Technical degrees and higher vocational education

Jim Hordern

Bath Spa University

j.hordern@bathspa.ac.uk

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Abstract

This paper focuses on the proposals for the introduction of ‘technical degrees’ in English higher education institutions advanced by the Labour party’s Liam Byrne in a document entitled ‘Robbins Rebooted’ which was published in August 2014 by the Social Market Foundation. The context and rationale for the proposed technical degrees is discussed, identifying assumptions and implications of the proposed policy. Drawing on studies of related workforce development and higher vocational initiatives, potential problems that could arise with the implementation of the policy are outlined. This leads on to a discussion on whether the curriculum that technical degrees would offer would be an adequate preparation for work and whether the qualifications in themselves would achieve as much credibility as alternative routes through higher education. In the event, the opportunity to introduce technical degrees in the form advanced by Byrne did not arise, as the Labour party lost the general election in 2015 and did not return to office.

Keywords: technical education; higher vocational; higher education policy

Introduction

In August 2014, nine months before the U.K. general election in May 2015, the former Chief Secretary to the Treasury and Shadow Minister for Universities, Science and Skills, Liam Byrne of the Labour party, published a document via the think-tank the Social Market Foundation entitled 'Robbins Rebooted: How We Earn Our Way in the Second Machine Age'. In this policy 'thinkpiece' Byrne (2014) outlined some ideas for the future of higher education in England, including the introduction of what he termed 'technical degrees' as the main route for the expansion of student numbers in the higher education system. Byrne (2014, 6-8) appears to have undertaken a great deal of consultation across higher education on the subject, and opens with a straightforward assertion that higher education is central to economic productivity and a more equitable distribution of wealth (9). He seeks 'inclusive growth' with 'new supplies of skills and science' (9), and casts universities as 'the power stations of the knowledge economy' (9). However universities are also identified as 'doing little to remedy our chronic skills shortages' and failing to 'provide students a real choice of paths to the top' (10).

While Byrne's (2014) document contains multiple suggestions about the future of higher education, the present paper focuses on the notion of 'technical degrees', which are described as 'earn while you learn' degrees which 'you can study for, in a wide range of subjects, while you are in a job, drawing a wage' (68) and would be 'delivered by a new generation of Technical-University partnerships' (11). The paper examines what is implied by the concept of technical degrees and discusses the potential for their development in English higher education institutions. Through a review of two recent higher vocational education initiatives in England (the Workforce Development Programme of 2006-10 and the funding for Higher Apprenticeships between 2011-15) that share some characteristics with how Byrne (2014) conceptualises technical degrees, issues related to the implementation of such policy initiatives are explored. This leads on to questions relating to the curricula of technical degrees and the extent to which the qualifications would achieve credibility with their 'stakeholders'.

Byrne's proposals for technical degrees are unlikely to be taken forward in current form as the Labour party did not win the 2015 general election. However, the 'strengthening…of the professional and vocational' (Teichler 2014, 230) at a global level within higher education programmes and systems suggests that similar policies may re-emerge in England in the future. Forms of vocational or applied degree which could influence such policies exist in countries such as Australia and Canada, and Byrne also highlights successful articulations between vocational and higher education in South Korea, Austria and the Netherlands to rehearse the familiar argument that England is in danger of being 'left behind' in the race for 'higher level skills' (2014, 44).

The context of 'technical' higher education

There are a number of different 'systems' that need to be considered when examining forms of 'technical' and 'vocational' education in their 'higher' forms in England. These are (i) a higher education 'system' composed primarily of Higher Education Institutions (HEIs) but that also involves Further Education Colleges (FECs) to a limited extent; (ii) a 'system' of vocational and technical education that is not 'higher' and involves FECs, learning providers and employers; and (iii) multiple sectoral and occupational systems that relate to

employment and workplace learning within organisations. In the case of (iii) it is important to recognise the extent to which opportunities to learn and develop, and the character of that learning, may be different across sectors and occupations – the 'what' and 'how' of learning in the aerospace engineering workplace may be quite different from learning in a new media industry. Byrne (2014, 43) advocates a more unified 'vocational technical education system', specifically asserting that in higher education 'we have the institutions. But we certainly do not have the system' (47).

While inevitably there are overlaps between the systems above, each system has its own history, culture and imperatives, and initiatives that bring together the 'higher' and the 'vocational' would involve or affect actors (i.e. HEIs, providers of vocational education or employers) who are used to operating primarily in those different systems. In the U.K., as in many countries, the higher education system has a dynamic of its own which can prove confusing and problematic for employers, sectoral representative bodies and professional organisations. While initiatives and policies frequently cross system boundaries of variable degree of permeability, it is still the case that 'signals; 'incentives' and 'cultures' differ in different systems. In the words of a Labour government document, the cultures can still 'clash' (DIUS 2008, 27). While FECs already play a role in offering higher vocational education in England, the Further and Higher Education sectors remain distinct, with FECs orientated primarily to the vocational and technical education system identified above and thus having very limited influence on the direction of higher education policy (Parry 2009). The key point here is that, unless there is major reform of the current structure of both higher education and vocational education, forms of higher vocational education need to bridge and relate to different systems which are orientated differently.

Secondly, in England at least, 'technical education' is often considered a 'middle child' place in a hierarchical typology of education, with the 'academic' at the top and the 'vocational' at the bottom (Wolf 2002). It is instructive to examine the history of technical education in the U.K., which is generally a narrative of underinvestment, low regard and missed opportunities (Green 1995, Bailey and Unwin 2014). In the 1960s and early 1970s some Technical Institutes became Colleges of Advanced Technology (CATs) or Polytechnics and drifted at different speeds in the 'academic' direction as there lay the opportunity for greater prestige, autonomy and funding, replacing many of their 'technical' programmes with less costly business, management and social science programmes (Burgess and Pratt 1970; Pratt 1997). The less favoured institutions became different types of FECs, increasingly providing the vocational and sometimes the academic, but rarely able to sustain higher technical programmes. Technical education has also historically been marginal at secondary level, with many attempts at reform (i.e. the City Technology Colleges), but few successes, due primarily to the dominance of academic qualifications such as A Levels as a currency for university entry (Ainley 1993; Wolf 2002). Certain types of higher qualification (for example Higher National Certificates and Higher National Diplomas and perhaps increasingly some Foundation Degrees) could be categorised as higher technical education, and have attained a certain level of credibility with employers and the public.

Amongst educationalists and some economists there has been a level of consensus around the reasons for the marginalisation of technical education in England. The 'low skills equilibrium' (Finegold and Soskice 1988), 'voluntarism' (Green 1990) and 'gentlemanly capitalism' (Hutton 1995) of the UK has maintained a form of economy that has prioritised short termism, low business investment and flexible labour markets at the expense of long

terms nurturing of a productive industrial base. Thus, there is an absence of sustained demand for higher technical education in the U.K. economy. Additionally, cultural and social traditions and class structures reinforce a division between the 'elite/academic' and the rest (Ainley 1993), with little incentive for governments or individuals to invest their 'capital' in technical education. In the post war period there have been numerous policy interventions which have attempted to introduce higher levels of technical education and to bring higher education closer to the world of work, as part of attempts to improve skills 'supply' for the national economy, but not all of these initiatives have proved sustainable as will be discussed below.

The rationale for technical degrees

What is the problem that technical degrees are intended to solve? For Byrne (2014), just as it was for Leitch (2006) and the New Labour Government (DIUS 2007; 2008), this appears to be the key issue of 'skills supply'. Byrne states that 'the challenge is that our schools and skills system are simply not forecast to supply the quantity of skills we need' (2014, 40), and by this he means 'advanced technical skills' (68). The problems with this line of thinking are well documented (Payne and Keep 2011). Firstly, 'skills' and 'qualifications' are not the same things – and yet technical degrees are unambiguously qualifications. The research of the SKOPE ESRC-funded research centre has shown that, for employers, it is certain types of personal attributes and attitudes or 'non-cognitive skill' that are often particularly valued (Tholen 2013; Keep and James 2010), rather than specific qualifications, although it may be that qualifications play a key role in screening out applicants in recruitment decisions in certain sectors. Recruitment practices are increasingly focusing on identifying forms of 'talent' that are seen as particularly valuable and whether qualifications of any sort are best equipped to develop these forms of 'skill' or 'capability' is open to question. There are also underlying problems with the ambiguity of the notion of 'skill' (Payne 2000; Winch 2010) which further complicate the matter.

Secondly, as indicated above, a 'supply side reform' argument neglects the importance of demand for skill in the economy (Payne and Keep 2011), and specifically the long term lack of demand from UK employers for the higher levels of 'skill' that Byrne (2014) talks about. The 'low skills equilibrium' persists (Finegold and Soskice 1988), and employers are often inclined to buy in labour from abroad to meet skills gaps in their workforce, sometimes on a temporary short term basis, rather than invest in developing their own staff, an increasingly international phenomenon (Brown et al. 2011). The much lauded (in some circles) 'flexibility' and 'responsiveness' of the UK Labour market underpins much of the problem here.

Thirdly, there is the problem of predictability. Is it really possible to 'forecast' or 'predict' innovation and industrial change, and therefore suggest that there will be substantive demand for certain types of technical capability in the labour market? Byrne's (2014) thinking seems to suggest it is, and yet the indicators suggest that this is naïve or overly optimistic (Keep 2007). At the very least the last two hundred years of economic change illustrates the rapidity of change in technology and production, if not in labour market relations. If it were possible to predict demand, then it would make more sense to offer people the forms of education and training that would provide them with the skills and capability to perform specific jobs, and to encourage employer investment and support for the process. If this

predictability is circumspect then supply side policies could leave many graduates of technical degrees with 'skill sets' that either are never needed or rapidly become redundant. Some (i.e. Wheelahan 2010) would argue that technical education should therefore maintain a strong 'disciplinary' component that provides undergraduates with the faculties to work with key scientific concepts and the 'know how' to make inferences within conceptual fields (Winch 2010).

Moreover, there is a lack of clarity in Byrne (2014) as to what type of 'skill formation' technical degrees are supposed to support. Byrne talks of new forms of education providing a preparation for 'high skilled, high value-added, non-routine jobs' (2014, 27) and of a ''prestigious path' to degree level skills' (39), but also talks of 'a vocational track' (2014, 68) and a role for 'colleges as institutes of technical education' (68). The most detailed examples of employer-higher education collaboration that Byrne cites are from Russell Group institutions (66-7) and from oversubscribed apprenticeship schemes with blue chip employers (Land Rover – p.39; BAE systems and Rolls Royce – p.44), and yet the model proposed and the broader discourse is more about 'degree-level vocational provision', an "earn while you learn" route to degree level technical skills (62) and the collapse of the 'bridge' between college and HE and 'work-based degree' routes, with reference to post 92-institutions (71). The institutions and students involved are likely to be rather different across these different types of higher technical education. While applications and entry requirements to the type of course offered by Warwick (pp. 66-7) are likely to be high, just as applications for the Rolls Royce higher apprenticeships scheme are, other types of higher level technical and vocational education have recently had much more difficulty with recruitment because many employers are unable or unwilling to increase their financial contribution 'when the teaching grant was shredded and tuition fees were tripled' (71). It is clear that what Byrne (2014) proposes for higher education is part of a broader strategy to remodel education 'for those on a vocational track' (68) and wish 'to specialise and train towards a career' (62) and yet the examples provided do not seem to cohere easily with implementing this at scale.

Assumptions and implications of the proposals

The implication of Byrne (2014) is that we should have a more differentiated higher education system, with some HEIs playing the role of 'research powerhouses' in 'star alliances' engaged in growing 'our share of the global lab' (Byrne 2014, 49) and providing education to an elite, while other institutions provide the forms of higher education (i.e. technical degrees) that are needed to fill skill gaps and shortages. This is implied by the discussion on recognising 'excellence in mission' and on helping universities 'strengthen the dimensions that are priorities for them' (p.49). However, the systemic influences within higher education, at least in the U.K., are encouraging institutional isomorphism rather than differentiation (van Vught 2008; Hordern 2012a, 2015a), with most HEIs seeking to maintain aspects of research, teaching and 'third stream activities'. League tables, the hierarchy of research over teaching, and comparative freedom for institutional leadership to redefine missions and strategies, tend to push all institutions in the same direction. Recent changes to fees have made this clear. Moreover, many of the institutions which Byrne might have in mind as 'providers' of technical degrees may be rather reluctant to assume this role. In many cases institutions that are located within the post-92 part of the sector (including the former

Polytechnics and Colleges of Higher Education) fought hard to gain greater autonomy from government and to develop distinct institutional identities and 'university' cultures (Pratt 1997). Currently, there is 'soft differentiation' within the higher education system via a 'process of pragmatic evolution' (Scott 2014, 4), and much of this is *within* institutions (6), with HEIs undertaking multiple activities often only loosely interconnected. Any move to accentuate the differentiation by pushing certain HEIs in one particular direction may be strongly resisted.

The relationship between higher education, the state and the economy is more subtle and contested than is acknowledged in Byrne (2014), and it could be said that some of the arguments used betray a slightly outdated conception of this relation. An underlying premise is that the state still holds considerable potential to shape the relation between education and work in a national economy. Such assumptions often underestimate the role that international business, and multi-national corporations in particular, play in labour markets, and the impact that has on changing what is valued in specific nations in terms of educational qualifications and workplace capacities. The arguments may also underestimate the extent to which work itself is being remodelled by new forms of Taylorism and performance management (Brown and Lauder 2009; Brown et al. 2011; Evans and Holmes 2013), and exaggerate the extent to which educational institutions have the capacity to prepare people for these labour market changes. These factors may frustrate implementation and confound policy makers' intentions. As soon as one 'supply side' initiative is in place, the context of 'demand' in the economy may have changed as decisions are made by corporations and new technology outdates practices.

Furthermore, the forms of partnership between institutions and employers needed to support technical degrees remain weakly conceptualised in the U.K. Byrne (2014, 43-44) highlights the higher vocational systems of multiple countries with very different economies to the U.K. It could be argued that there is a reason why these systems are more supportive of higher vocational education. They operate social partnership models with higher levels of long term investment and commitment from government and employers, strong representative bodies and involvement from unions. You would need a complete change in employer/industrial culture in the U.K. to achieve this (Coates 1994; Hutton 1995). Moreover, partnerships between institutions, employers and employer representative bodies have not been successfully supported by government previously, as will be discussed in the 'implementation' section below. Employer representative bodies (i.e. Sector Skills Councils) are themselves often poorly supported by employers and by government (Payne 2008), and are largely ill-equipped to participate credibly in programme development, with some exceptions. Previous similar initiatives, such as the Workforce Development Programme discussed below, have made transparent some of the potential areas of conflict between employers, SSCs and higher education institutions (Hordern 2013, 2014, 2015a).

Implementation issues

In this section of the paper two initiatives are examined which have some similarities with the ideas put forward for technical degrees, and indeed could provide a model for the future implementation of such a higher education policy. The exploration of these comparable initiatives serves to surface some of the issues that could arise with implementation.

Workforce Development Programme (2006-2010)

Between 2006 and 2010 the New Labour government, via HEFCE, funded various 'capacity building' initiatives at Higher Education Institutions in England and tested ways of encouraging the 'co-funding' of higher education through increasing contributions from employers. The primary objective of this 'workforce development programme' was to find ways of encouraging the development of new forms of higher education provision for people in work. The funding was offered to HEIs who could demonstrate engagement with employers and Sector Skills Councils and a strategy for developing provision that could meet a demand for higher education amongst the existing workforce (Kewin et al. 2011). The thinking behind this echoed Leitch's (2006) emphasis on the importance of 'upskilling' those already in work, with the objective that 40% of the UK population would have completed undergraduate degrees or what was described as 'their vocational a 'Level 4' equivalents' (3) by 2020. Over 100 million of funding was distributed to 35-40 projects, held at a range of HEIs, including a few Russell Group institutions, but principally to former polytechnics and colleges of higher education. The objective, over the longer term, was that the higher education provision developed from the projects would be 'sustainable' with funding sourced from employers and employee/students as much as via HEFCE (DIUS 2008). Much was made of the need for new ways of collaboration between employers and higher education so that institutions would provide the 'higher level skills that a particular business needs in a particular sector in a particular place' (DIUS 2008, 7), and the importance of encouraging 'culture shift' (4) within higher education so that institutions would start to play a more substantive role in meeting national skills objectives.

It is important to realise how peripheral this workforce development initiative was to the 'core business' of most higher education institutions, which remains undergraduate and postgraduate teaching, and research and consultancy (Hordern 2012a, 2013). The workforce development funding was primarily connected to elements of 'capacity building' and 'employer engagement', so that institutions would be better equipped to manage their relations with employers and develop and run the programmes desired by those employers. HEIs are likely to have a range of different types of partnerships with employers. Partnerships exist for research and consultancy purposes, with various degrees of longevity and formality. Agreements also exist to deliver specific forms of executive development or CPD activity to groups of employees, but these are usually for staff who are already highly skilled and qualified, and are often bespoke, customised, 'one off' arrangements (Wedgewood 2007). Much of what was funded by HEFCE between 2006 and 2010 was for 'front desk' and process development activity within institutions that aimed to increase their 'structural capital' (Garnett et al. 2008) in employer engagement, but in many institutions these activities remained somewhat dislocated from core academic processes (Kewin et al. 2011), requiring parallel frameworks and structures to make them work (Hordern 2013, 2014).

There are substantive cost implications to setting up 'front desk' operations, new programmes and teams (Wedgewood 2007; Hordern 2012a, 2014), an opportunity cost that a higher education institution may prefer to channel into international recruitment or research initiatives instead (Hordern 2012a; Craig and Gunn 2010). Furthermore, the notion of 'co-funding', with contributions from employers, students and HEFCE, suggests that potentially quite complex agreements have to be developed that satisfy the requirements and perspectives of all parties. Differing conceptions of the purpose of a workforce development

course may need to be reconciled, with employers perhaps preferring content that is as specific as possible to their organisational context and objectives and HEFCE and HEIs concerned more that the programme demonstrates its 'higherness' and conforms to quality assurance requirements. On the other hand employee-students are likely to be concerned about how the course will fit into their existing workload and help further their careers. The potential tension between these objectives is greater than in 'traditional' forms of full time higher education. With cuts in HEFCE funding and tuition fee rises, we have seen difficulties for many 'work-based' higher education programmes that involved employer engagement and contribution, as Byrne (2014, 71) observes.

Many of the initial workforce development projects have failed to achieve the sustainability that was originally intended (Kewin et al. 2011; Hordern 2013, 2015a), and for many in higher education, and indeed in the 'skills system', the agendas have moved on with the very different modus operandi of the Conservative / Liberal Democrat Government and radical changes to higher education funding. The 'deliberately experimental' approach that aimed to ''encourage the innovative capacity of HE providers' and to 'test and invest in new approaches' (DIUS 2008, 31) remained 'unfinished' (Hordern 2015a), as it could be argued that many of the projects were cut short by the change in government agenda and, fairly quickly afterwards, by the cuts in HEFCE funding. It remains unclear to what extent, under certain conditions, the particular models developed could operate at scale. Without a reasonably high level of government funding and support it seems unlikely that 'workforce development' higher education could account for more than a fraction of overall higher education, considering the alternatives open to higher education institutions, and the alternative 'learning and development' opportunities available to employers, including through private providers. The levels of demand from employers are unclear, but may well be quite specific to the processes and objectives of their organisations, and segmented, bespoke and often short term. With a clearer longer term industrial strategy in the U.K., supported by government and employers, and also the unions some might argue (Lloyd and Payne 2006), more opportunities for sustained employer commitment to workforce development could eventuate.

A broader systemic question is whether government initiatives such as the workforce development programme outlined above can be 'implemented' through higher education institutions to meet specific policy objectives, with considerable implications for Byrne's (2014) approach. Unlike many HEIs in Europe, and indeed globally, UK HEIs enjoy considerable autonomy, albeit within a governance framework that involves various public bodies and government funding streams. Government policy has shaped the expansion of higher education, and had considerable impact on the histories of individual institutions. And yet the charters and charitable statuses of institutions offer significant levels of autonomy. 'Steering at a distance' (Kirkert 1997) through the mechanisms of the 'evaluative state' (Neave 1998) may be possible in some respects, but the outcomes of the introduction of the recent increases in tuition fees and initiatives such as the workforce development programme demonstrate the extent to which HEIs may respond in ways that suit them, even re-working policy initiatives to their own strategic advantage. Higher education in the UK is operating within an international field with HEIs responding strategically through benchmarking against the criteria set out in league tables (Hazelkorn 2007), and thus for most HEIs government policy objectives are only one part of a broader set of strategic priorities (Hordern 2012a; Watson 2000). Arguably, higher education is increasingly

perceived as an industry, rather than part of the broader education system, thus eroding the 'public service' traditions still further (Robinson 2007). The extent to which HEIs feel more than a cursory obligation to communities that surround them and to their histories is also open to question (Delanty 2001). Thus Byrne's suggestions that HEIs will be keen to move towards forms of 'Technical-University' partnership linked to 'regional economies' (2014, 11) seems problematic.

The reasons why HEIs applied for funding in the Workforce Development Programme seem to be more entrepreneurial than anything else (Hordern 2012a; 2013; 2015a), with certain institutions likely to be concerned about constraints on their core businesses or changes in recruitment. While the 'plan and provide' (IUSS 2008) notion of public sector higher education still retains some currency as an idea within UK HE, the competitive realities and market uncertainties facing individual institutions mean that decisions about whether to expand or contract provision or enter a new market have to be based on a clear contribution to the institution's strategic objectives. Taking 'capacity building' funding from government may have some advantages, but a fuller commitment to longer term provision of workforce development higher education is likely to be restricted to those institutions that clearly see this as useful funding stream, perhaps even becoming core business. There are few such higher education institutions in the UK. Those institutions that are concerned about the impact of the reputational value of their degrees may be reluctant to develop new programmes suitable for those in 'technical' employment below a certain level, while others are likely to be concerned about the time and effort involved in the development of institutional processes around enrolment, timetabling staff involvement and assessment that may be difficult to implement (Hordern 2013, 2014).

Higher Apprenticeships (2011-2015)

The Conservative / Liberal Democrat Coalition Government aimed to provide greater 'higher level' education for those in work via a rather different route – an increase in 'higher apprenticeships', and also recently initiated projects leading towards the development of 'degree-level apprenticeships' (DBIS/PMO 2015), due to be rolled out from 2015 onwards. The pledge to invigorate higher apprenticeships can be seen as part of the broader pledge to boost apprenticeships numbers (HM Treasury 2011), and as part of attempts to reform aspects of vocational education. This commitment to expand apprenticeship was demonstrated in July 2011 with the announcement of the Higher Apprenticeship Fund (HAF), which offered £25m to projects that would develop new apprenticeship frameworks and ensure employer engagement to deliver sustainability. The HAF was announced in two phases with an initial round in 2011 resulting in 19 (+ 2 trailblazers) successful projects and a second round in 2012 resulting in 9 successful projects (NAS 2011, 2012). The successful projects were proposed by a range of lead provider bodies including 10 Sector Skills Councils, 8 FECs, 2 HEIs, 4 independent providers or qualification bodies, and 3 other employer or employer-led organisations, and these organisations were often working closely with others to ensure support for the bids (Hordern 2012b). The sectoral and professional areas covered by the projects included science and technical sectors, professional services, IT and creative and media. In the majority of cases the proposed project was linked to the development of a new apprenticeship framework at levels 4, 5 or 6, which included knowledge and competence qualifications of various types such as Higher National

Certificates, Diplomas or Foundation Degrees, and various forms of occupationally-related diploma and certificates (Hordern 2012b, 2015b). However, in some instances this simply entailed the adding of a new pathway to an existing framework through a review process (ibid.). Since the initial phases there has been a further expansion of the programme so that there are now 47 different higher apprenticeships and pledges for an additional £40m of funding to support the programme up to 2015, and an extra £20 million specifically to fund the 'higher educational element' to 2016 (Skills Funding Agency 2014, 2).

The higher apprenticeship initiative can be interpreted as a means of driving reform in higher level education via the vocational education system, in contrast to working directly through higher education institutions as was attempted by the Workforce Development Programme. Apprentices have, it is important to emphasise, a specific type of contract with their employer in that they (apprentices) are engaged on a structured programme of training and development and are, technically, giving up part of the wage in return for that programme of development (Ryan and Unwin 2001). A higher apprenticeship is thus essentially different from the idea of 'workforce development' higher education. While apprenticeships in the modern era in most countries have been linked to particular occupational structures and roles, and with transitions between education and work (Ryan and Unwin 2001; Brockmann et al. 2008), the notion of workforce development does not necessarily entail links with defined occupational structures or a sense of transition to full competence. Equally, 'apprenticeship' does suggest that the majority of training will take in the workplace, while workforce development could specifically involve programmes that take place at a distance from the workplace in order to gain new perspectives and enhance specific forms of capability.

Hordern (2012b, 2015b, 2015c) established that higher apprenticeships had considerable diversity in curriculum and progression pathways, suggesting that it is difficult to make generalisations about their curriculum, pedagogy and organisation. Some partnerships within sectors (notably in construction and in engineering) have used higher apprenticeships to further strengthen their already comparatively strong higher vocational formation pathways through use of HNCs, HNDs, and Foundation Degrees, with links between Further and Higher Education and strong employer commitment (Hordern 2015c). Other sectors characterised by multiple smaller organisations, lower requirements for technical expertise and limited experience of the development of vocational pathways (i.e. social care or hospitality) have offered weaker pathways (Hordern 2015c).

For those apprenticeships frameworks that are underpinned by higher education qualifications there is a stronger guarantee that curriculum and pedagogy will offer apprentice-students access to the forms of knowledge and learning that will hold them in good stead for progression to other forms of higher education and in the future career, irrespective of changes in the nature of work in the future (Clarke and Winch 2004). On the other hand, qualifications listed on the Qualifications and Credit Framework (QCF) offer fewer guarantees. This is partly because the QCF qualifications, including a wide range of occupational, vocational and general diplomas, certificates and awards, do not articulate easily with higher education qualifications, which remain part of the differently structured Framework for Higher Education Qualifications (FHEQ) (Fuller and Unwin 2012). Furthermore, many of the QCF 'knowledge' qualifications contained within the higher apprenticeship frameworks contain elements of 'general procedural' curricula (Gamble 2013; Hordern 2015b), rather than induction into a fully developed and systematically organised

vocational subject (Winch 2010). Many of the apprenticeships offering 'weaker' pathways contain competence qualifications which rely largely on workplace assessment of observable performance rather than underpinning knowledge or broader notions of capability, an oft noted weakness of vocational education in the U.K. (Brockmann et al. 2008). This suggests also that higher vocational curriculum and pedagogy will vary widely in character. A higher apprenticeship could be an 'expansive' experience with periods of time away from the workplace and learning with other apprentices supported by the employer, and access to higher education and progression routes, or alternatively could be more 'restrictive' with minimal knowledge input, competence based assessment and limited workplace support or encouragement to develop expertise (Fuller and Unwin 2004). The role of higher and further education institutions is likely to be important in strengthening aspects of expansiveness.

Implementation issues arising: partnerships and pathways

The examples above suggest that there are difficulties in assuming partnerships between educational institutions and employers can be formed and sustained easily. Additionally, the investment involved in maintaining these partnerships can be underestimated by policy-makers. Studies of employer engagement have emphasised some of the differences in conceptions of valuable knowledge and learning between higher education institutions and employers (or their representative bodies) (Reeve and Gallagher 2005). As noted above, workforce development activity is often seen as peripheral to the core processes of a HEI, and thus for many academic staff such activity may be seen as an additional 'non-core' responsibility rather than a priority unless a key part of their job description (Eyres et al. 2008; Kewin et al. 2011). Managing expectations of partners is also likely to be vital in all forms of higher education involving employers, with misaligned expectations liable to undermine partnership working (Gustavs and Clegg 2005). Curriculum design and pedagogic strategies may need to be carefully designed and developed, with negotiation and experimentation to arrive at approaches that work for all parties (Lester and Costley 2010; Guile 2011), although there is of course great potential here to innovate.

Some of the workforce development and higher apprenticeship projects discussed above have been underpinned by partnerships between educational institutions, particularly HEIs and FECs, and Byrne (2014) appears to assume greater co-ordination between institutions as part of the mending of the 'broken bridge' (69-70) and the strengthening of the 'vocational track' (68). According to Byrne, 'the problems that bedevil the integration between further and higher education cry out for change' and 'progress is going to require colleges, universities and business starting a new dialogue' and 'a new partnership - together.'(2014, 69). The 'ferocious competition' (69) between FECs and HEIs has been identified, and for Byrne has been stimulated by the reforms introduced to further and higher education by the coalition government.

While there may be some truth in the analysis of the current situation, it is by no means clear that greater collaboration between HEIs and FECs would be widely welcomed by either sector. Tensions in relations between institutions have existed long before the existing policy context, with colleges 'weary of validation events and partnership meetings' (Esmond 2014, 5), sometimes welcoming opportunities to compete rather than collaborate with HEIs. The culture, learning environment and pedagogy within FECs is 'distinctive', often involving

‘smaller classes’ and ‘regular access to teaching staff’ (Parry et al. 2012, 11) for students, and staff whose role is more teaching intensive and does not generally involve research activity. This may engender a sense that higher education offered in FECs is somehow of a different type and suitable primarily for more ‘local’ students ‘focused on vocational outcomes’ (13). Moreover, the institutional processes, funding relationships and governance structures differ between higher and further education, none of which makes partnership work easier. While validation agreements and progression pathways have survived across the FE-HE divide in recent years there has been little in the way of expansion (Parry et al. 2012), and a number of HEIs may increasingly seek to withdraw from their arrangements due to changes in strategic priorities and for financial reasons. Given the ‘market signals’ and criteria of esteem within the higher education system it is difficult to conceive of a situation in which HE-FE collaboration can be encouraged to grow without substantive financial incentives or new regulation.

An additional assumption of Byrne (2014) is that a ‘gold standard vocational route’ (68) should be developed, with, presumably, technical degrees at the top of this pathway through the education system. Initiatives to improve vocational education and training for those aged 14-19 have rarely made much progress in improving the standing of this form of education in England (see for example Issacs 2013 on Diplomas), which still remains the very poor relation of the academic. While there is logic in suggesting that a whole-system reform to ‘vocational routes’ from school up to the higher levels is needed in England, this is not the main focus of Byrne (2014) and the fact that these proposals have appeared in this form rather than part of a substantive paper focused on vocational and technical education might suggest that more consideration of implementation issues across the whole vocational education and training system is needed to achieve the reforms set out here. Byrne (2014) talks of the ‘forgotten fifty percent’, bemoans the early specialisation of the English education system with young people becoming ‘locked into a path aged thirteen with very limited options to escape’, with the result apparently that they feel that ‘unless they go to university they really are stuffed in today’s job market’ (38). However, rather than discussing possible solutions around greater articulation between differing pathways, qualifications and institutions, greater integration between the vocational and the academic, or indeed the importance of lifelong learning, Byrne simply suggests that ‘what young people want is a genuine choice of an earn while you learn route to degree level skills’ (39). While this may be part of the solution, Byrne’s argument appears to neglect the depth of the problem and the range of remedies needed.

Curriculum and the relation between working and studying

A key characteristic of a technical degree is said to be the opportunity to “earn while you learn”, in other words to take a degree ‘which you can study for, in a wide range of subjects, while you are in a job, drawing a wage (Byrne 2014, 68). One question here is to what extent would ‘work activity’ relate to ‘classroom activity’, and indeed how important each would be considered in relation to each other in the context of a technical degree programme. For successful work-based learning to contribute to a broader higher educational programme there must be some structure to what Billett (2006) terms the ‘workplace curriculum’, so that what is learnt at work can be related to learning objectives that transcend the immediate work context. It is possible to envisage an expansion of degrees in ‘work-based learning’,

with individual work-based programmes negotiated between employer, employee and institution, similarly to those offered by the University of Middlesex Institute for Work-Based Learning, but that is clearly not the model Byrne (2014) has in mind.

A programme of technical skill formation usually requires some form of partnership to exist between those working within educational institutions and those representing employers so that a coherent programme can be constructed. Guile's (2011) example of a Foundation Degree in Aircraft Engineering is a useful example of how this can work in practice. However, these kinds of partnerships require significant investment in relationships between 'education' and 'the workplace', employer commitment and engagement, curriculum development expertise and clear agreements about mentoring, supervision, and time away from work to study and complete assignments. In other words an 'expansive' learning environment must arise and be sustained (Fuller and Unwin 2004). There is a considerable cost to these investments which can dissuade both institutions and employers. They often require particular forms of pedagogic practice involving co-operation between institutions and employers, and employer involvement in assessment processes that can come into tension with established forms of pedagogy and assessment in use both in higher education and in industrial training. Byrne does not specify how proximate the workplace experience should be to the 'classroom experience' in an 'earn while you learn' technical degree. It is possible to foresee scenarios in which the 'earning' element could take place in a very wide range of roles with limited connection to the 'learning' elements. While it is quite possible that students may be 'learning' a great deal while in whatever workplace, this learning may be rather tangential to the overall educational objectives of their programme.

Would the curriculum be an adequate preparation for work?

There is also the question of what form the technical degree curriculum will take, and whether this will adequately prepare graduates of these degrees for work and, potentially, a 'civic contribution'. As noted above, there are difficulties with the notion that 'skills demand' can be predicted. We can also acknowledge the rapidity of technological and workplace change. Thus, the development of curricula that are designed to 'match' current or predicted 'skills needs' may substantially reduce the value of those degrees in the longer term. While being 'oven ready' (Atkins 1999), with the requisite 'skills' to enter the labour market on graduation, may afford value to those qualifications in the short term, returns are likely to diminish rapidly if the curriculum contains limited fundamental knowledge that could enable graduates of these degrees to engage with new conceptual and technological developments in their chosen field (Clarke and Winch 2004; Wheelahan 2010). More fundamental, conceptual and disciplinary forms of knowledge may offer a stronger foundation for a technical education (Gamble 2013; Muller 2009; Young 2006) than those forms of knowledge that seem to have current relevance, in that they may provide students with the capacity to comprehend new developments and how they may affect the contexts of their work. Equally, a broader understanding of the 'work process' (Boreham 2002) and of occupational roles, values and professionalism, are constituent elements of higher technical education in the education systems of the countries cited by Byrne 2014 (43-44) (i.e. Germany, Austria, Netherlands) (Winch 2010). These forms of knowledge may be 'squeezed out' of curricula in a rush for relevance (Gamble 2013).

Technical degrees are to be available 'in a wide range of subjects' (Byrne 2014, 68), which suggest some form of curriculum organisation around a recognised and substantive knowledge base. Winch (2010) describes a vocationally-orientated subject as consisting of various forms of propositional knowledge (Know That), inferential and procedural knowledge that relates to the conceptual structure of the subject (Know-How), and experience of the practice of the vocation itself in some form (Acquaintance Knowledge). There are differences inevitably in terms of the 'pure' or 'applied' nature of the subject and the extent to which it relates to disciplines and to practice (Muller 2009). However for the curricula of technical degrees to offer forms of technical preparation and also provide students with the capacity to meet changing demands in the nature of work, the notion of induction into a 'subject' is important as it provides a formed and structured body of knowledge and the capacity to think beyond, and to contextualise, immediate experience. A question here is whether the emphasis on 'earning while you learn' would support the induction into a subject. To what extent will workplace experiences be shaped so that student/employees are able to get the forms of acquaintance knowledge that support their subject knowledge? Would the 'acquaintance knowledge' of workplace experiences cohere with induction into the Know That and Know How of the subject?

Concluding remarks: credibility and viability of technical degrees

While there is without doubt continued confidence and trust in a UK Undergraduate degree, both nationally and internationally, confidence in vocational qualifications is considerably more limited as was demonstrated by Wolf (2011). The multiplicity of initiatives in vocational and technical education over the last forty years have not encouraged confidence – witness the short-lived 14-19 Diplomas (Issacs 2013) introduced by the last Labour government. The 'Apprenticeship' brand has, however, retained public support and recognition, despite the weakness of many apprenticeships in England as the basis for vocational formation and occupational competence (Brockmann et al. 2008; 2010), and politicians have increasingly invested political capital in developing the apprenticeship pathway. Over time, if a vocational or technical qualification does not have an internal coherence and purchase on the occupational contexts for which it is intended, it is likely to lose appeal and support and end up being discarded or remodelled.

There is also the issue of managing a diverse range of expectations. Technical degrees would need to gain the confidence of a greater range of constituent groups than for a 'traditional' academic degree in (for example) English Literature, History or Physics, including professional bodies and employers, in addition to prospective students. Degrees in those occupational areas which have longstanding traditions of co-operation between stakeholders and involvement in qualification development, for example in aspects of engineering or construction, may relatively easily be able to gain confidence providing the relevant organisations are involved in their development. However, where these patterns of stakeholder partnership are less developed, it may be quite difficult for new technical degrees to gain widespread confidence or support. It may be difficult to find appropriate fora in which to bring stakeholders together to negotiate the nature of the qualification, and to find the means to involve a wide employer base. This is not to say this is impossible – previous similar initiatives have often demonstrated the potential in bringing parties together. In all cases, however, employing organisations would have to put in considerable efforts to ensure

that workplace practice coheres with the objectives of the qualification, if that is considered important.

As the Labour party were beaten in the 2015 general election there seems little prospect of the version of technical degrees conceived by Byrne being introduced. However, there is no doubt that the 'problem' of higher vocational education in England has not been resolved, and therefore this is unlikely to be the last such proposal to be advanced in this area.

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References

Ainley, P. 1993. *Class and Skill, New Divisions of Labour and Knowledge*. London: Cassell.

Atkins, M.J. 1999. "Oven reading and self-basting: taking stock of employability skills." *Teaching in Higher Education* 4 (2), 267-280.

Bailey, B.and Unwin, L. 2014. "Continuity and Change in English Further Education: A Century of Voluntarism and Permissive Adaptability." *British Journal of Educational Studies* 62 (4), 449-464.

Billett, S. 2006. "Constituting the workplace curriculum." *Journal of Curriculum Studies* 38 (1), 31-48.

Boreham, N. 2002. "Work Process Knowledge, Curriculum Control and the Work-based Route to Vocational Qualifications." *British Journal of Educational Studies*, 50 (2), 225-237.

Brockmann, M., Clarke, L. and Winch, C. 2008. "Knowledge, skills, competence: European divergences in vocational education and training (VET)- the English, German and Dutch cases." *Oxford Review of Education*, 34 (5), 547-567.

Brockmann M., Clarke, L. and Winch, C. 2010. "The Apprenticeship Framework in England: A new beginning or a continuing sham?" *Journal of Education and Work* 23 (2), 111-127.

Brown, P., and H. Lauder. 2009. "Economic globalisation, skill formation and the consequences for higher education." In *The Routledge International Handbook of the Sociology of Education*, ed. S. Ball, M. Apple, and L. Gandin, 229–40. London: Routledge.

Brown, P., H. Lauder, and D. Ashton. 2011. *The global auction: The broken promises of education, jobs and incomes*. New York: Oxford University Press.

Burgess, T., & Pratt, J. 1970. *Policy and practice: The Colleges of Advanced Technology*. London: Allen Lane.

Byrne, L. 2014. *Robbins Rebooted*. London: Social Market Foundation.

Clarke, L. and Winch, C. 2004. "Apprenticeship and Applied Theoretical Knowledge." *Educational Philosophy and Theory* 36 (5), 509-521.

Coates, D. 1994. *The question of UK decline: The economy, state and society*. London: Harvester.

Craig, J. and A. Gunn 2010. “Higher Skills and the Knowledge Economy: The Challenge of Offshoring.” *Higher Education Management and Policy* 22 (3), 1-17.

Delanty, G. 2001. *Challenging Knowledge: The University in the Knowledge Society*. Open University Press: Buckingham.

Department of Business Innovation and Skills (DBIS)/ Prime Minister’s Office (PMO). 2015. Government rolls out flagship Degree Level Apprenticeships. London: DBIS/PMO. https://www.gov.uk/government/news/government-rolls-out-flagship-degree-apprenticeships.https://www.gov.uk/government/news/government-rolls-out-flagship-degree-apprenceships

Department for Innovation Universities and Skills (DIUS). 2008. *Higher Education at Work: Higher Skills, Higher Value.* London: HMSO.

Esmond, B. 2014. Higher Vocational Education: Unequal or Different? In *Higher Vocational Education: a collection of thinkpieces*. London: Association of Colleges

Evans, C. and Holmes, L. 2013. *Re-tayloring management: scientific management a century on*. Farnham: Gower.

Eyres, R., E. Hooker, and A. Pringle. 2008. “Engaging with Workforce Development: What do Staff in Higher Education Need.” In *Workforce Development: Connections, Frameworks and Processes*, ed. F. Tallantyre, 99–110. York: Higher Education Academy.

Finegold, D. and Soskice, D. 1988. “The failure of training in Britain: analysis and prescription.” *Oxford Review of Economic Policy* 4(3), 21-53.

Fuller, A., and L. Unwin. 2004. “Expansive Learning Environments: Integrating Organisational and Personal Development.” In *Workplace Learning in Context*, eds H. Rainbird, A. Fuller, and A. Munro, A. Fuller, and A. Munro, 126–44. London: Routledge.

Fuller, A., and L. Unwin. 2012. *Banging on the Door of the University: The Complexities of Progression from Apprenticeship and Other Vocational Programmes in England*. Cardiff: SKOPE.

Gamble, J. 2013. *Why improved formal teaching and learning are important in technical and vocational education and training (TVET)* In Revisiting Global Trends in TVET. Bonn: UNESCO/UNEVOC . pp. 204-238.

Garnett, J., B. Workman, A. Beadsmoore, and S. Bezencenet. 2008. “Developing the Structural Capital of Higher Education Institutions to Support Work Based Learning.” In *Workforce development: Connections, Frameworks and Processes*, ed. F. Tallantyre, 18–30. York: Higher Education Academy.

Green, A. 1990. *Education and State Formation*. New York: St Martins.

Green, A. 1995. “Technical Education and State Formation in nineteenth century England and France.” *History of Education* 24 (2), 123-139.

Guile, D. 2011. “Apprenticeship as a model of vocational ‘formation’ and ‘reformation’: the use of Foundation Degrees in the aircraft engineering industry.” *Journal of Vocational Education and Training* 63 (3), 451-464.

Gustavs, J., and S. Clegg. 2005. “Working the Knowledge Game? Universities and Corporate Organizations in Partnership.” *Management Learning* 36 (1), 9–30.

Hazelkorn, E. 2007. “The impact of league tables and ranking systems on higher education decision making.” *Higher Education Management and Policy* 19 (2), 1-24.

HM Treasury. 2011. *The Plan for Growth*. London: HMSO.

Hordern, J. 2012a. “Institutional strategies in response to higher skills policy in England.” *Higher Education Management and Policy*. 24 (1), 125-143.

Hordern, J. 2012b. Higher Apprenticeships: Rationale and Context. unpublished paper.

Hordern, J. 2013. “Skills Governance and the Workforce Development Programme.” *Journal of Higher Education Policy and Management* 35 (1), 54–65.

Hordern J. 2014. “Workforce development, higher education and productive systems.” *Journal of Education and Work.* 27 (4), 409-431.

Hordern, J. 2015a. “An unfinished experiment: ambiguity and conflict in the implementation of higher skills policy.” *Research Papers in Education* 30 (2), 248-265.

Hordern, J. 2015b. “Higher apprenticeships and the shaping of vocational knowledge.” *Research in Post Compulsory Education* 20 (1), 17-34.

Hordern, J. 2015c. “Higher apprenticeships in England: vocational and professional formation*.” International Journal of Training Research*, 13 (3), forthcoming

Hutton, W. 1995. *The State We’re In*. London: Vintage.

Innovation Universities Science and Skills [IUSS] Select Committee. 2008. *Oral evidence presented to the IUSS Select Committee Inquiry ‘After Leitch: Implementing Skills and Training Policies’ on 9th July 2008*. London: House of Commons. Retrieved from http://www.publications. parliament.uk/pa/cm200708/cmselect/cmdius/cmdius.htm#evid

Issacs, T. 2013. “The diploma qualification in England: an avoidable failure?” *Journal of Vocational Education and Training* 65 (2), 277-290.

Leitch, S. 2006. *Prosperity for all in the Global Economy – World Class Skills*: *Executive Summary and Forward.* London: HM Treasury.

Lester, S., and C. Costley. 2010. “Work-based Learning at Higher Education Level: Value, Practice and Critique.” *Studies in Higher Education* 35 (5), 561–575.

Lloyd, C. and Payne, J. 2006. *British Trade Unions and the Learning and Skills Agenda: an assessment*. Cardiff: SKOPE

Keep, E. 2007. *Skills and economic and social justice*. Cardiff: SKOPE.

Keep, E. and James, S. 2010. *Recruitment and Selection: the great neglected topic*. Cardiff/Oxford: SKOPE.

Kewin, J., I. Nixon, A. Diamond, M. Haywood, H. Connor, and A. Michael. 2011. *Evaluation of the Higher Education Transforming Workforce Development Programme: Report to HEFCE by CFE and KSA*. Bristol: HEFCE.

Muller, J. 2009. “Forms of knowledge and curriculum coherence.” *Journal of Education and Work* 22 (3), 205–26.

National Apprenticeship Service (NAS) 2011. *Higher Apprenticeship Fund Prospectus*, Coventry: NAS.

National Apprenticeship Service (NAS) 2012. *Summary of First and Second Round Proposals: Higher Apprenticeship Fund*, Coventry: NAS.

Neave, G. 1998. “The Evaluative State Reconsidered.” *European Journal of Education* 33 (3), 265–284.

Parry, G. 2009. “Higher Education, Further Education and the English Experiment.” *Higher Education Quarterly* 63 (4), 322-342.

Parry, G., Callender, C., Scott, P. and Temple, P. 2012. *Understanding Higher Education in Further Education Colleges*. London: DBIS.

Payne, J. 2000. “The Unbearable Lightness of Skill: The Changing Meaning of Skill in UK Policy Discourses and some Implications for Education and Training.” *Journal of Education Policy* 15 (3), 353–369.

Payne, J. and Keep, E. 2011. *One Step Forward, Two Steps Back: Skills Policy in England under the Coalition Government*. Cardiff/Oxford: SKOPE.

Payne, J. 2008. “Sector Skills Councils and Employer Engagement – Delivering the ‘Employer-led’ Skills Agenda in England.” *Journal of Education and Work* 21 (2), 93–113.

Pratt, J. 1997. *The Polytechnic experiment: 1965–1992*. Buckingham: Open University Press.

Pratt, J., and T. Burgess. 1974. Polytechnics: A Report. London: Pitman.

Reeve, F., and J. Gallacher. 2005. “Employer–University ‘Partnerships’: A Key Problem for Work-based Learning Programmes?” *Journal of Education and Work* 18 (2), 219–233.

Robinson, E.E. 2007. “1966 and all that: A revolution in higher education that is yet incomplete.” *Higher Education Review 39*, 45–58.

Ryan, P. and Unwin, L. 2001. “Apprenticeship in the British ‘Training Market’.” *National Institute Economic Review*. 178 (1), 99-114.

Scott, P. 2014. *Scope, Size and Shape of Higher Education*. London: IOE. http://www.ioe.ac.uk/about/documents/About_Policies/ScottP_-_FINAL.pdf

Skills Funding Agency (SFA). 2014. *Employer Guide to Higher Apprenticeships*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/374552/Employer_Guide_to_Higher_Apprenticeships.pdf

Teichler, U. 2014. “On the move towards a new convergent design of higher education systems.” In *The Future of the Massified University at the Crossroads*, ed. Shin, J-C and U. Tiechler,. 229-248. Rotterdam: Springer.

Tholen, G. 2013. *We need to talk about graduates. The changing nature of the UK Graduate Labour Market.* Oxford: SKOPE.

van Vught, F. 2008. “Mission Diversity and Reputation in Higher Education.” *Higher Education Policy* 21, 151–174.

Watson, D. 2000. *Managing strategy*. Buckingham: OUP.

Wedgewood, M. 2007. *Higher Education for the workforce: Barriers and facilitators to employer engagement*. London: DIUS. http://hear.ac.uk/assets/documents/employer_engagement/DIUS-RR-08-04.pdf.

Wheelahan, L. 2010. *Why knowledge matters in curriculum: a social realist argument*. London: Routledge.

Winch, C. 2010. *Dimensions of Expertise*. London: Continuum.

Wolf, A. 2002. *Does Education Matter?* London: Penguin.

Wolf, A. 2011. *Review of Vocational Education: The Wolf Report*. http://dera.ioe.ac.uk/11621/1/DFE-00031-2011.pdf.

Young, M. 2006. “Conceptualising vocational knowledge: some theoretical considerations.” In *Knowledge, curriculum and qualifications for South African further education*, ed. M.Young and J. Gamble, 104-124. Cape Town: HSRC Press.