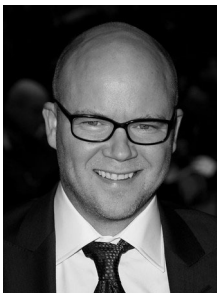
Technically Gifted

How Selection Can Save Technical and Vocational Education

By Toby Young

Foreword by Nick Timothy



About the Author

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Foreword

By Nick Timothy

Education in England has long suffered from two blind spots. The first – our failure to provide high-quality technical education – was part of Rab Butler's 1944 blueprint, but never came. The second – selection by aptitude or ability – is always attacked by the education establishment whoever advocates it and whatever the merits of their particular proposal.

Toby Young has therefore shown characteristic bravery in taking on both issues in this important report. As he says, Britain has serious skills shortages, and we need to do far better at educating young people in the STEM subjects: science, technology, engineering and maths.

This is why the Government is introducing new technical qualifications known as T-Levels, albeit too slowly, and promises new institutes of technology. But far more must be done if we are to have the kind of technical education the country needs. This report's proposal – that the Government should create a new generation of technical schools that select their pupils by aptitude – is one that ministers ought to take seriously.

The reason is, unlike many official reports, Young has identified why schools providing technical education have struggled in England: too often a pupil's suitability for technical education is judged by their lack of suitability for an academically rigorous alternative. This is a false choice, and it inevitably means technical education is treated as second best. As a result parents and pupils shun technical schools, which end up being treated as dumping grounds for unruly students who are unwanted elsewhere.

If we want to become world leaders in the STEM fields and meet our skills shortages with homegrown talent, this has to change. Young people should be encouraged to study technical subjects, and not only when teachers judge that they are not equipped for a purely academic education. For that to happen, a new generation of prestigious schools – selecting their pupils by aptitude, specialising in technical subjects, and still offering a core of academic subjects – can lead the way.

NIck Timothy served as joint chief of staff to Theresa May in Downing Street

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Executive Summary

For more than a century, education experts have been warning that Britain places too much emphasis on academic education and not enough on technical or vocational.

Today, there is not just a growing consensus that we need to redress the balance, but an increasing demand for high-quality technical/vocational schools. The growing skills gap in the UK means that by 2022 there are expected to be an additional 3.6 million vacancies[1] in skilled occupations, such as advanced manufacturing.

Since 2010, 118 technical/vocational schools have been set up, aimed at 14- to 19-year-olds with a particular aptitude for a range of skilled occupations – 57 University Technical Colleges (UTCs), 55 studio schools and six free schools. Yet with a few notable exceptions, they have not been successful.

To date, 36 of these schools have either been shut down, converted to other types of school or are earmarked for closure or conversion (26 studio schools,[2] nine UTCs[3] and one free school). This has caused embarrassment to successive governments, undermined the credibility of the education reform programme that these schools are linked with, and harmed the life chances of the students consigned to them.

> **"The entire sector of specialist technical/vocational schools is perilously close to collapse"**

Those technical schools that are still open are also facing significant obstacles. For example, pupils at UTCs have lower GCSE scores, make less progress and acquire fewer qualifications than their contemporaries at comprehensives.[4] More than half of the UTCs inspected by Ofsted so far have been ranked 'Requires Improvement' or 'Inadequate'.[5] Many of the schools are also in debt. If these problems aren't addressed there will be more closures.

There are many difficulties facing technical and vocational schools. But this report argues that their poor performance is largely due to the fact that they cannot select pupils, but must take all-comers – which in practice means that the headteachers of neighbouring comprehensives are using them as 'dumping grounds' for their most poorly behaved, low-attaining students.

This puts off pupils who might actually benefit from the specialised education on offer and leaves the schools with many unfilled places.[6] It also blights the life chances of the hard-to-teach children who end up in them, and those who share their classrooms.

1 'Tech Transitions: UTCs, Studio Schools, and Technical and Cocational Education in England's Schools', Craig Thorley, *IPPR*, May 2017

2 'DfE rubber-stamps closure of troubled studio school', *Schools Week*, 26th June 2018

3 'UTC@harbourside is the ninth UTC to close', *Schools Week*, 2nd July 2018

4 'Dividing our children at 14 has not worked', Michael Gove, *The Times*, 10th February 2017

5 'An eighth UTC gets the bottom Ofsted grade', *FE Week*, 28th June 2018

6 'Tech Transitions: UTCs, Studio Schools, and Technical and Cocational Education in England's Schools', Craig Thorley, *IPPR*, May 2017

England's two most successful technical/vocational schools – the BRIT School for Performing Arts and Technology in London and Birmingham Ormiston Academy – are both selective and cater for those aged 14-19. Historically, some of the most successful technical/vocational schools in Britain in the last 100 years – such as the 15 City Technology Colleges set up in the early 1980s, of which the BRIT School is one – have been selective.

In addition, some of the most successful technical/vocational schools in other countries are also selective, as well as selecting at a later age, such as the 14-18 magnet career academies in New Jersey and the technical/vocational high schools in South Korea, including the highly selective Meister Schools.

The fact that these schools are selective means they are not seen as dumping grounds or second best – and selecting at 14 rather than 11 ensures that the students they admit are ready and able to specialise in technical/vocational subjects while still taking on a core academic curriculum.

Technical and vocational education in Britain has a long history of failure. Secondary moderns, where councils steered children who failed the 11+ and where pupils had an opportunity to take qualifications in non-academic subjects, were, with a few exceptions, not particularly successful or popular. Under the current system, technical/vocational education is still seen as an 'alternative' for those who cannot cope with academic subjects or who have a range of emotional and behavioural difficulties. This means fewer pupils are willing to move aged 14 – and the majority of those who do end up in these schools make below average progress as they aren't designed to meet their complex needs.

In the 1990s, reforms to the qualification system to promote technical and vocational education largely failed, and so now the Government is creating T-Levels. This report argues that, if the Government wants England's technical/vocational schools to survive and thrive, it must cut the Gordian Knot linking technical and vocational education to a lack of aptitude for academic subjects and allow these schools to select pupils according to aptitude for their particular specialisms at the age of 14.

Not only would this transform the fortunes of these schools, it would also enable the Department for Education (DfE) to set up new 14-19 technical/vocational schools that would be likely to succeed, including replicas of the BRIT School and BOA in other English cities like Manchester and Liverpool.[7] This would not require any amendment to primary or secondary legislation. A policy change by the Secretary of State for Education would suffice.

This reform would help with ministers' stated aim of boosting the status of technical and vocational education by making sure specialist 14-19 schools are not seen as a second-best option for those who fail at the academic route. It would also enhance the Government's efforts to improve the calibre of technical/vocational qualifications via the introduction of T-levels,[8] ensuring that those who take them (including a 45-day work placement at the end of each course) are not just employment-ready but motivated to seek a career in the relevant industry.

Above all, it would fundamentally improve the life chances, income and well-being of those who have an aptitude for this type of education and would like the opportunity to pursue it, rather than treating them – as we have done for so long – like second-class citizens.

7 Liverpool has two free schools that specialise in the performing arts linked to The Liverpool Institute for Performing Arts – LIPA Primary School and LIPA Sixth Form College – but not a 14-19 arts specialist school.

8 The Department for Business, Innovation and Skills and the Department for Education published the 'Post-16 Skills Plan' in 2016 which proposed that the current panoply of Level 3 technical/vocational courses should be replaced with just 15 technical routes, known as T-levels: agriculture, environmental and animal care; business and administrative; catering and hospitality; childcare and education; construction; creative and design; digital; engineering and manufacturing; hair and beauty; health and science; legal, finance and accounting; protective services; sales, marketing and procurement; social care; and transport and logistics. This recommendation was based on the conclusions of a review panel led by Lord Sainsbury. ('Post-16 Skills Plan', *Department for Business, Innovation and Skills* & *Department for Education,* 2016.)

1. The Case for Technical and Vocational Education

Technical and vocational education has always been a poor relation to other types of education in Britain, with the technical/vocational schools aimed at preparing children for particular occupations generally regarded by parents as less desirable than the other options on the table.

Some experts, such as the American historian Martin Weiner, attribute the low status of technical/vocational schools to the toxic legacy of 19th-century Romanticism, whose upper-middle-class devotees harkened back to a pre-industrial arcadia and viewed commercial occupations as grubby and lower-class.[9] Others, such as the economist Alison Wolf, believe it is rational for parents and students to delay specialising in technical/vocational subjects. Wolf points out that if children are placed on a vocational curriculum track before the age of 16 and don't do a 'common core' of at least five academic GCSEs it is hard for them to change tack and pursue an academic pathway. Eschewing specialisation, at least until the age of 16, is a way for young people to keep their options open.[10]

Before discussing technical and vocational education in more detail – and what, exactly, has gone wrong with this type of provision, and where it has gone right – we should pause to consider the arguments for and against specialist technical/vocational schools.

Academic or technical?

One of the most popular arguments in favour of 14-19 technical/vocational schools goes as follows. Not all children are capable of studying a 'common core' of five academic GCSEs, so those that aren't should be steered on to a technical/vocational pathway once they embark on Key Stage 4 (which runs from ages 14 to 16). Specialist schools, such as UTCs and studio schools, are better placed than mainstream schools to provide this type of education.

This is a bad argument. While it may be true that a small minority of children lack the ability to pass GCSE exams in English, maths, science, history, geography, etc., that is only an argument for alternative, technical/vocational schools at Key Stage 4 if you take it as a given that this type of education is less intellectually demanding than just studying traditional academic subjects.

As we will see from the brief history of technical/vocational schools below, it is this assumption that has long contributed to their second-class status and prevented them from flourishing. It is an assumption that seeps through much of the English school system to this day – and which has led to UTCs and studio schools being used as 'dumping grounds' by neighbouring schools for hard-to-teach children, to the detriment of both those pupils and these specialist schools.

9 Martin Weiner, 'English Culture and the Decline of the Industrial Spirit: 1850-1980', Cambridge University Press, 1981

10 Alison Wolf, 'Review of Vocational Education: the Wolf Report', *Department for Education*, 2011. Wolf points out that among children born in the UK in 2000 (the Millennium Cohort) 98% of all mothers, and 96% of mothers with minimal or no formal qualifications, want their children to go to university.

If technical/vocational schools are to thrive, children's suitability for this type of education cannot be assessed on the basis of their *unsuitability* for a purely academic education. Members of the professional class, including headteachers, must stop thinking of this type of education as second best – as only being appropriate for 'other people's children'.[11]

Rather, children of all classes and all abilities should be steered towards technical/vocational education if they have a particular aptitude for it – and that aptitude should not be thought of as less valuable than an aptitude for a purely academic education, or as inversely proportional to it.

In other words, technical/vocational education must not be regarded as a second-best alternative to academic education if it is going to be taken seriously by higher education institutions and employers – not to mention children and their parents. And that will only happen if technical/vocational courses and qualifications are as intellectually rigorous as academic subjects.

This point is well made by Lord Baker, the former Conservative Education Secretary and the father of the UTC policy, in '14-18: A New Vision for Secondary Education' (2013).[12]It was also made by Damian Hinds, the current Education Secretary, in a speech on social mobility in July 2018.

'Technical education in this country has long been seen by many as the second-best option to academic study and university,' he said. 'This Government is committed to making technical education a first-class option.' [13]

Another argument for technical/vocational schools is to accept that some children have a particular aptitude for this type of education – that is, they're well-suited to it because they possess particular cognitive skills and not because they're incapable of studying traditional academic subjects – and maintain that those children are better served in specialist schools.

I am sympathetic to this argument, with two caveats. First, the general consensus among educational psychologists is that an aptitude for technical/vocational subjects is impossible to detect in 10/11-year-olds.[14] Indeed, one of the reasons the technical grammar schools created by the 1944 Education Act weren't more successful is because the children offered places were those who scored just below the pass mark in the 11+, not those who had a particular aptitude for the type of education on offer. So it makes sense, as discussed in part three of this paper, for technical/vocational schools to start at 14 rather than 11.

Second, children who go on to exhibit this aptitude should not be regarded as 'below average' or 'not academically bright' and should still be expected to do a 'common core' of academic GCSEs: this type of education should be regarded as complementary to the 'common core', not a substitute for it.

The skills gap

However, by far the strongest argument in favour of technical education is the current skills gap in the UK labour market – one that may get worse after Britain leaves the European Union. According to the UK Commission for Employment and Skills' Employer Skills Survey 2015, 43% of vacancies in skilled trades/occupations

11 'Other People's Children' is the name of a book on vocational education by Barnaby Lenon, Chair of the Independent Schools Council.

12 '14-18: A New Vision for Secondary Education', ed. K. Baker (London: Bloomsbury, 2013).

13 'Education Secretary sets vision for boosting social mobility', Speech, 31st July 2018

14 'English Technical and Vocational Education in Historical and Comparative Perspective: Considerations for University Technical Colleges', William Richardson and Susanne Wiborg, *Baker Dearing Educational Trust*, 2010. 'Since the 1930s, when psychologists had first addressed the question of identifying those aptitudes marking out the technically-orientated child, they had reached a broad consensus that specific technical abilities were not detectable at the age of 10/11.'

were due to skills shortages in 2015, and an additional 3.6 million vacancies in mid-level skilled occupations, such as advanced manufacturing, are predicted to arise by 2022.

British school leavers are not at present well-placed to fill those gaps – only 36% of the population have sub-degree qualifications in skilled occupations, compared to an OECD average of 44% and over 60% in some European countries.[15] The economic urgency of filling this gap was acknowledged in the Government's Building our Industrial Strategy (2017) Green Paper, which emphasised the challenge posed by Brexit and the need to create a pipeline of indigenous young people with skills in STEM fields (science, technology, engineering and maths) to replace skilled migrant workers.[16]

While technical/vocational courses aimed at plugging those gaps are currently taught in some mainstream secondary schools, often in the form of BTECs, they are likely to be taught better at specialist schools which can focus their resources on preparing children to work in particular industries, such as gas, electricity and water, and develop close relationships with relevant employers. The closer the relationship to employers/industries, the more likely it is that the appropriate skills will be fostered.

Some might argue it would be better to provide such technical/vocational education at mainstream schools rather than specialist ones. But that would be contrary to the direction of travel in English education policy since 2010, which has been to encourage comprehensives to focus on the English Baccalaureate (EBacc), a qualification that requires students to do seven GCSEs chosen from a small-ish pot of academic subjects.

From 2022, all schools in England will be expected to enter 75% of their students for the EBacc, rising to 90% in 2025 (although UTCs and studio schools will be exempt). This inevitably means schools have started to devote more resources to the EBacc subjects and neglect technical/vocational subjects. For instance, the Telegraph reported last year that over half the country's secondary schools had dropped Design and Technology as a GCSE subject.[17] With so many mainstream schools giving up on technical/vocational education, the need for specialist technical and vocational schools is even more acute.

The final argument is related to the present Government's wider agenda. Successive administrations have made the argument that technical and vocational education should not be seen as a second best. Overturning this prejudice has long been a goal of all three mainstream political parties – but such efforts have almost always focused on post-16 education.

The Dearing review, published in 1996, was about the attempt to create new post-16 qualifications in the technical and vocational sphere. It commented that 'the academic/vocational divide is widely associated in British attitudes with a division between the able and less able… this is damaging to the national interest, and to the optimal development of the wide range of talents among young people'. The report was part of a push to raise the status of non-academic education by then Prime Minister John Major, who commented: 'No one should doubt the commitment I feel to reversing this country's historic weaknesses in vocational education.' [18] Yet this push clearly did not work.

15 'The ex-head of Harrow who now offers advice on plumbing and hairdressing', Peter Wilby, *The Guardian*, 10th July 2018

16 'Building Our Industrial Strategy', *UK Government Green Paper*, January 2017

17 'Design and Technology axed from nearly half of schools, survey finds', *The Telegraph*, 10th March 2017

18 'Review of Qualifications for 16-19 Year Olds', Ron Dearing, *HMSO*, 1996, John Major's quote on page 74.

Today, we again have a Prime Minister who is committed to ensuring technical and vocational education is seen as on a par with academic education. But again, the focus is on the choices available to children after they've done their GCSEs – in particular, via the introduction of T-levels and the building up of apprenticeships.

T-levels, which will impose some much-needed intellectual coherence on the chaotic mishmash of post-16 technical/vocational qualifications, should be supported. But if you focus the entire system of education up to age 16 on purely academic subjects, trying to bolt on a system of high-quality technical and vocational education at 16 will not work.

The adoption of T-levels at age 16 and greater spending on apprenticeships is more likely to raise the status of technical/vocational education if it's accompanied by the introduction of selection-by-aptitude for specialist schools with links to skilled occupations at the age of 14. In this way, the Government would signal that it regards this type of education as suitable for children of all abilities, not just those who find themselves without the necessary qualifications to do three A-levels.

2. A History of Neglect

The story of technical/vocational education in Britain is not a happy one. Among the first technical/vocational schools to be funded by the state were the higher elementary schools for those aged 12 to 15, established by local authorities at the beginning of the 20th century. According to an official report in 1906, these schools were for children destined for 'the lower ranks of commerce and industry' and were contrasted with secondary schools, which prepared young people for 'the higher ranks and the liberal professions.' [19]

By 1917, only 31 of these schools had been established in England and 14 in Wales. Other initiatives in the first half of the last century included central schools for those aged 12-15/16, and technical schools for those aged 13-15/16, but children attending them were ill-prepared to take the School Certificate – a crucial exam in English, foreign languages, science and maths that was introduced in 1917 and which children generally took at the age of 16.

The 'school cert' was valued more highly by employers than technical qualifications in subjects like handicrafts and metal work, even in 'the lower ranks of commerce and industry'. So the number of candidates taking these exams steadily declined: in 1932 it was just 2.3% of all examinees, and by 1938 just 1.9%.[20] Even in the central schools – more prestigious than technical schools – three-quarters of students were being entered for the 'school cert' by the early 1930s.

The 1944 Education Act attempted to impose an orderly pattern on Britain's patchwork quilt of a school system. It encouraged, but did not require, local authorities to phase out the various technical/vocational schools and replace them with secondary technical schools. However, for a variety of reasons, most of these schools failed to flourish – at their peak in 1954, they educated just 4.9% of schoolchildren aged 11 and over.

Some local authorities, such as Manchester, enthusiastically embraced this new approach and planned for 15% of secondary school children to attend the new technical schools. But others, such as Middlesbrough, refused to fund any of the new schools.

The secondary technical schools selected children at the age of 10/11, and were also referred to as 'technical grammar schools'. But with some exceptions, they were not popular with parents, who believed that a grammar school place would lead to better opportunities – an impression confirmed by the habit of offering places at these schools to children who scored just below the cut-off in the 11+.

19 Quoted in 'English Technical and Vocational Education in Historical and Comparative Perspective: Considerations for University Technical Colleges', William Richardson and Susanne Wiborg, *Baker Dearing Educational Trust*, 2010

20 'English Technical and Vocational Education in Historical and Comparative Perspective: Considerations for University Technical Colleges', William Richardson and Susanne Wiborg, *Baker Dearing Educational Trust*, 2010

In 1955, a Conservative education minister, David Eccles, concluded that the case for incorporating technical/vocational education into secondary moderns, rather than funding the expansion of specialist schools, was overwhelming. This decision echoed the official view that this type of education was only suitable for the 'average or less than average' child.[21] A further blow was struck by the Labour Education Secretary Anthony Crosland, who issued a directive in 1965 – the notorious Circular 10/65 – asking local authorities in England and Wales to start converting their secondary schools to comprehensives. That directive was modified by Margaret Thatcher when she became Education Secretary in 1970, who made it clear it was up to local authorities to decide whether to embrace comprehensivisation, but the die was cast. A majority of the 172 remaining technical grammar schools were in Labour-controlled local authorities, and they were the most pro-comprehensive.

A rebirth of technical education?

In 1983, the Manpower Services Commission developed something called the Technical and Vocational Education Initiative (TVEI), which rewarded state secondary schools in England and Wales with extra funding if they included technical and vocational subjects on the curriculum for 14-19 year-olds. The Conservative minister responsible for this initiative – Norman Tebbit – promised a 'rebirth of technical education'. But that failed to happen, partly because the TVEI wasn't accompanied by any robust qualifications, and partly because in many comprehensives the introduction of these subjects was used by advocates of progressive teaching methods as a way to promote active, inquiry-based learning which proved ineffectual.

A similar attempt to create technical/vocational courses for those aged 14-19 – going under the banner of 'diplomas' and developed at a cost of £345 million – was launched by Ed Balls in 2008 when he was Education Secretary. The first five were in Construction, IT, Media, Engineering and Society and Health and Development. These, however, were to be taught within the existing schooling system – and never enjoyed much currency with employers or universities. With fewer students than expected signing up for them, Balls's Tory successor Michael Gove discontinued them in 2011.

This left the existing technical/vocational qualifications, such as Level 2 (14-16) and Level 3 (16-19) BTECs. BTECs were first introduced in 1984 and are officially held to be 'equivalent' to GCSEs and A-levels – although many Level 2 BTECs, such as fish husbandry and nail technology services, were stripped of their 'equivalent' status in 2012, following the conclusion of a review led by Alison Wolf that they had little or no labour market value.[22]

In terms of separate technical/vocational schools, rather than qualifications, a short-lived attempt to revive specialist institutions occurred at the end of the 1980s, with the introduction of City Technology Colleges (CTCs) – secondary schools mainly specialising in technology-related subjects like science and maths and sponsored by local businesses or particular industries. (The original hope was that the sponsors would cover half their cost, but that failed to happen.) However, only 15 CTCs were set up, and today all but three have been converted to academies.

CTCs were allowed to select a majority of their students according to whether they had an aptitude for their specialisms, while also being required by law to accept children of all abilities. And it is striking that all three of the remaining

21 Quoted in 'English Technical and Vocational Education in Historical and Comparative Perspective: Considerations for University Technical Colleges', William Richardson and Susanne Wiborg, *Baker Dearing Educational Trust*, 2010

22 'Review of Vocational Education: The Wolf Report', *Department for Education*, 2011.

CTCs are among the most successful mixed ability schools in England. Thomas Telford School in Shropshire, for instance, consistently gets the best GCSE results of any comprehensive in England.[23] But the one that's particularly interesting for the purposes of this report is the BRIT School for Performing Arts and Technology (see below).

John Major's Government launched a programme in 1993 whereby state secondary schools could apply for additional funding to develop a curriculum specialism in certain subjects, provided they could get matching funding from a local sponsor. As an additional incentive, schools with certain specialisms could select up to 10% of their pupils according to their aptitude for those specialisms.

Initially, most of the schools taking advantage of this opportunity developed technical specialisms – but the programme mushroomed to encompass academic specialisms too (although schools weren't allowed to select up to 10% of their pupils according to their aptitude for subjects like maths). By 2010, 3,068 of England's 4,403 maintained secondaries were specialist schools. In a generally favourable report on specialist science schools published in 2009, Alan Smithers and Pamela Robinson recommended that, in order to really thrive, these schools should be allowed to select their students according to their aptitude for science.[24] However, this was not acted upon. Today, specialist schools no longer receive additional funding from the DfE and the programme has lost momentum.

23 'GCSE results: Thomas Telford School named top comprehensive', *The Telegraph*, 28th August 2009

24 'Specialist Science Schools', Alan Smithers and Pamela Robinson, *Centre for Education and Employment Research, University of Buckingham*, 2009

UTCs and Studio Schools

The most recent policy initiative with respect to technical/vocational education, dating back to 2010, is to make it available for 14-19 year-olds in schools specially built for that purpose – and where students are also expected to do a 'common core' of GCSEs.[25]

To date, 118 such schools have been set up. Of these, 57 have been University Technical Colleges (UTCs), 55 have been studio schools and six have been free schools.

UTCs and studio schools usually specialise in a particular field or fields – e.g., aviation engineering, the life sciences, construction and the built environment – and have links to employers and/or universities. Their school environments are often designed to resemble workplaces in the relevant occupations and the pupils are expected to attend for eight hours a day, mimicking the working day.

UTCs tend to have twice as many places in them as studio schools (e.g., 600 rather than 300), cost more to set up and have to pay to obtain an operating licence from the not-for-profit Baker Dearing Educational Trust (BDT). The equivalent for studio schools is the Studio Schools Network, but it does not have a licensing function and doesn't impose an annual levy.

25 In an interview in *The Guardian* in 2011, Kenneth Baker described UTCs as follows: 'The colleges, for 14- to 19-year-olds, will teach engineering, product design, health sciences, construction, environmental services and food technology – in short, anything that requires practical skills and specialised equipment – with employers asked to name specialisms that will be of most value locally. But pupils will also do English, maths and science, as well as humanities and foreign languages…' *The Guardian*, 1st March 2011. It's also worth noting that UTCs and studio schools are expected by the DfE to enter their pupils for English, Maths, at least two Science GCSEs and History or Geography, and are judged, both by the DfE and by Ofsted, according to how much progress their students make in those subjects, as well as three other GCSEs or equivalents.

In administrative terms, UTCs and studio schools are new academies set up under the provisions of the 2010 Academies Act, so funded directly by the DfE rather than via local authorities, and designated as 'free schools'. However, to complicate matters, six 14-19 technical/vocational free schools have been set up since 2010 in addition to the 112 UTCs and studio schools. The difference is that these schools are not badged as 'UTCs' or 'studio schools' and have no links to the BDT or the Studio Schools Network. None of these schools select for aptitude or academic ability.

With few exceptions, the UTCs and studio schools have not been a success. As of March 2018, 29 UTCs had been inspected by Ofsted and 59% of them were rated Requires Improvement ('RI') or Inadequate, compared to 11.6% of all schools.[26]

The BDT pointed out that if you exclude those UTCs which have since closed, the percentage rated RI or Inadequate falls to 48% – but the fact that eight of the 57 UTCs opened since 2011 have already closed, or converted to another type of school, is further evidence that they are far from flourishing (another is due to close next year). Indeed, subsequent Ofsted inspections have pushed the number of UTCs rated less than Good back up to over 50%, with more than a quarter of all those inspected so far rated Inadequate.[27]

As Michael Gove, the former Conservative Education Secretary, pointed out in a *Times* article in 2017: 'UTC pupils have lower GCSE scores, make less progress academically and acquire fewer qualifications than their contemporaries in comprehensives.'[28] In 2016, two-thirds of UTCs fell within the bottom 10% of schools nationally, as measured by their Progress 8 scores (a new attainment measure introduced in 2015).[29] Their GCSE results in 2017 showed few signs of improvement, with UTCs securing an average Progress 8 score of -0.87, below every other type of school.[30]

Studio schools fared slightly better by that metric, getting an average Progress 8 score of -0.69 in 2017 – but that still places them below every other type of school apart from UTCs. And according to other metrics, they are actually doing worse. The number of studio schools that have closed or converted to other types of school, or are due to shortly, is 26, a figure approaching 50% of the total.[31]

More than half of those inspected have received Ofsted ratings of RI or Inadequate and the Studio Schools Trust, the organization that initially oversaw the programme, closed last year as a result of funding problems due to 'uncertainty and delays'. To date, its successor organization – the Studio Schools Network – doesn't even have a website.

Following a policy review last year, the DfE has – understandably – shelved plans to set up any more studio schools, and has urged the 29 that remain open to join multi-academy trusts (MATs).[32] Unfortunately, few MATs will want to take them on, given their poor Ofsted ratings, below-average results and precarious finances.

26 '71% of UTCs rated less than Ofsted 'good' in the last year', *Schools Week*, 10th March 2018

27 'Three "inadequate" UTCs in a week as Lord Baker blames Ofsted', *FE Week*, 6th July 2018

28 'Dividing our children at 14 has not worked', Michael Gove, *The Times*, 10th February 2017

29 'Tech Transitions: UTCs, studio schools, and technical and vocational education in England's schools', Craig Thorley, *IPPR*, May 2017

30 Progress 8 measures the progress children make between the ages of 11 and 16 and is calculated by looking at how well they do in their best eight GCSEs relative to their starting points at 11 and then comparing that progress to the average progress made by children with similar starting points nationally. A Progress 8 score of -0.87 means that children at UTCs, in aggregate, made below average progress in 2018 compared to children with similar starting points at all other state secondary schools in England. Attainment 8 measures the average point score children at a school achieve in their best eight GCSEs.

31 'DfE spent more than £23 million on failed studio schools', *Schools Week*, 15th June 2018

32 'Studio schools to work more closely with MATs', *Schools Week*, 5th May 2018

Lord Baker and others still defend the UTC model. They claim that their alumni are overwhelmingly likely to have started an apprenticeship, stayed in education or got a job – i.e. avoided becoming NEETs[33] – and that is the metric they should be judged by.

However, when the Institute for Public Policy Research (*IPPR*) looked at such claims for a report it compiled on UTCs and studio schools in 2017, it found that verifiable destination data was available for only two UTCs – JCB Academy and Aston University Engineering Academy – and, of these, one performed slightly above average on this metric, while the other was below. Of the eight studio schools for which some verifiable data was available, an average of 84% of students stayed in education or got jobs after completing Year 11, lower than the national average of 94%.[34]

What's the problem?

The difficulties that UTCs and studio schools face – particularly the high number of closures – stem from the fact that they are not very popular with children or parents. To give just one example, Bradford Studio School filled 36% of its places in its first year, 18% in year two, 8% in year three – and then closed.[35] Seven UTCs and studio schools recruited fewer than 20 pupils for Year 10 in 2015-16, and an average of 39% of Year 10 places in 2015-16 went unfilled.[36]

According to FE Week, pupil numbers at two thirds of UTCs in 2016-17 were even lower than they were the previous year. The trade weekly also found that more than 50% of UTCs were less than half full,[37] and reported that the Education and Skills Funding Agency (ESFA) was trying to 'claw back' money from 39 of them, having funded places that the schools weren't then able to fill. Fifteen of the 39 were unable to pay back the ESFA on its usual timescales and one said the ESFA would have to wait three years before it was paid back in full.[38]

So why aren't these schools more popular?

In part, this is due to the reasons already discussed – disdain for a form of education that's thought to be for 'the lower ranks' and a reluctance by parents to limit their children's options by enrolling them at a technical/vocational school at the beginning of Key Stage 4.

Even though all children at UTCs and studio schools are expected to do at least eight GCSEs or equivalents, including the 'common core' of five academic GCSEs, that probably isn't as widely understood by parents as it should be – and in any case some pupils at these schools are being absolved of this requirement by teachers who don't think they can cope (one of the reasons for their dismal Progress 8 scores).[39]

33 Not in Employment, Education or Training.

34 'Tech Transitions: UTCs, Studio Schools, and Technical and Cocational Education in England's Schools', Craig Thorley, *IPPR*, May 2017

35 'The failure of a significant number of UTCs and studio schools to recruit enough of pupils at age 14 is linked to the growing number which have been forced to close.' 'Tech Transitions: UTCs, Studio Schools, and Technical and Cocational Education in England's Schools', Craig Thorley, *IPPR*, May 2017

36 'Tech Transitions: UTCs, Studio Schools, and Technical and Cocational Education in England's Schools', Craig Thorley, *IPPR*, May 2017

37 'Special interview: Lord Baker defends UTCs as problems pile up', *FE Week*, 11th May 2018

38 'Revealed: Low pupil numbers forced nearly every UTC to hand funding back', *FE Week*, 18th January 2018

39 'However, by looking at league table performance data, it would seem that 14-19 institutions are, on the whole, failing to deliver a broad and balanced curriculum to pupils. The fact that EBacc entry and achievement is well below the national average would suggest that more 14-19 institutions are opting to deliver either a technical or vocational offer. This means that they are largely opting to follow a model of specialisation, whereby they deliver qualifications less available in mainstream secondary schools, while choosing not to compete in the delivery of GCSEs in academic subjects.' 'Tech Transitions: UTCs, Studio Schools, and Technical and Cocational Education in England's Schools', Craig Thorley, *IPPR*, May 2017

All new schools face difficulty filling their places in the first few years because they are unknown quantities as far as parents are concerned – lacking results, Ofsted reports or positive word-of-mouth. Free schools have faced the same challenge[40] – but it's been a particular issue for UTCs and studio schools because of a broader parental scepticism about the value of technical/vocational education. The majority of free schools have overcome this problem and, in aggregate, are now more popular with parents than any other type of school.[41] However, UTCs and studio schools have not.

One additional difficulty they face is that they admit children at 14, which is not a standard transfer point in England's school system. On the contrary, 14 is an age when the vast majority of children are already settled in secondary schools.[42] (Fifteen LAs still operate middle schools, which generally cater to children aged 9-13, but children depart for high schools in those areas at the end of Year 8, not the end of Year 9 – and all but a handful of UTCs and studio schools start at Year 10.)

George Osborne acknowledged this difficulty when he appeared before the House of Commons Education Select Committee earlier this year. 'There was a question mark at having to start it at 14,' he said. 'There is an argument that I was digging into before I left office that moving school at 14 is not always the easiest thing and people are reluctant.' [43]

I don't think this an insurmountable problem – many countries with successful technical/vocational schools admit children to these schools at the age of 14 – but it would be foolish to deny that schools expecting children to transfer at the end of Year 9 are at a disadvantage.

Apart from having to contend with the natural reluctance of children and parents to switch to different schools and abandon friendship groups in the middle of what is normally a seamless five-year period from 11-16,[44] UTCs and studio schools face a further complication in that secondary headteachers have a financial incentive to hang on to children at 14.

Filling places in Year 7 is often a challenge in itself, even though that's the standard primary-to-secondary transfer point. But filling places in Year 10 is considerably harder. If a secondary school is undersubscribed in Year 10 – a problem that's likely to continue in Years 11, 12 and 13 – those empty places will show up in the annual census that all schools have to undergo. The school then faces a cut in its budget for the following year.

Headteachers are keen to avoid such cuts at the best of times, but they're particularly reluctant to lose pupils in the current fiscal climate, with the amount schools get per pupil having fallen by eight per cent in real terms since 2010, according to the Institute for Fiscal Studies (admittedly after per pupil spending almost doubled in real terms during the Labour years).[45]

It is not surprising, then, that most headteachers regard neighbouring UTCs and studio schools as threats to their financial health and do what they can to frustrate their efforts to poach pupils.

40 'Many free schools significantly undersubscribed', *BBC News,* 11th October 2012

41 In 2016, secondary free schools attracted an average of 3.6 applicants per place, compared to an average of 2.4 applicants per place for local authority schools. 'The case for free schools', *New Schools Network*, July 2017.

42 They also admit children at 16 and it's less uncommon for children to transfer to a new school at the end of Key Stage 4, but the post-16 sector is very competitive, with children facing a dizzying array of choices, including FE colleges for those interested in obtaining technical/vocational qualifications.

43 'UTC architect George Osborne says 14 start age 'hasn't worked', *Schools Week*, 2nd May 2018

44 Some local authorities still operate a system of first, middle and high schools, but the age of transfer from the penultimate phase to the last stage is Year 9, not Year 10.

45 'School spending on pupils cut by 8%, says IFS', *BBC News*, 12th July 2018

The *IPPR* report on 14-19 technical/vocational schools referred to earlier uncovered several examples of mainstream schools doing their best to sabotage their unwanted neighbours:

- Limiting pupil and parent awareness of the 14–19 institution, through a lack of signposting or appropriate careers advice, and/or blocking 14-19 institutions from having a presence at 'options evenings' or from running assemblies. This can prevent many pupils and parents from making full and informed decisions about the advantages and drawbacks of transition at 14.

- Bringing forward the commencement of Key Stage 4 from Year 10 to Year 9, meaning that any pupil who opts to transition at Year 10 would be disrupting their learning.

- Bolstering internal provision to directly compete with the 14-19 institution's specialism, thereby diluting its potential appeal. For example, introducing new vocational or technical options at Key Stage 4, or investing in new equipment also available at the 14-19 institution.

The *IPPR* report contained several quotes which sum up the situation:

> "Well [the studio school] might want to [come to the school to promote themselves]. I don't know if they want to, but they definitely wouldn't [be allowed to]!"

Headteacher, mainstream secondary school

> "Getting information to... prospective students... has been very difficult. Existing schools often didn't provide reasonable (or any) access to students."

Studio Schools Trust 2016[46]

Various remedies to these problems have been tried. Last year, the DfE made it a legal requirement for local authorities (LAs) to write to parents of Year 9 students informing them about other types of education available. When the Technical and Further Education Act 2017 came into force at the beginning of this year, it included an amendment tabled by Lord Baker – the 'Baker Clause' – forcing schools to open their doors to a 'range of education and training providers' including UTCs.[47] In addition, at least one UTC has started admitting children in Year 9 in an attempt to get around the fact that neighbouring schools are starting children's GCSE courses a year early.[48]

Unfortunately, there are few signs that these solutions are working. Schools Week uncovered evidence that England's largest MATs were failing to comply with the 'Baker clause',[49] forcing the DfE to intervene.[50] Baker claims the number of pupils at UTCs increased by 20% between 2017 and 2018,[51] but there is no way to verify that – and, if true, it could just be because they're one year older (new schools tend to fill up one year group at a time). Another UTC was earmarked for closure this year, as were at least three studio schools, all operating at less than 50% capacity, which suggests recruitment is still an issue.[52]

46 'Tech Transitions: UTCs, Studio Schools, and Technical and Cocational Education in England's Schools', Craig Thorley, *IPPR*, May 2017

47 "Baker clause' will force hostile schools to open door to FE', *FE Week*, 23rd February 2017

48 'Special interview: Lord Baker defends UTCs as problems pile up', *FE Week*, 11th May 2018

49 'Baker clause: MATs failing to meet new rules', *Schools Week*, 26th January 2018

50 'DfE takes action to force schools to follow the 'Baker Clause'', *Schools Week*, 11th May 2018

51 'Special interview: Lord Baker defends UTCs as problems pile up', *FE Week*, 11th May 2018

52 'Two studio schools near their end', *Schools Week*, 12th June 2018

A cycle of decline

As a result of the problems above, the only pupils that 14-19 schools have no difficulty recruiting are low attainers, persistent absentees, children with special educational needs and those who are falling behind due to poor behaviour. That was the finding of last year's *IPPR* report – corroborated by a report from the National Foundation for Educational Research (*NFER*)[53] – which uncovered evidence that the headteachers of neighbouring schools are pushing 'struggling' students into UTCs and studio schools in order to inflate their own Progress 8 and Attainment 8 scores.[54] One school even tried to move 45 pupils from its bottom sets into the local UTC.[55]

Presumably, such headteachers are calculating that any financial disadvantages incurred by losing these pupils will be offset by a boost in their school's league table position, as well as the ancillary benefit of poisoning the reputation of a rival.

As the executive principal of one studio school told the *IPPR*: 'I feel that [local mainstream secondary schools] are trying to stitch us up with some of their most challenging students.' That was also the diagnosis of David Nichol, then the head of the Studio Schools Trust, who told the *Times Educational Supplement* in 2016 that secondary schools were dumping 'inappropriate' pupils on studio schools to game the league tables.[56]

An additional incentive for such headteachers is that if they can persuade their most badly behaved students to enrol at UTCs and studio schools voluntarily they won't have to permanently exclude them. As a rule, headteachers try to keep expulsion to a minimum because Ofsted frowns on schools with above-average permanent exclusion rates. They therefore engage in less draconian forms of 'off-rolling' instead, a practice criticised in a recent report by the Education Select Committee.[57]

Yet steering children likely to do badly in their GCSEs into UTCs and studio schools – a prime example of under-the-radar 'off rolling' – does them few favours. These schools usually lack the capacity to cope with these kids, many of whom have complex needs. Moreover, there's no reason to think they're more likely to thrive in specialist technical/vocational schools than in mainstream schools – another instance of the mistaken view that this type of education is more appropriate for less able students, or that there is some kind of link between a lack of academic talent and technical/vocational aptitude.

The neighbouring heads would serve these children better by creating alternative provision (AP) units within their own schools – or, if they're in a MAT, persuading the CEO of the MAT to set up a MAT-wide AP – or by finding a suitable AP in the local area.

Admittedly, the schools in the AP sector are highly variable. A particular issue is that those run by private providers aren't inspected by Ofsted, making them hard to assess. But UTCs and studio schools are not responsible for the failure of such pupils, and shouldn't be made to suffer for it.[58]

53 'University Technical Colleges: Beyond the headlines', K. Kettlewell, D. Bernardinelli, J. Hillary, C. Sumner, *NFER*, June 2017

54 'Tech Transitions: UTCs, Studio Schools, and Technical and Cocational Education in England's Schools', Craig Thorley, *IPPR*, May 2017

55 'UTCs want 'best fit' pupils', *Schools Week*, 1st July 2017

56 'Studio schools being landed with 'inappropriate' pupils', *TES*, 15th April 2016

57 'Forgotten Children: Alternative Provision and the Scandal of Ever Increasing Exclusions', *House of Commons Education Select Committee,* 25th July 2018

58 The Education Select Committee recommended that the weighting of Progress 8 and other accountability measures should be changed to take account of every pupil who has spent time at a school in proportion to the amount of time they spend there in order to reduce schools' incentive to engage in 'off-rolling'. That might go some way to stopping UTCs and studio schools being used as 'dumping grounds', but granting them the right to turn away students who have no aptitude for their particular specialisms would be a more effective solution.

The *IPPR* report concluded that UTCs and studio schools are locked in a 'cycle of decline'. Their failure to recruit sufficient pupils in Year 10 means they have no choice but to accept low-attaining, hard-to-teach children that the neighbouring secondaries are trying to off-load. That, in turn, means they get bad Ofsted reports and poor GCSE results, which makes it even harder to recruit – not just in Year 10 but also in Year 12.

In effect, such schools have been transformed into APs in all but name, saddled with children – sometimes highly vulnerable children – who have no aptitude for or interest in their specialisms and which they lack the expertise or resources to help.

And to cap it all, because they're under-subscribed, they quickly start to accumulate debts which many of them struggle to repay. No surprise, then, that almost a third of the 14-19 schools set up since 2011 have closed.

Needless to say, all the negative media coverage of UTCs and studio schools is acutely embarrassing for the Government. The cumulative effect has created the false impression that the entire education reform programme brought in since 2010 has been a waste of precious resources.

In June of this year, *Schools Week* published a story headlined 'DfE spent more than £23m on failed studio schools', but pointed out that this figure only applied to some of the schools that had closed so far and the final tally would be higher.[59] And because UTCs and studio schools are officially designated as 'free schools', whenever one closes or is placed in special measures, critics of the free schools policy leap on the news as evidence that free schools in general are failing.

In April, the *Guardian* ran a story under the headline: 'Free schools policy under fire as another closure announced'.[60] That turned out to be a story about the closure of Plymouth Studio School. If you look up free schools on Wikipedia, the relevant page quotes a statistic produced by the National Education Union (NEU) claiming that 66 free schools have either closed, partially closed or failed to open, at an estimated cost to the taxpayer of £150m.[61] The provenance of that data is unclear – how does the NEU calculate the number of free schools that have failed to open? – but it wouldn't have been as widely repeated as it has been if 36 UTCs and studio schools hadn't failed.

Of course, from a certain perspective it is a good thing that inadequate schools are closing quickly. Indeed, the failure to act decisively to tackle failing schools was a decades-long blight on the education system. But it is still hugely disruptive for pupils and damaging to the image of the reform programme as a whole.

Another negative consequence of these schools being badged 'free schools' is that their poor GCSE results get lumped in with those of other free schools. Thus, the *Telegraph* ran a table in 2017 showing that free schools topped the league table for the worst Progress 8 scores in the country.[62] In fact, if you strip out the GCSE results of UTCs and studio schools, free schools do better by that metric than any other type of school.

59 'DfE spent more than £23 million on failed studio schools', *Schools Week*, 15th June 2018

60 'Free schools policy under fire as another closure announced', *The Guardian,* 25th April 2018

61 Free school (England), Wikipedia

62 'GCSE school league tables 2016: compare your school's performance', *The Telegraph,* 19th January 2018

3. The Case for Selection

The first part of this report established that there is an urgent need in Britain for a decent system of secondary technical and vocational education – and for a wider cultural shift to give such an approach genuine parity with an exclusively academic pathway. The second part established that, for all the efforts that have been made, the current set-up is simply not meeting this need – indeed, the existing UTC and studio school system appears close to collapse. So what to do?

Closing the age gap

For many education reformers, the fundamental problem here is the age at which children can enrol at technical/vocational schools. Admitting pupils at 14 will always sit oddly within an education system built around two fundamental transfer points – the initial choice of school at age 11 and then the decision, aged 16, of whether to do A levels or seek vocational qualifications. One suggestion for how to rescue the UTCs and studio schools is simply to change the age range of these schools, either to 11-19 or 16-19, thereby avoiding the problems that come with having to recruit pupils at 14.

Yet as mentioned above, the consensus among psychologists is that aptitude for technical/vocational education isn't detectable until a child has gone through puberty, i.e. when they're about 14, so changing the age range to 11-19 makes little sense.[63] In addition, how many 11-year-olds have made up their minds about the particular occupation they'd like to pursue, even in the most general sense? And among those that have, how seriously should we take their preferences? By the time children are 14, however, such choices are more credible.

Provided you don't assume that aptitude for technical/vocational education is inversely proportional to academic ability, you cannot determine whether an 11-year-old child is suited for this type of education simply by having them sit an intelligence test. That was the prejudice that contributed to the failure of 'technical grammar schools'.

At 14, by contrast, the aptitude of some children for this type of education is already apparent, not least because they've begun to develop an interest in particular technical/vocational subjects – in some cases, a passionate interest.

What about changing the age range of UTCs and studio schools to 16-19? That would appear to make more sense – and there are some successful 16-19 free schools that specialise in the performing arts, such as LIPA Sixth Form College in Liverpool and ELAM in London. But it probably wouldn't save the current 14-19 schools either.

The post-16 sector is a crowded market and recruitment at 16 is highly competitive. In addition, post-16 funding is less generous than it is for younger pupils, meaning

63 Not all psychologists believe a child's aptitude for technical/vocational education can be detected at 14, but most agree that it isn't detectable at the age of 11.

UTCs and studio schools would be faced with even tighter budgets if they had to dispense with 14- to 16-year-olds.

The DfE's rule-of-thumb when it comes to post-16 education is that an academy or further education college (FE college) with fewer than 1,000 students isn't financially viable. Yet all UTCs and studio schools have a lower capacity than that – most considerably lower.

Finally, if we shift the age of transfer to these schools to 16, the likelihood is that the children applying to them would be those who had fared poorly in their GCSEs, just as sixth forms and FE colleges tend to sort children into sheep and goats. In effect, it would just create another tributary into which age-old class prejudices would flow – a significant reason why attempts to improve technical and vocational education at the post-16 stage have almost always floundered.

The benefit of admitting pupils at 14, in addition to allowing them to focus on the cultivation of occupational skills they already have an aptitude for, is that it creates an opportunity to challenge the widespread assumption that technical/vocational education is just suitable for 'average and below average' children.

In the successful selective schools of the United States and South Korea, discussed below, the age at which children transfer to technical/vocational schools is 14. Selection at age 14, in other words, is what works – both at home and abroad. But only if, as stated above, students attending these selective schools are expected to do at least five academic GCSEs alongside their technical/vocational qualifications and the schools are not regarded as a soft option.

Provided they follow this rubric, Alison Wolf's argument – that it's sensible for children to delay specialising in technical/vocational subjects and focus on a 'common core' of academic GCSEs until they are 16 to keep their options open – does not apply. In fact, children who at 16 have a number of technical/vocational qualifications under their belt *along with the 'common core'* will have more options than those who've eschewed those qualifications and just focused on academic subjects. They can pursue a course of A level study, but if they decide not to they will find it easier to enrol on Level 3 technical/vocational courses, such as the new T-levels – which, incidentally, specialist 14-19 schools will be well-positioned to deliver.

If students do choose this route, and decide to remain at their specialist schools, their technical/vocational education in Key Stages 4 (14-16) and 5 (16-19) will be more all-encompassing and coherent than if they delay transferring to a specialist school until the age of 16.

Admittedly, embarking on a course of T-level study instead of doing three 'facilitating' A-levels at a mainstream school or sixth form college will make it harder to secure a place at a Russell Group University.[64] But by the same token, doing those A-levels might make it harder to get a place at one of the new Institutes of Technology, an FE college or a polytechnic-turned-university.[65] Children will have to make a choice about which path to follow at 16 – but that's a choice they have to make at present. Choosing to do some technical/vocational subjects at Key Stage 4 will not bring forward that choice *provided they also do the 'common core'.*

64 'Informed Choices: A Russell Group Guide to Making Decisions about Post-16 Education', *Russell Group*, 2017/18. The 'facilitating' subjects are Maths, Further Maths, English Literature, Physics, Biology, Chemistry, Geography, History and Languages.

65 The 'Building our Industrial Strategy' Green Paper proposed the creation of Institutes of Technology – 'high-quality, employer-led, 18+ institutions specialising in the delivery of higher-level technical skills that employers need'.

Saving technical education

How, then, can we save England's specialist technical/vocational schools? The answer, I believe, is to learn from the most successful examples at home and abroad – and allow these schools to select children according to aptitude for their specialisms.

On the face of it, this seems self-defeating. After all, if 14-19 schools start turning away those applicants who aren't suited to their specialist provision, they will end up with fewer pupils than they have at present, not more, thereby making their problems even worse.

However, while that might happen in the short term, it would lead to a swift improvement in their GCSE results and a corresponding improvement in their Ofsted ratings – which, in turn, would make it easier to recruit in future years. In short, it would break the 'cycle of decline' – and it might even lead to an immediate boost in numbers.

At the moment, potential pupils and their parents are currently put off from applying, not just because of poor results, but also because they worry that the sort of children currently being admitted – the 'struggling' students being off-loaded by neighbouring comprehensives – pose a threat to their children's safety as well as their education.

In a report published in July, Ofsted said that behavioural problems were rife at UTC@Harbourside, the most recent UTC to announce its closure. 'Bullying, especially in Key Stage 4, is frequent,' the inspectors reported. 'Some of it is racial. Adults do not act decisively enough to stop it and prevent repetition.' The report concluded that many students at UTC@Harbourside are 'miserable'.[66]

There is also the psychological consideration that turning some children away will automatically make these schools more attractive. Grammar schools are among the most oversubscribed schools in England, in part because they're perceived to be exclusive. Securing a place is often compared by parents to winning the lottery.[67]

Selection would also appear to be the solution favoured by the BDT, the organization that licenses and oversees UTCs. In July 2017, following publication of a report it commissioned from the *NFER*, it called on heads to 'assess' the suitability of children for technical/vocational education before steering them towards 14-19 schools.

Peter Wiley, the BDT's Director of Education, pleaded with school leaders and teachers at neighbouring schools to visit UTCs so they understand what's on offer and then 'keep track of pupils who perform well' in STEM subjects, or who demonstrate good spatial skills, with a view to urging them to transfer.

This was condemned by a pro-comprehensive lobby group as a form of covert 'selection' – in effect conceding that it could result in comprehensives losing highly capable children to specialist 14-19 schools.[68] Yet assuming that did happen, the evidence that it would harm children 'left behind' at mainstream schools – the main argument against increasing selection – is threadbare, particularly as there are so few UTCs and studio schools.[69]

Allowing specialist 14-19 schools to select was also a soft recommendation of a 2010 report commissioned by the Edge Foundation/BDT and written by two academic experts in the field. It looked at trends in technical and vocational education since the 1880s in the UK, Germany, the United States, Japan and Sweden with a view to designing UTCs to maximise their chances of success.

66 ''Inadequate' Ofsted report exposes bullying at doomed UTC', *Schools Week*, 4th July 2018

67 'England's most oversubscribed schools', *The Telegraph*, 4th October 2008

68 'UTCs want 'best fit' pupils', *Schools Week*, 1st July 2017

69 The author wrote about the supposedly negative effects of grammar schools for the Times Educational Supplement last year.

The report did not explicitly endorse selection, but it suggested that a good model for UTCs would be the magnet career academies of the USA, which serve 14- to 18-year-olds, many of which are selective. Indeed, it singled out the selective career academies in Monmouth and Bergen counties in New Jersey, which have excellent relationships with local biotech, engineering and design technology firms, as a particularly good blueprint. (See below for more detail on these schools.) 'The overall context from which they have sprung, and the specific role they seek to fulfil, is the closest match to UTCs found among the four comparator nations in this study,' the authors concluded.[70] Unfortunately, their advice was ignored.

The best of British

It is often overlooked in the current debate over technical/vocational education that the two most successful 14-19 specialist schools in England are both selective: the BRIT School for Performing Arts and Technology, founded in 1992, and Birmingham Ormiston Academy (BOA), which opened in 2011.

Both get above average results, have good Ofsted reports and, unlike most other technical and vocational schools, have a long queue of parents and children keen to enter.

The BRIT School, which was established in 1992, is a 14-19 technical/vocational school and, as such, a forerunner of UTCs and studio schools. Crucially, however, it is selective and widely regarded as a great success.[71] It is hugely over-subscribed, enjoys an excellent relationship with the industry it is intended to serve and boasts numerous alumni that have gone on to achieve international acclaim, including *Spider-Man* actor Tom Holland and singers Amy Winehouse, Leona Lewis, Kate Nash, Jessie J. and Adele.

In an article for the *Times* in 2016, Adrian Packer, CEO of the Core Education Trust, described how selection operates at the BRIT, where he worked for 10 years:

> "I have rarely encountered a negative appraisal of its selection process. In part, that's because the BRIT School does not select on academic ability. It uses an aptitude assessment, which ascertains if there is a match between the aptitude of the child and the provision on offer.
>
> There are winners and losers; some children gain a place and some do not. In that sense, it is no different from grammar school selection, although the first intake applies at age 14, not 11.
>
> The main difference is that children who are not selected at age 14 invariably try again at 16 and, even if unsuccessful a second time, see it more as the school not being suited to them, rather than their having failed.[72]"

One benefit of allowing the BRIT to select is that this enables it to draw its pupils from a larger geographical area than non-selective 14-19 schools, thereby avoiding taking too many pupils from its neighbours and making enemies of them. (The same is true of magnet schools in the United States, and of technical and vocational high schools in South Korea, which have much larger catchment areas that the average U.S. or South Korean high school.)

Similarly, the fact that the BRIT only admits students who have an aptitude for one of its seven specialisms – Film and Media Production, Dance, Musical Theatre, Visual Arts and Design, Interactive Digital Design, Music and Theatre – means its pupils generally thrive while they're at the school and usually go on to find employment in

70 'English Technical and Vocational Education in Historical and Comparative Perspective: Considerations for University Technical Colleges', William Richardson and Susanne Wiborg, *Baker Dearing Educational Trust*, 2010.

71 'Britain's fame school celebrates 25th anniversary', *BBC News*, 14th July 2017

72 'A fair grammar schools system must select on aptitude', Adrian Packer, *The Times*, 28th December

these fields. In 2017, for instance, 98% of its students went into higher education, training or employment.[73]

According to the school's website: 'Typical professions that our students have gone into include: acting, dancing, music, stage management, technical theatre, recording studio work, filmmaking, song writing, web design, animation, event management, visual arts, fashion design and photography.' [74]

Another benefit of selection is that the BRIT can make sure its pupils are able to cope with doing a core of five academic GCSEs, alongside technical/vocational subjects. In 2017, an above average percentage of pupils at the school got English and maths GCSE at grade 5 or above – 46% compared to an LA average of 40.6% and a national average of 39.6%. Overall, its Attainment 8 score was 48.7 points, compared to an LA average of 45.1 and a national average of 44.6.[75]

Birmingham Ormiston Academy (BOA) is a similar success story. Gaynor Cheshire, the Principal, describes how the school's staff select pupils for one of its nine specialisms (Technical Theatre Arts, Broadcast, Dance, Music, Acting, Art and Design, Games Development and New Media, Musical Theatre and Music Technology):

> "They don't look at the kids academically. They call it an aptitude test. It's very similar to a lesson. So the applicants have a workshop. For the performing arts it will feel similar to an audition. But for the digital arts students, who are interested in gaming, they make a game and they don't prejudge their IT ability. They judge them according to how well they're able to create a game in a group. The ones that come on to the technical theatre arts, they teach them about theatrical lamps. They judge the students according to how much progress they make from the beginning of the day until the end of that day. In dance, the students have often had training before. So they try and teach them something they haven't done before.[76]"

Like the BRIT, BOA has a large admissions footprint, recruiting pupils from Coventry, Dudley, Solihull, Sandwell, Walsall and Wolverhampton, as well as Birmingham, thereby ensuring it doesn't take an excessive number of students from neighbouring schools. Its destination data are good – 96% of pupils stay in education or get a job, compared to an LA average of 92% – and so are its GCSE results. Last year, 44% of its pupils got Grade 5 or above in English and Maths, with the LA averaging 40.2%, and its Attainment 8 score was a healthy 53 points, compared to an LA average of 46.1.[77] It also has a positive Progress 8 score. Thanks, in part, to these results it is over-subscribed by a factor of 2:1.

The Principal is in no doubt about what accounts for the school's success, as well as the success of the BRIT. 'The BRIT School and BOA are successful because we are able to select our students,' she says. 'But we don't select them on academic ability. We select them on their potential in the arts.' [78]

Both Gaynor Cheshire and Adrian Packer stressed that the two schools select on aptitude rather than academic ability. In conversation, the Principal of BOA emphasised the fact that it is an 'inclusive' school in spite of being selective, and the admissions data bear that out. Fifteen percent of its pupils have been eligible for free school meals at some point in the

73 'Compare School Performance', *Department for Education*, BRIT School for Performing Arts and Technology, 2018

74 This is taken from the BRIT's website.

75 'Compare School Performance', *Department for Education*, BRIT School for Performing Arts and Technology, 2018

76 Gaynor Cheshire interviewed by the author on 18th June 2018

77 'Compare School Performance', *Department for Education*, Birmingham Ormiston Academy, 2018

78 Gaynor Cheshire interviewed by the author on 18th June 2018

past six years and far higher than the average for selective schools (7%).[79] For the BRIT, the figure is 28.5%.[80]

There is little doubt that attending one of these schools can be transformative for students who already have a passion for the arts. The Principal of BOA shared an email that she had received from a pupil named Priya Sidhu:

> "I have been a pupil at BOA for the past four years. I studied Creative Digital Media Production and went onto Broadcast. I wanted to congratulate you on what a truly creative, inspiring and hard-working place our school is. The dedication from teachers and staff is on another level. … BOA students are the most hard working, dedicated and multi-tasking teenagers I know. That all comes down to the way BOA only expects the best from us and to push for the best results. … BOA truly trained me for the real world in preparing for interviews and networking as well as having the same equipment as industry. I have been offered an apprenticeship at Warner Bros, accepted into Ravensbourne University, been given a place at National Film and Television school being one of the youngest ever applicants to be accepted into this prestigious institution and also have a final stage interview for Channel 4 next week."

The method the BRIT and BOA use to select students is to give them what amounts to an audition, inviting them to spend a day in the school where they're observed performing a number of tasks in the specialism they've applied for. But there are also written tests children can take to detect whether they have any aptitude for particular technical/vocational subjects.

One such practical test is called the Sherwood Technology Aptitude Test. Similar tests are used to select adolescent children for technical/vocational schools in Europe and the United States, such as the 14-18 magnet career academies.

In addition, written aptitude tests are frequently used by British firms to assess applicants for apprenticeships in skilled occupations and it was normal for them to be taken by 14/15-year-olds until the school leaving age was raised to 16 in 1972. For instance, printing firms in Edinburgh used to employ psychologists to give 14-year-olds a battery of aptitude tests before deciding whether to offer them apprenticeships. These firms certainly didn't regard applicants' suitability to work in their trade as inversely proportional to their general cognitive ability.[81]

Setting up high-quality, selective, specialist schools on the BRIT or BOA model would not just improve the reputation of technical and vocational education. It would also appeal hugely to employers who are currently having to make good the skills gap via in-work education, or by recruiting from abroad. There is enormous potential for sponsorship or partnership arrangements with successful British firms, which would ensure that the fundamentals required for a particular industry are being taught, preparing the pupils for T-levels and work placements and ultimately graduation into the workforce.

The international examples

South Korea, which was judged by Pearson in its *Learning Curve* report to have the second-best education system in the world,[82] has a tier of successful selective technical/vocational schools.

South Korea's upper secondary education

79 'Schools, Pupils and their Characteristics', *Department for Education*, Jan 2018

80 All the performance data for the BRIT and BOA taken from the DfE's 'Compare School Performance' dashboard.

81 Professor Ian Deary interviewed by the author on 14th July 2018

82 'The Learning Curve', Economist Intelligence Unit, *Pearson*, 2012

schools, known as 'high schools' and which cover the years 15-18, are divided between general high schools, vocational high schools, science high schools and high schools with particular occupational specialisms, such as languages and the arts. The vocational schools and the specialist schools are not seen as being at the bottom of the pile, as UTCs and studio schools are, partly because they are selective.

As a result, these schools are popular with students. When the South Korean government began to prioritise schools with an emphasis on traditional academic subjects in the 1990s and early 2000s, it prompted a rebellion from students who continued to apply in large numbers to the vocational and specialist schools.

The resulting lack of places forced the government to retreat. In 2011, for instance, 30,000 applicants to vocational and specialist schools were rejected, not because they failed the entrance exam, but because there were insufficient places.[83] The government eventually concluded that it had made a mistake and set a target of increasing the number of students at vocational schools to 29% by 2022.[84] In spite of the growing number of technical/vocational schools since the policy change, demand still outstrips supply, with 37,000 disappointed applicants in 2016.[85]

At the top of the technical/vocational tree in South Korea are the Meister Schools, a highly selective group of technical/vocational high schools that were established in 2010 and where the students are referred to as young 'Meisters', the German term for master craftsman. A report for the World Economic Forum describes Meister Schools as follows:

> "The first year of Meister Schools focuses on basics (including computer literacy and a foreign language) and exposes the 574 students to a variety of industries, including new media contents, energy, machinery, mechatronics and telecommunications, among many others. In the second and third year, they choose a specialty and spend most of their time in a practice environment. Students are also taught 'soft skills' such as global manners and workplace etiquette. They subsequently participate in internships and fieldwork, which can lead to a job offer as early as the end of their first year.[86]"

To gain a place, students either have to pass an entrance exam or get good enough grades to transfer from another vocational or specialist school. The Meister schools only account for two per cent of all South Korean schools, but 93% of their graduates end up in employment, well ahead of other schools (and most of the remaining seven per cent go on to further study).[87]

A key factor, according to the OECD, is that these schools 'can adapt their curriculum to industry needs', which means they are seen as preparing their students to work in particular occupations.[88]

Of course, not every pupil can be a Meister. But examples from the United States confirm that selective technical and vocational education can also deliver excellent results.

'Magnet schools' are specialist 14-18 schools that admit students from beyond the normal school catchment zones as designated by the district authorities. Of these, a minority are technical or technical/vocational in nature. While some of these schools admit pupils via lottery, others

83 'Enrollment in vocational schools surges', *Korea Joongang Daily*, 23rd January 2017

84 South Korea: Career and Technical Education, *National Center on Education and the Economy*, 2015

85 'Enrollment in vocational schools surges', *Korea Joongang Daily*, 23rd January 2017

86 'The Competitive Repository: South Korea – Meister Schools', *Word Economic Forum*, 2014

87 'Vocational schools gain ground in tight job market', *Korea Herald*, 20th February 2013

88 'OECD skills strategy diagnostic report: Korea', *OECD*, 2015

are selective – and among the most successful of these are the 14-18 technical/vocational schools in Monmouth and Bergen counties in New Jersey.

These schools, which work closely with leading local employers, are some of the best in the state and many of their students go on to obtain places at top universities, such as Princeton, Yale and MIT.[89] According to *US News & World Report's* 2016 rankings of America's best high schools, seven of the top 10 high schools in New Jersey are vocational/technical schools.[90] That's impressive given that only around 10% of New Jersey's public schools are vocational/technical schools.

The development of Bergen County's vocational/technical school system dates back to the late 1980s, when a forward-looking superintendent named John Grieco decided to bring high-tech 'enrichment' classes to students wanting to pursue their interest in subjects like electronics and computing. This began with classes before and after the school day, but gradually the schools offering these classes became the successful specialist academies they are today.

The Bergen schools focus on a wide range of vocational/technical subjects, but the key to their success is that none are seen as a second preference by students or by teachers as an alternative pathway for children who struggle with academic subjects. Consequently, they are massively over-subscribed. For instance, Bergen County Academies (BCA), a technical/vocational school that admits students from the whole of Bergen County, has approximately 1,450 applicants for its 275 places each year.[91]

Another country that is often held up by evangelists of technical/vocational education is Germany and its tripartite system, which divides children into three different types of schools. This used to work well. In 1979, in West Germany, 18% of children at secondary schools attended Gymnasia, the equivalent of grammar schools; 24% went to *Realschulen*, intended for children of intermediate ability; and 49% were enrolled at *Hauptschulen*, the equivalent of secondary moderns.[92]

One reason that comparatively little stigma was attached to attending *Hauptschulen* is that more than 70% of 16-18 year-olds ended up securing good apprenticeships back then, with a clear pathway to a good career. However, as those opportunities have declined, so too has the popularity of these schools.

By 2005, the number attending *Hauptschulen* had fallen to 21%[93] and they were increasingly seen as 'leftover' schools by children and parents. Indeed, in the last few years, *Hauptschulen* and *Realschulen* have merged into a single school type in more than half German Landers. *Gymnasia*, by contrast, have become more and more popular and correspondingly more comprehensive in their intakes (although Germany also has comprehensive schools in the form of *Gesamtschulen*). The lesson from Germany is that sorting children by academic ability, rather than aptitude, ultimately leads to technical/vocational schools being regarded as second-class institutions. In those countries that operate the most successful specialist schools, aptitude for technical/vocational subjects and academic ability are regarded as unrelated variables.

89 'English Technical and Vocational Education in Historical and Comparative Perspective: Considerations for University Technical Colleges', William Richardson and Susanne Wiborg, *Baker Dearing Educational Trust*, 2010

90 'NJ County Vocational-Technical Schools Top Annual List of Best High Schools', *CareerTechNJ*, 19th April 2016

91 'Exam Schools: Inside America's Most Selective Public High Schools', Chester E. Finn, Jr. & Jessica A. Hockett, Princeton University Press, 2012

92 'English Technical and Vocational Education in Historical and Comparative Perspective: Considerations for University Technical Colleges', William Richardson and Susanne Wiborg, *Baker Dearing Educational Trust*, 2010

93 'English Technical and Vocational Education in Historical and Comparative Perspective: Considerations for University Technical Colleges', William Richardson and Susanne Wiborg, *Baker Dearing Educational Trust*, 2010

4. How to Make Selection a Reality

Both South Korea's Meister Schools and the selective career academies of New Jersey would be good models for UTCs and studio schools to follow. But is it possible for specialist 14-19 schools to select in England?

It is widely assumed that a series of laws passed since 1998, as well as the School Admissions Code and other regulations, prohibit the creation of any additional selective schools that admit children younger than 16. The only way to overcome this, we are told, is to pass an Act of Parliament.

However, this is not correct.

UTCs and studio schools, as mentioned, are academies. That is, they have been set up – and are maintained – under the provisions of the 2010 Academies Act. As such, they are legally obliged to provide the following:

- Education for pupils of different abilities
- Education for pupils wholly or mainly drawn from the area in which the academy is situated
- A broad and balanced curriculum

These requirements must be included in the funding agreements between the charitable trusts that oversee academies and the Secretary of State for Education. But there are no other statutory requirements that have to be in these agreements.

As a matter of policy, the funding agreements also include a provision stipulating that the admissions arrangements must comply with the School Admissions Code, as well as all relevant admissions law as it applies to maintained schools, and with equalities law. But, to repeat, that is a policy decision, not a legal requirement. There is no statutory duty imposed on the Secretary of State to insist that academies comply with the Code or admissions law relating to maintained schools.

The first bullet point above, requiring academies to educate children of different abilities, prevents UTCs and studio schools selecting by *ability*. But it doesn't stop them selecting by *aptitude*. And while it is true that selection by aptitude is prohibited by the 1998 School Standards and Framework Act – unless such arrangements were already in place before 1997/8 (which exempts the three remaining CTCs, including the BRIT School), or only apply to 10% or less of a school's intake – academies are only bound by that rule *as a matter of policy*, not by statute.

There are at least two ways in which the Secretary of State could absolve specialist technical/vocational schools from having to comply with the ban on selecting by aptitude.

First, he could simply adopt a different policy, whereby UTCs and studio schools (and the five 14-19 technical/vocational free schools) are no longer required to comply with admissions law and change their funding agreements accordingly. While this might be subject to legal challenge – by the parents of a child who was refused a place at a particular UTC, for instance – such a challenge would be unlikely to succeed if the school's exemption from admissions law arose from a clear policy

decision. Moreover, there is a precedent for a state-funded school to sit outside the general admissions framework – namely CTCs, which is how the BRIT can select according to aptitude.

Second, the Secretary of State could take advantage of a proviso within the existing policy, whereby he or she can exempt particular schools from complying with the Admissions Code and admissions law in some respects 'where there is a demonstrable need.' [94]

If the Secretary of State decided on this route, he would need to provide a rationale as to why he was allowing 14-19 technical/vocational schools to select on aptitude. The fate of a legal challenge would hinge, in part, on how convincing that rationale was.

However, it is not difficult to imagine what form this might take. The Secretary of State could argue that considerable public money has been spent on setting up UTCs and studio schools in order to provide local children with specialist technical/vocational education. If the schools are legally obliged to admit all-comers, it is inevitable that they will end up with a disproportionate number of disruptive and uninterested pupils, as has proved to be the case.

This prevents them from fulfilling their function, and meeting the needs either of the pupils dumped on them or those who have a genuine appetite for technical/vocational education. The only way to ensure local children benefit in the way intended, and their needs are met, is therefore to allow the schools to select by aptitude.

As with the first option, there are precedents for academies to be granted exemptions from particular aspects of admissions law. These take the form of 'derogations' – additional clauses in their funding agreement setting out the ways in which particular aspects of the Admissions Code and admissions law don't apply to them.

In every case, the rationale has been that these exemptions are necessary to 'benefit local children'.[95] Most of these 'derogations' have been for free schools to enable them to give priority in their admissions arrangements to the children of the founders. But in one case – namely, BOA – the 'derogation' grants the school permission to select its pupils by aptitude. To date, this has never been legally challenged.

If we are to rescue technical education, this model should be taken up to create a new group of technical and vocational selective schools – ideally on a cross-party basis. To reverse the bias against technical and vocational education, we need to start genuinely treating it as on a par with an exclusively academic education – not just in speeches but in decisions on the ground. In the process, we must ram the point home that aptitude for this type of education doesn't vary according to how intelligent a child is; on the contrary, the two are completely independent of each other. We must break the Gordian knot tying technical/vocational education to a lack of academic ability.

94 These words are taken from paragraph 4 in the current iteration of the School Admissions Code – 'Application of the Code to Academies' – which states: 'Academies are required by their funding agreements to comply with the Code and the law relating to admissions, although the Secretary of State has the power to vary this requirement where there is a demonstrable need.'

95 That was the rationale provided in 2014 by Edward Timpson, then the Under Secretary of State for Children and Families, to justify including 'derogations' in the funding agreements of 54 free schools and three academies.

Conclusion

The history of technical/vocational education in Britain is one of trial and error – and sadly more error than anything else. University Technical Colleges and studio schools are currently following that dismal precedent – but it would be a scandal if they were scrapped rather than saved, based on the lessons we have learnt at home and abroad.

Given the current skills shortage, and the likelihood that it will become more acute after we leave the European Union, there is an urgent need for high-quality technical/vocational education for 14- to 19-year-olds. Of course, that need cannot be met entirely by the 82 remaining UTCs and studio schools; allowing them to select by aptitude must be part of a wider strategy. But one benefit of granting them this latitude is that other 14-19 schools with similar admissions arrangements could be set up.

At the moment, the Baking Dearing Educational Trust has some difficulty persuading reputable firms to sponsor new UTCs. But they might be less reluctant if the new schools were allowed to select, particularly if the firms concerned were invited to help draft the aptitude tests.

The BRIT has been such a success, and is so over-subscribed, that it is disappointing the model has only been replicated once, in the form of BOA. The reason for that is obvious: it's extremely hard to replicate the BRIT's admissions arrangements.

If that became easier, we could have a BRIT School, or a BOA, in every city in England. The opportunities currently enjoyed by young women like Priya Sidhu, who is about to start her course at the National Film School and then take up an apprenticeship at Warner Bros, could be extended to tens of thousands of young people across Britain.

Abroad, nearly every country that has rolled out successful technical/vocational schools has allowed those schools to select. And the most successful – such as New Jersey's magnet career academies and South Korea's Meister Schools – are the most selective.

Not every child has an aptitude for a particular occupation and some will struggle to cope with the 'common core' of GCSEs wherever they find themselves. But the way to improve the life chances of those children is to create more high-quality 'Alternative Provision' places, not to dump them in UTCs and studio schools, where they inevitably end up as round pegs in square holes.

At a time when the Government is focusing heavily on T-levels and apprenticeships, it is right to consider why previous attempts to boost the status of this type of education have largely failed. If the Government is serious about creating a revolution in technical and vocational education, it needs to allow the 14-19 specialist schools to select for aptitude so these institutions can become beacons of excellence, sending a message that this type of education is not for children who struggle in mainstream schools, but a valuable pathway for those with a real flair for it.

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