businesses to define what specific skills are needed to allow you to qualify and call yourself an electrician, carpenter, plumber, master builder, butcher, baker, fishmonger etc. Skill levels should determine minimum pay levels. Everyone can understand this.

One potential solution could be that the pupil is not paid formally and the master in his/her tax code gets an allowance/rebate/incentive to provide the craft life skills, agreed with the school/trade union. The master should be allowed, completely off the books to tip the youngster for a good weeks work, in cash for say up to £100 per week. From the master's perspective, teaching them when they are still in school, a craft skill for life, would be made worthwhile by the tax incentive. Oversight from local trade union reps could be key to close down areas for abuse.

Another solution is for the various craft sectors themselves to set up their own training schools. In one of my current businesses, myself and 3 others, as a legacy project, built an industrial estate of 21 units in Grimsby, called the Great Grimsby Seafood Village where we house a lot of the independent fish merchants in Grimsby. We also created the Seafood

107. I use the word Craftsman or Master to mean any human being who has the requisite craft skill.

Training School where we run programs for the UK supermarkets to train their counter staff in fish handling and knife skills. Each craft industry, that will survive post AI, carpenters, tailors, butchers, fish mongers, electricians, hairdressers all the various fitness/therapy folk, plumbers, bricklayers etc will all have people such as us who are motivated to start to create a curriculum to do that training. A call to arms needs to go out to successful people from all these craft-based sectors to step up and help create and fund these centres of excellence. From that it would be straight forward to be able to certify the work experience youngsters that they have the skills that make *them employable from the day they leave school*. Importantly they would have learned a skill for life. Employment equals dignity and dignity gives folk standing and a sense of purpose. This makes a better society.

The Potential Digital Solution

I recently met the founder of FreedomX, Marco Robinson. He seeks to end homelessness by what he calls “conditional altruism.” He is creating a platform where a homeless person can sign up and after appropriate vetting a donor/supporter/investor, via the Freedom X App, can assign money to go directly to the homeless person based on them doing X,Y or Z. A demonstration of this idea is shown neatly here <https://youtu.be/Z95NyKz2kjA> This tasked based altruism moves the whole giving process away from hand out to motivating people to make the first tentative steps on the ladder, away from the street and into a job and home. This kind of digital match making platform, matching a donor/supporter/investor to a local aspiring artisan, could play a role allowing individuals to fund young artisans as they progress through a skills training program when they are at school. At each stage, if the milestones are not achieved, the next stage of funding does not materialize. This could be a total private solution as this money could be given by the trainee to the master to pay for the training.



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