IPPR

FINAL REPORT

TECH TRANSITIONS

UTCs, studio schools, and technical and vocational education in England's schools

Craig Thorley

May 2017

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This paper was first published in May 2017. © 2017
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ACKNOWLEDGMENTS

The author would like to thank Jonathan Clifton, who designed and led the first phase of this study when associate director for public services at IPPR.

The author would also like to thank Dr Will Cook (associate fellow at IPPR) for providing high-quality statistical analysis – as well as consistent help and guidance – throughout the study.

The author would also like to thank Alice Yeo and Jenny Graham – partners at ResearchAbility – for leading the qualitative element of the study.

Lastly, the author would like to thank all members of IPPR's Transitions at 14 advisory group for providing guidance and comment throughout.

This study has been generously supported by the Nuffield Foundation

The Nuffield Foundation is an endowed charitable trust which aims to improve social wellbeing in the widest sense. It funds research and innovation in education and social policy and also works to build capacity in education, science and social science research. The Nuffield Foundation has funded this project, but the views expressed are those of the authors and not necessarily those of the Foundation. More information is available at www.nuffieldfoundation.org.

This report follows Transitions at 14: Analysing the intake of 14-19 institutions – published in 2016 and detailing the study's interim findings. This report can be viewed via the IPPR website: http://www.ippr.org/publications/transitions-at-14.

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Thorley, Craig (2017) *Tech transitions: UTCs, studio schools, and technical and vocational education in England's schools*, IPPR. http://www.ippr.org/publications/tech-transitions

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SUMMARY

60 SECOND SUMMARY

Since 2010, there has been a steady growth in the number of 14–19 education institutions in England – the two most common models of which are university technical colleges (UTCs) and studio schools.

Their recruitment of pupils at age 14 sets them apart from the rest of the schools system, where 11 and 16 are the established transition ages. They also seek to challenge how, and the extent to which, technical and vocational qualifications are delivered within upper-secondary education.

However, UTCs and studio schools are failing to meet their own stated aims. They are failing to recruit sufficient numbers of pupils, attract pupils with a broad mix of backgrounds and abilities, deliver a broad and balanced curriculum offer, and enhance pupils' progress and performance.

Eight UTCs and 14 studio schools have closed, announced that they are to close, or have been forced to convert to a different model. And many more look to be several steps along the same path. Structural barriers to the recruitment of 14-year-olds makes them highly vulnerable to falling into a 'cycle of decline'.

The 14–19 model is holding UTCs back from fulfilling their potential. Government should, therefore, repurpose the UTCs programme to deliver high-quality, specialist technical provision to students aged 16–19. This will help the further education (FE) sector meet demand following the introduction of T levels from 2019, and mean UTCs can form an important part of the emerging industrial strategy.

Studio schools are particularly vulnerable to a 'cycle of decline'. As such, no new schools should be opened, and existing studio schools should be made to join multi-academy trusts (MATs) in order to ease recruitment and resourcing problems.

KEY FINDINGS

University technical colleges

- **There are a significant number of UTCs which look to be following a trajectory towards closure.** In 2015/16, 13 UTCs (which currently remain open) filled less than 50 per cent of planned year 10 places.
- **UTCs are, on the whole, succeeding in attracting a comprehensive year 10 intake.** In terms of deprivation, disadvantage, and prior attainment (at ages 7 and 11) pupils broadly match the national average.
- **However, UTCs' league table performance is significantly below average.** In 2015/16, just 10 per cent of UTC pupils were entered for the EBacc, and 3 per cent achieved it (compared to a national average of 37 and 23 per cent respectively); two-thirds of UTCs rank in the bottom 10 per cent of schools nationally for Progress 8.

- **UTCs are, on the whole, failing to deliver a high-quality education to pupils, despite attracting a relatively comprehensive intake.** In 2015/16, an average of 35 per cent of pupils in UTCs achieved 5 A*–C grades at GCSE (including English and maths), compared to a national average of 54 per cent.
- **UTCs are vulnerable to fall into a cycle of decline** due to structural barriers to recruitment which are extremely difficult to overcome.
- **Government policy is increasingly designed to cement transition at age 16,** when students are to choose between following an academic and technical option for continued learning.

Studio schools

- **There are a significant number of studio schools which look to be following a trajectory towards closure.** In 2015/16, seven studio schools (which currently remain open) filled less than 50 per cent of planned year 10 places.
- **Studio schools are leading to the 'tracking' of disadvantaged and low-attaining pupils.** Compared to the national average, pupils joining studio schools in year 10 have lower attainment at key stage 2, make less progress between ages 7 and 11, and are more likely to be eligible for free school meals (20 per cent compared to 15 per cent of pupils).
- **Pupils in studio schools are significantly more likely to have special educational needs** (21.4 per cent compared to 12.7 per cent across all state-funded secondary schools).
- **The studio school model is not a sufficiently large driver for recruitment.** Recruitment appears to be primarily driven by pupils' dissatisfaction with life at their previous school, rather than an active commitment to vocational and technical learning.
- **Studio schools experience poor league table performance.** In 2015/16, just 6 per cent of studio school pupils were entered for the EBacc, and 3 per cent achieved it (compared to a national average of 37 and 23 per cent respectively). Two-thirds of studio schools rank in the bottom 10 per cent of schools nationally for Progress 8.
- **Studio schools are, on the whole, failing to deliver a high-quality education to pupils, and are failing to improve progress and attainment.** In 2015/16, an average of 26 per cent of pupils in studio schools achieved five A*–C grades at GCSE (including English and maths), compared to a national average of 54 per cent.
- **Studio schools are *highly* vulnerable to fall into a cycle of decline** due to structural barriers to recruitment which are extremely difficult to overcome.

KEY RECOMMENDATIONS

No schools should be opened in the knowledge that they face the significant barriers to success experienced by 14–19 institutions.

There is insufficient evidence to demonstrate that transition into a UTC is advantageous to pupils with an interest in pursuing qualifications in technical subjects, or that studio schools enhance the attainment and progress of pupils of different abilities by delivering high-quality vocational provision.

However, it is vital that there is a system of high-quality technical education in order to ensure young people develop the skills necessary to match the needs of the labour market. It is not yet clear that the FE sector has the capacity to deliver high-quality technical provision to sufficient numbers of students, in line with the government's ambition for developing technical skills as part of its new industrial strategy.

- **UTCs should become high-quality providers of technical education for students aged 16–19. All new UTCs should open according to this revised remit. Existing UTCs should also largely convert to become 16–19 providers, with the exception of those with a record of high performance.**
  - UTCs should be made to align with STEM-focussed technical routes to be introduced as part of the government's Post-16 Skills Plan, and focus on the delivery of level 2 and 3 qualifications (including T levels) associated with up to two of these routes.
  - They should retain their strong links with industry and university partners, and provide a high-quality pathway into university, work or an institute of technology.
  - Only UTCs with a positive Ofsted rating and good pupil outcomes should be permitted to remain open as 14–19 free schools.
- **There should be a block on the creation of new studio schools after 2017/18. In order to remain open, existing studio schools should be required to join a local multi-academy trust (MAT) in order to safeguard their future viability.**
  - MAT-level reporting should be more widely introduced in order to minimise incentives for the 'streaming' of pupils into studio schools within MATs.
  - The performance of pupils who transfer to a studio school should be reflected in the key stage 4 performance metrics of the school from which they have transferred.
  - Studio schools unable to identify a local MAT with which to partner should be required to convert to an 11–16 mainstream secondary school, or merge with an existing FE provider to deliver post-16 provision only.

1. INTRODUCTION

In England, there has been a growth in recent years in the number of institutions that cater for 14–19-year-olds. The most common of these are university technical colleges (UTCs) and studio schools. There are also a relatively small number of free schools, career colleges and further education (FE) colleges which are able to recruit students at age 14.

The emergence of 14–19 institutions has occurred within a context of narrowing opportunities for pupils to study technical and vocational qualifications before the age of 16. The available qualifications are largely delivered alongside a predominantly academic curriculum within mainstream secondary schools. UTCs and studio schools therefore aim to provide a new institutional setting in which to deliver high-quality technical and vocational education to a comprehensive intake of pupils.

Pupils in UTCs and studio schools have greater access to technical and vocational qualifications, as well as alternative learning models, such as problem-based learning. These institutions' most innovative feature is, however, the fact that they recruit pupils at age 14. This represents a significant shift from the long-established system of transition at ages 11 and 16 within the English schools system.

UTCs and studio schools have received considerable political backing over recent years, most recently in the Department for Education's white paper, *Educational Excellence Everywhere* (DfE 2016). They have been promoted by the government as an important vehicle for providing more pupils with the technical skills needed to prepare them for entry into higher education and the labour market.

However, supportive voices are increasingly being challenged by those who argue that 14–19 institutions are, on the whole, not working for pupils. These concerns have intensified as a result of a growing number of closures. In the five years since the first of these schools opened its doors, eight UTCs and 14 studio schools have now closed, announced that they are to close, or have been forced to convert to a new model in order to avoid closure.[1]

This research study, funded by the Nuffield Foundation, aims to explore developments in the 14–19 education landscape, and the consequences for the wider education system. It assesses the performance of UTCs and studio schools by focussing on four dimensions:

- **Recruitment:** Are they recruiting enough pupils in year 10? If not, why not?

1 Excluding Durham Studio School, which opened in 2011 and closed in 2015. As this school did not admit pre-16 pupils, it has not been referenced here, or anywhere else in this study (see appendix). UTC Royal Borough Greenwich has converted to become an 11-18 free school. Tottenham UTC will, from September 2017, convert to become a sixth form academy

- **Comprehensiveness:** Are they attracting pupils from different backgrounds and with different abilities, or are they disproportionately attracting – and 'tracking' – disadvantaged pupils?
- **Curriculum offers:** Do they deliver high-quality curriculum offers which strike an appropriate balance between academic learning and technical and vocational education?
- **Performance and progress:** Do they enhance pupils' academic performance and progress?

Proponents of 14–19 education institutions argue that recent closures are the result of structural challenges and avoidable mistakes, which will be addressed as these programmes mature. Critics, however, argue that they are the result of more systemic barriers which cannot plausibly be addressed within the current system.

Based on an assessment of their current performance, this report considers the extent to which there should be continued growth in the number of 14–19 institutions. It is without question that the UTC and studio school models have had a difficult first few years. But how seriously should this make us question their future viability? What should be the future for UTCs and studio schools? And what does this mean for technical and vocational education in England's schools?

About this research

The evidence described in this report was collected in the following ways:

Quantitative analysis of data from the National Pupil Database

This report presents quantitative analysis of data from the National Pupil Database (NPD) (DfE 2015b), taken from 64 14–19 institutions (29 studio schools, 29 UTCs, and six 14–19 free schools). This data was first reported in the interim report published as part of this study, *Transitions at 14: Analysing the intake of 14–19 institutions.*

We looked at the data for pupils recruited at age 14 into these 64 institutions in September 2013 (wave 1) and September 2014 (wave 2). Table 1.1 shows the number of schools and individual pupils incorporated into the study across the two waves. Pupils studying at FE colleges that recruit at age 14 were not included, as data on these pupils is not recorded in the NPD.

Unless otherwise stated, the modelling results and the reported differences between 14–19 institutions and all other schools are statistically significant at the 95 per cent confidence level and, where appropriate, standard errors were clustered at the school level.

Data collected via freedom of information request to the Department for Education

For each UTC and studio school open in England as of September 2015, data was provided on the number of pupils enrolled in year 10 for the 2015/16 academic year, the planned capacity for the same year 10 cohort in the same academic year, and the number of pupils

and planned capacity for each UTC and studio school in England for each of the previous academic years in which they were open.

Qualitative findings from stakeholder analysis

Between April and August 2016, IPPR researchers collected primary data from four case study sites. Each case study consisted of one 14–19 institution (two UTCs; two studio schools) and two local mainstream secondary schools. For each 14–19 institution and mainstream secondary school which participated, face-to-face interviews, telephone interviews, and focus groups were conducted with the headteacher, curriculum lead, year 10 pupils, and parents.

Interviews with additional stakeholders were also conducted, including local authority representatives, vice-chancellors from university partners, and the headteachers of soon-to-open and recently closed 14–19 institutions.

Key themes were drawn out from this data using a framework analysis approach.

Extensive review of existing literature and published data

An in-depth literature review was conducted to draw out the key debates relating to the four dimensions of the performance of UTCs and studio schools outlined above. This incorporated academic publications, government reports, thinktank and other research studies, and media reports. The review also included an assessment of official government statistical releases, such as the January 2017 release by the Department for Education on school-level performance measures (EBacc achievement, EBacc entry, Progress 8, Attainment 8).

TABLE 1.1

Number of pupils included in our quantitative analysis, wave 1 (September 2013) and wave 2 (September 2014)

Base	Number
14–19 institutions	3,206
of which:	
Free schools	*193*
Studio schools	*1,019*
UTCs	*1,994*
All other schools	*532,902*
Total: all pupils	**536,108**

Source: DfE 2015b

2. WHY ARE 14–19 EDUCATION INSTITUTIONS AN IMPORTANT PART OF THE CURRENT EDUCATION LANDSCAPE?

In England, more young people are now able to change education institution at age 14. This follows a growth in recent years in the number of institutions that cater for 14–19-year-olds, such as UTCs, studio schools and 14–19 free schools. Also, since 2013, some FE colleges have been able to recruit students at age 14.

This chapter starts by exploring the key characteristics of each 14–19 institution model in turn. It then considers the two most common models – UTCs and studio schools – in more detail. It explores the policy context into which they have emerged, and the educational rationale which they draw upon, as well as their aims and the reasons why they warrant investigation.

Table 2.1 sets out the key features of the three models of 14–19 institutions currently operating in England (UTCs, studio schools and 14–19 free schools) as well as FE colleges which are able to recruit from age 14. It shows how each has a number of distinct features. However, UTCs and studio schools – the two most common of the models – share a number of characteristics.

- Age 14 is embedded as the point of transition.
- They follow the 'free schools' model. They therefore sit outside of the control of local authorities, and do not require their approval in order to open.
- They have more well-established links with employers than is usually the case with mainstream secondary schools. Employers play a role in providing pupils with work experience, and assist in the design and delivery of the curriculum.

There are two main reasons why UTCs and studio schools are of particular significance within current policy debates.

First, UTCs and studio schools have received significant political backing.

While 14–19 institutions have received strong political backing in recent years, the extent of this support varies according to the specific model. UTCs have received the strongest commitment from government, which in 2016 pledged to continue to expand their number (DfE 2016).

TABLE 2.1

Key features of 14–19 institutions (UTCs, studio schools, 14–19 free schools, FE colleges able to recruit from age 14)

Model	First opened	Number (Sep 2016)	Description and aims	Partnerships	Curriculum	Local authority Role	Intended intake	Oversight
University technical college (UTC)	2011	48	Aim to deliver an integrated technical, practical and academic approach to learning, with a view to addressing skills gaps in key technical occupations such as engineering and computer science.	Work with local employers ('industry partners') and university partners	'Blended' academic and technical / vocational education	Free schools (outside LA control)	Comprehensive (mixed ability)	Baker Dearing Educational Trust
Studio School	2010	35[1]	Aim to equip pupils with the knowledge, skills and experiences they need to succeed in life and work, by delivering teaching through enterprise projects and work-based learning, including by incorporating paid work experience into the curriculum.	Work with local employers; sponsored by a local college	'Blended' academic and technical / vocational education	Free schools (outside LA control)	Comprehensive (mixed ability)	Studio Schools Trust
14–19 Free School	2011	5	No central set of aims outside those of general education. Most free schools are 11–16/18. A minority are 14–19, and a small number of these aim to specialise in subjects such as science and technology.	Not central to model (although can be established by charities, businesses and faith groups)	(Mostly) general academic	Free schools (outside LA control)	Comprehensive (mixed ability)	n/a
Further Education (FE) College (able to recruit from age 14)	2013	18[2]	Aim to allow younger students access to certain courses and qualifications not widely available in the schools sector. Required to have a designated area for the sole use of 14–16-year-olds, and an identified, qualified leader accountable for leading the education and pastoral support of 14–16 provision and students (EFA 2016).	Employers	(Mostly) general academic, but with added opportunities for vocational and technical learning.	Outside LA control	Comprehensive (mixed ability)	Association of Colleges

1 Excluding the three studio schools which follow a 'school within a school' model, and so are not recognised as separate institutions.
2 Belgutay 2016a.

> *'We are committed to ensuring there is a UTC within reach of every city so that increasing numbers of young people can benefit from this type of technical education.'*
> Department for Education, Educational Excellence Everywhere (DfE 2016)

The UTCs programme has, however, faced growing criticism. The most high-profile intervention has come from former education secretary Michael Gove, who himself oversaw the introduction of both the UTC and studio school programme. In February 2017 he argued that the programme had failed, and that government should 'go back to the drawing board' in attempting to embed a strong system of technical education within England's schools (Gove 2017). The 2017 general election manifestos of each of the three main parties failed to specifically commit to expanding the UTCs programme. This may reflect a softening of political support in the face of growing criticism.

Second, UTCs and studio schools are growing in number.

Although initially introduced as small-scale pilots, the number of 14–19 institutions open in England is growing and, as such, they are becoming an increasingly important part of the wider schools sector. Figure 2.1 shows how, since 2010, the number of 14–19 institutions in England has grown considerably. Although 16 14–19 institutions (11 studio schools, four UTCs and one 14–19 free school) closed between September 2010 and 2016, this was outweighed by the rate at which new schools opened – meaning, as of September 2016, there were 88 14–19 institutions open in England (excluding FE colleges).[2] What is more, their growth has been spread relatively evenly geographically, with little concentration among particular regions or local authority districts (Cook et al 2016).

This growth is, however, most significant among UTCs and studio schools.

The number of UTCs has increased each year since the first opened in 2011, reaching 48 by September 2016. Between 2010 and 2015, the number of studio schools grew to 37, before falling back to 35 in 2016. Conversely, there were just five 14–19 free schools open in September 2016, with none having opened since 2014. And the number of FE colleges approved to recruit pupils from age 14 peaked at 20 in 2015, before falling back to 18 in 2016 (Belgutay 2016a).

More UTCs and studio schools are due to open in the coming years: seven UTCs and three studio schools have been approved to open in either September 2017 or 2018.

POLICY CONTEXT

14–19 institution models are disruptive innovations which seek to challenge how, and the extent to which, vocational and technical qualifications are delivered within upper-secondary education.

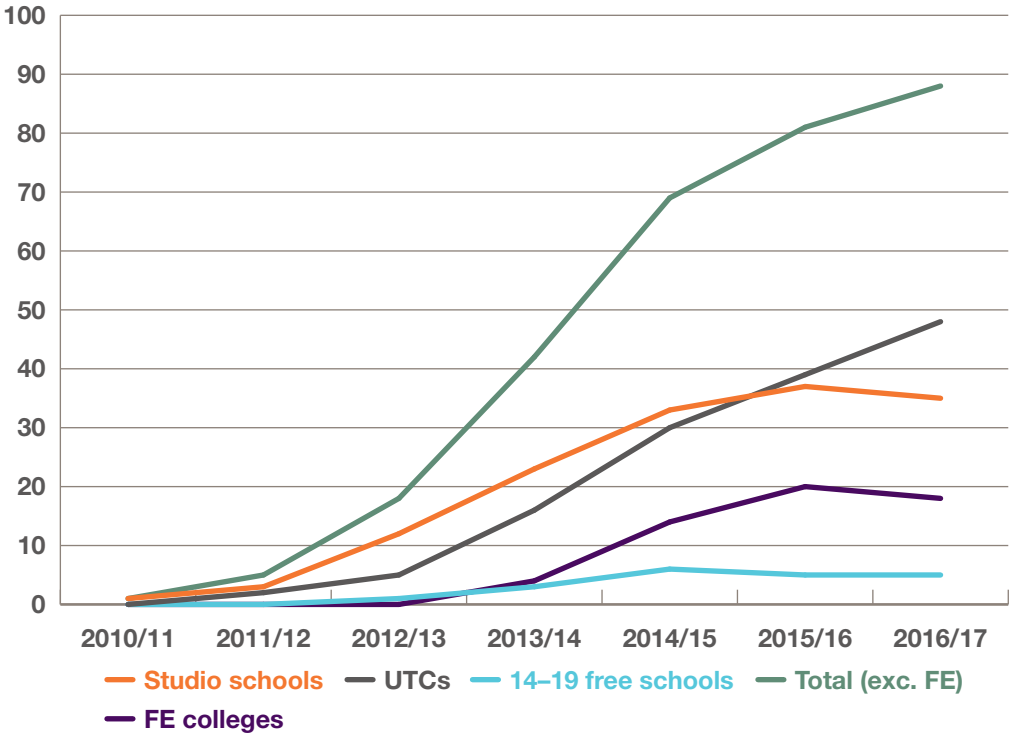
First, 14–19 institutions seek to challenge the assumption that vocational and technical education should be delivered via academically focussed secondary schools, rather than separate, specialist institutions.

2 One studio school – Durham Studio School – did not admit pre-16 pupils. This school opened in 2011 and closed in 2015. As it cannot be classified as a 14–19 institution, it has not been referenced here, or anywhere else in this study (see appendix).

FIGURE 2.1

The number of 14–19 institutions in England has grown considerably since 2010

Number of UTCs, studio schools, 14–19 free schools and FE colleges (that recruit pupils from age 14) open at the beginning of each academic year (2010/11–2016/17)



Source: IPPR analysis of: data provided by Department for Education following freedom of information request; data taken from Department for Education's EduBase; data taken from Belgutay 2016a and Evans 2015

Previous attempts to introduce institutions with a distinct vocational and technical flavour into the English schools system have largely ended in failure. The intended introduction of technical schools, following the Education Act (1944), failed ever to really get off the ground, and a fairly small number were created. This was due, in part, to funding constraints in the post-war period. However, it was also an effect of the moves towards comprehensive secondary schools from the 1950s, which diminished the plausibility of selection at age 11 (either academic or vocational) (Richardson and Wiborg 2010).

The demise of technical schools saw the entire concept of technically focussed institutions lose significant ground. Prior to the introduction of UTCs and studio schools after 2010, there were only a small number of further experiments of this kind. The most significant of these was the introduction of City Technology Colleges (CTCs) following the Education Reform Act (1988). CTCs were specially designed institutions – part-funded by business – which aimed to deliver high-quality vocational education. However, only 15 such schools ever opened before the programme was eventually abandoned.

The failure of specialist institutions saw efforts to ensure the provision of adequate vocational and technical content in upper-secondary education shift to the types of qualifications and programmes of learning on offer. However, 14–19 institutions have reanimated the debate as to whether institution type, as well as qualifications, is an important factor in designing a strong system of vocational and technical education.

Second, 14–19 institutions seek to challenge the perception that vocational and technical education constitutes a 'lesser offer' compared to a traditional academic education.

A lack of prestige has long been associated with vocational and technical education. For example, technical schools suffered from a perception among parents that they would not provide an equivalent quality of education to grammar schools (Baker 2013). Over time, this has come to be associated with a sense that vocational and technical education leads to the covert 'tracking' of pupils. Tracking implies the separation of low-attaining or disadvantaged pupils from their peers, delivering an education which acts to restrict opportunities. A significant aversion to any form of tracking exists within the English education system. It is considered to be anti-aspirational and is seen as limiting life chances by cementing disadvantage.

These concerns were articulated by Alison Wolf in her 2011 review for government on vocational education. Wolf reflected on the effects of the growth in the number of non-GCSE vocational qualifications since the 1990s, and the extent to which schools had been incentivised to direct more pupils towards these qualifications as a result of them being assigned 'GCSE equivalency' (by 2010, almost two-thirds of key stage 4 pupils took some combination of GCSEs and non-GCSE vocational qualifications (Cook 2013)). Wolf concluded that a significant number of non-GCSE vocational qualifications were poor quality, did not open doors to further education or employment, and were poorly understood by both children and parents (Wolf 2011). These qualifications were therefore deemed not to meet the needs of all pupils who might otherwise stand to benefit from them. Wolf identified three main factors that had embedded the perception of vocational and technical education as a 'lesser offer' compared to qualifications in academic subjects.

1. A growth in the number of poor-quality level 1 and 2 vocational qualifications that were disconnected from the needs of the labour market.
2. A disconnect between vocational qualifications at levels 2 and 3, resulting in the absence of solid progression routes into future study.
3. Vocational qualifications were more readily available for pupils from disadvantaged socioeconomic backgrounds (rather than being equally accessible, and attractive, to pupils of all backgrounds and abilities).

EDUCATIONAL RATIONALE

In introducing a new point of transition at age 14, whereby pupils are permitted greater access to technical and vocational qualifications alongside continued academic study, 14–19 institutions draw on two main educational arguments.

First, 14–19 institutions seek to strengthen pathways into higher education and high-quality work, by promoting the value of vocational and technical 'routes' starting from age 14 as well as 16.

The government reforms introduced following the Wolf Report resulted in a significant contraction in the availability of vocational and technical qualifications at key stage 4. Along with the introduction of the EBacc (see chapter 5), these reforms have resulted in access to vocational and technical qualifications being increasingly postponed to the post-16 phase. And this trend has been further cemented by the government's introduction of new 'T level' qualifications as part of the Post-16 Skills Plan (BIS and DFE 2016).

The Skills Plan sets out how the government is to establish a system by which every young person is, at the age of 16, required to decide whether to pursue an academic or technical option. For those who choose the latter, there will be a choice of 15 technical education 'routes'[3], which are either employment-based (apprenticeships) or college-based (two-year, full-time study programmes which include work placements).

Each route will be aligned with a group of skilled occupations for which there is a 'substantial requirement for technical knowledge and practical skills' (BIS-DFE 2016), and will comprise a number of T levels (new level 3 qualifications intended to be the technical equivalent to A levels). T levels across the 15 technical routes are intended to be in place from September 2022, with a number of 'pathfinder' routes available from September 2019. The government has pledged to invest an additional £500 million per year for the delivery of this new system following its introduction (Exley 2017).

However, proponents of UTCs and studio schools argue that young people should have the option to follow a vocational and technical progression pathway from age 14, as well as 16. They emphasise the importance of a coherent programme of vocational and technical learning over the entire upper-secondary phase, with level 2 qualifications completed during key stage 4, followed by students moving on to study at level 3 from age 16.

By preventing a delay in the age at which students progress from level 2 to level 3, it is argued that 14–19 institution models can better, and more quickly, prepare students for the world of work. For example, one senior leader at a UTC described to us their vision as being to create a 'pipeline of talent that will help the sectors [of] the future'. This is particularly important given the extent of both *current* and *future* skills gaps in the labour market. 43 per cent of vacancies in skilled trades were caused by skills shortages in 2015 – the highest of any occupation category – as well as over one-third of vacancies in both 'gas, electricity and water' and 'construction' occupations (increasing from less than one quarter in 2013) (UKCES 2015). There is also significant *future* demand for jobs in mid-level skilled occupations (including in skilled trades and advanced

3 The 15 proposed routes are: agriculture, environment and animal care; business and administrative; catering and hospitality; childhood 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; transport and logistics.

manufacturing), with an additional 3.6 million vacancies predicted by 2022 (Clifton et al 2014).

The urgency of these skills shortages has been acknowledged in the government's recent *Building our Industrial Strategy* green paper (HMG 2017), which highlighted the need to grow the number of people with technical skills in order to boost the UK's economic performance and meet the new challenges set to be thrown up by Brexit. For example, it argues that 'poor performance in basic and technical skills is key to the UK's persistently low levels of productivity compared with other advanced economies', and that the development of skills in key STEM occupations is needed in order to move away from a reliance on migrant labour (ibid). In order to increase the number of high-skilled technicians, the green paper sets out an ambition to create new Institutes of Technology, which will deliver high-quality technical qualifications from levels 3 to 5.

Second, 14–19 institutions aim to prevent or reverse disengagement among pupils aged 14–16, thereby maximising the speed and extent of progression.

There is some evidence to suggest that there is a particular risk of disengagement among pupils during the upper-secondary phase. For example, Steedman and Stoney (2004) have estimated that between one-fifth and one-third of the 14–19 student cohort is disengaged. Similarly, a longitudinal study which tracked a comprehensive cohort of pupils found 12 per cent of year 9 pupils to be disengaged, rising to 20 per cent in years 10 and 11 (Ross 2009). Disengagement was found to affect pupils' rates of attendance, motivations, behaviour, attitudes to work and further/higher education, views about the school experience, and attainment (ibid).

The causes of disengagement are complex and varied, although it can often result from dissatisfaction with the general school experience, teacher relationships, subjects studied and models of learning employed (Duffy and Elwood 2013). For example, Lumby (2012) characterises disengaged young people as those who 'endure education' and are made to squeeze into learning models which lead to boredom and so obstruct, rather than enhance, progress.

Proponents of 14–19 institutions argue that increasing access to vocational and technical qualifications during key stage 4 can help prevent or reverse pupil disengagement. There is, however, mixed evidence as to whether this is effective. For example, pilots which widened access to vocational qualifications for 14-year-olds were shown to have successfully re-engaged pupils, leading to increased motivation, improved attendance, and greater pupil autonomy (Ofsted 2007). However, research elsewhere has found disengaged pupils who study vocational qualifications in year 10 to subsequently become no more re-engaged than those who opt not to take these options (Ross et al 2011).

Both the Baker Dearing Educational Trust and the Studio Schools Trust (which oversee UTCs and studio schools respectively) also argue that, by providing a brand new environment for pupils, 14–19 models can help them to develop skills which accelerate their development and lead them to re-engage with education. For example, Lord Baker – former education secretary and chair of the Baker Dearing Educational Trust – argues that

UTCs help pupils to acquire skills and experiences, including reasoning skills, problem-solving skills, teamwork skills, confidence and social skills, critical thinking, active listening, and presentational skills (Baker 2016).

SUMMARY

14–19 institution models in England generally share a number of characteristics. The most significant of these is that age 14 is embedded as the point of transition, from which an uninterrupted phase of upper-secondary education is intended to follow. This sets these institutions apart from the rest of the schools system, where ages 11 and 16 are cemented as the established transition ages.

The two most common 14–19 institution models – UTCs and studio schools – are growing in number, and have received significant political backing in recent years. In addition to introducing a new point of transition at age 14, UTCs and studio schools also seek to challenge how, and the extent to which, vocational and technical qualifications are delivered within upper-secondary education. As such, these two models possess a number of shared aims:

- to recruit a comprehensive intake of pupils (pupils from a mix of backgrounds and with a mix of abilities)
- to implement a model of 'blended learning' via a 'broad and balanced' curriculum offer, which emphasises practical learning models and greater access to vocational and technical qualifications alongside academic subjects
- to enhance pupils' opportunities for higher education and work, by
  - preventing or reversing disengagement
  - cementing clear progression routes from level 2 onwards
  - boosting 'job-readiness' via the development of both occupation-specific skills and 'soft' employment skills.

The following chapters will explore the extent to which UTCs and studio schools are meeting these aims in practice.

3. RECRUITMENT

The first, and arguably most important, measure by which to assess the success or failure of 14–19 institutions – and UTCs and studio schools in particular – is their ability to recruit sufficient numbers of pupils. In this chapter, we consider how well UTCs and studio schools are able to recruit pupils at age 14, and set out the extent to which their recruitment is shaped by the presence of barriers which do not exist for mainstream secondary schools.

UTCS AND STUDIO SCHOOLS ARE FAILING TO RECRUIT SUFFICIENT NUMBERS OF PUPILS AT AGE 14, AND SOME ARE OPERATING SIGNIFICANTLY UNDER CAPACITY

In order to fully understand the recruitment challenges faced by 14–19 institutions, we submitted a freedom of information request to the Department for Education. The data received in response demonstrates that UTCs and studio schools are recruiting low numbers of pupils compared to mainstream secondary schools, and are often filling significantly fewer places than they had planned for prior to opening.

In the 2015/2016 academic year, the average intake into year 10 across UTCs and studio schools was 60 pupils.[4] This is considerably smaller than the average year 10 cohort size across mainstream secondary schools in that year, which was 159 (DfE 2015a).[5] However, as shown by figure 3.1, the average size of 14–19 institutions masks a wide variation at either extreme. Seven schools recruited fewer than 20 year 10 pupils, while another was able to recruit 195.

UTCs and studio schools are, however, often explicitly designed to have fewer pupils and smaller class sizes than mainstream schools. It is therefore also necessary to examine the size of their year 10 intake within the context of their *planned* capacity (as set out in published admissions plans).

In 2015/16, on average 39 per cent of available year 10 places went unfilled in both UTCs and studio schools. These institutions are, therefore, operating significantly under capacity in the majority of cases (figure 3.2). While this represents a slight improvement on the previous year (when 41 per cent of places were unfilled), it demonstrates the scale of the recruitment difficulties in 14–19 institutions.

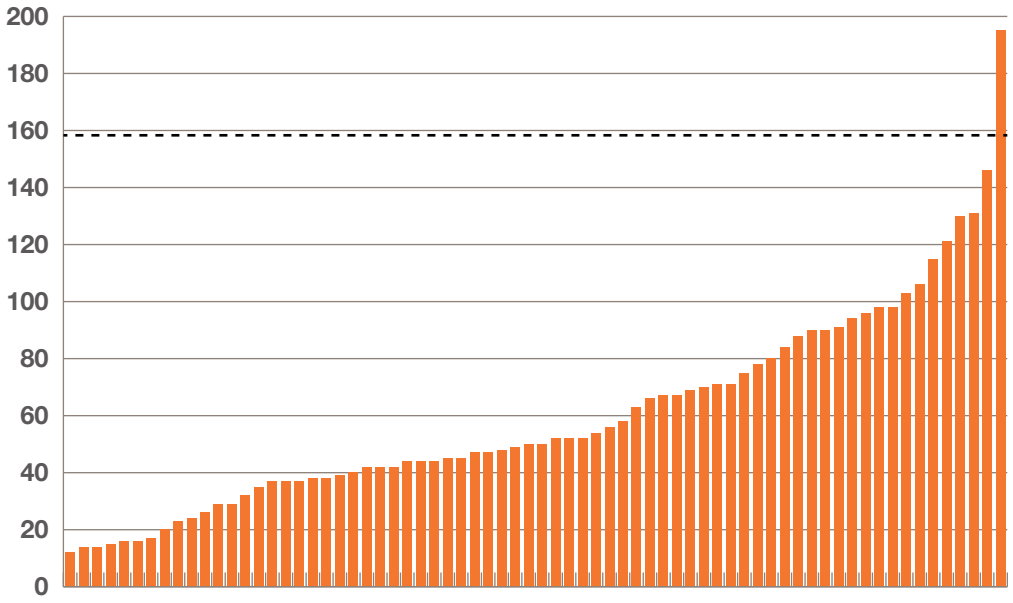
4 This omits those 14–19 institutions which closed in 2016 – and so did not recruit year 10 pupils in 2015/16.

5 IPPR analysis based on Department for Education data. https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2015

FIGURE 3.1

There is significant variation in the number of pupils recruited to UTCs and studio schools

Size of year 10 cohort in UTCs and studio schools (2015/16) (dotted line marks the average year 10 cohort size across mainstream secondary schools)



Source: IPPR analysis of data provided by Department for Education in response to a freedom of information request

INSUFFICIENT PUPIL RECRUITMENT IS THE MAIN CAUSE OF CLOSURE IN UTCS AND STUDIO SCHOOLS

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.

Since the first UTCs opened in 2011/12, four have closed and a further three have announced their intention to close after the 2016/17 academic year.[6] Over the same period, 11 studio schools have also closed, with a further three announcing their intention to close. Analysis of recruitment data shows that, where low year 10 recruitment occurs in a UTC or studio school's first years, it can be extremely difficult to recover from.

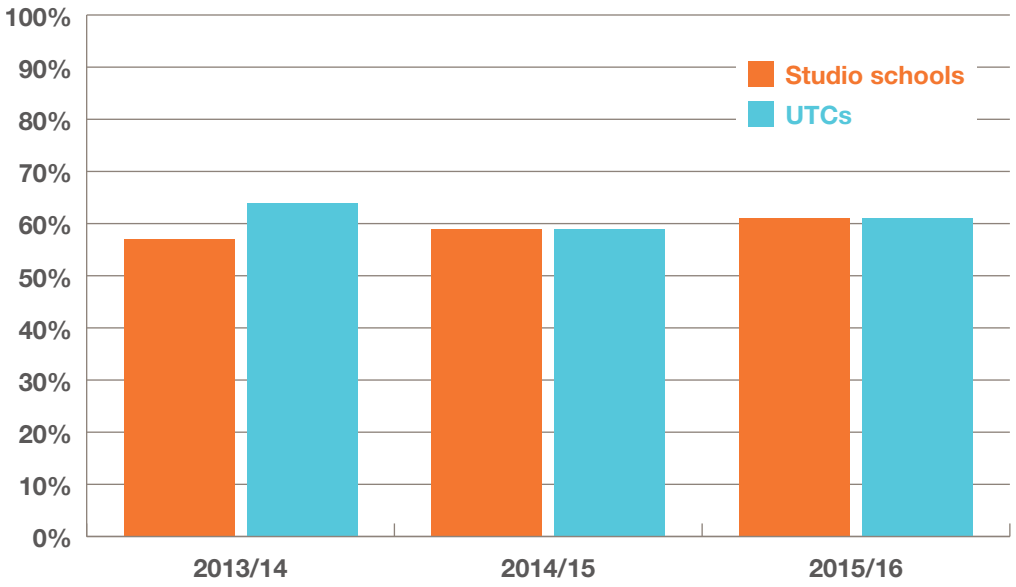
- After opening in 2013/14, **UTC Lancashire** was never able to fill more than 35 per cent of its planned year 10 places in each of the following three years and closed in 2016.
- **Bradford Studio School** filled 36 per cent of its year 10 places in its first year after opening. It then filled just 18 per cent the following year, and 8 per cent the next, after which it closed.
- There are also 14–19 institutions – such as **Burton and South Derbyshire UTC** – which have failed ever to open their doors due to low recruitment, and have been scrapped prior to opening (Robertson 2016).

6 The UTC for New Technologies at Daventry and the Greater Manchester Sustainable Engineering UTC have announced they will close at the end of the academic year, while UTC Royal Borough of Greenwich has converted to an 11–18 secondary school.

FIGURE 3.2

On average, UTCs and studio schools have filled around 60 per cent of planned year 10 places in each of the last three years.

Average proportion of planned year 10 places filled in studio schools and UTCs (%) (2013/14–2015/16)



Source: IPPR analysis of data provided by Department for Education in response to a freedom of information request

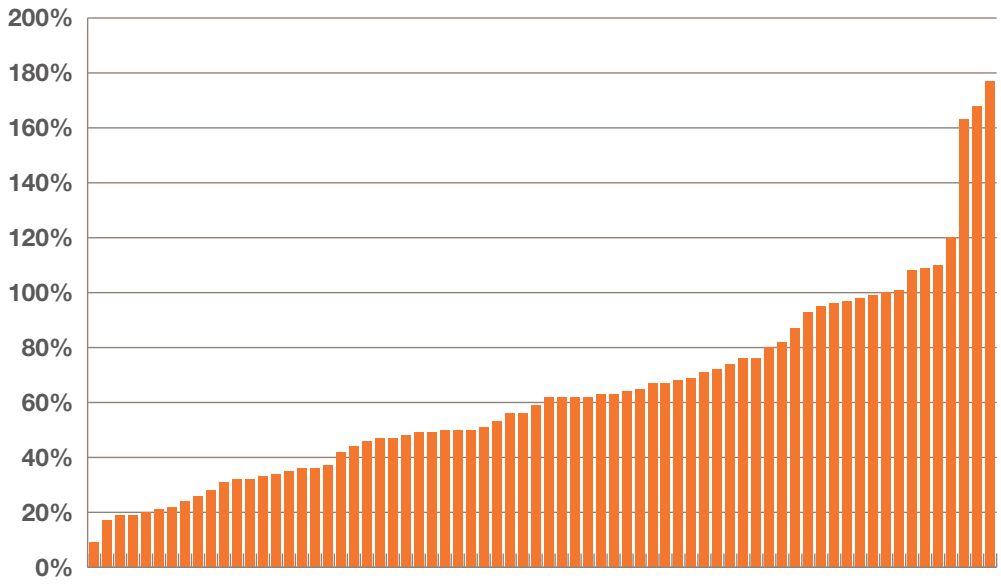
Figure 3.3 shows how a significant number of UTCs and studio schools have filled a dangerously low proportion of planned year 10 places in 2015/16, and so look to be following the same trajectory as those that have already closed due to recruitment difficulties. **Eight UTCs and studio schools filled less than one quarter of planned places in 2015/16.** Given that there are a very small number of these institutions which have been able to reverse low recruitment (particularly where it is experienced over successive years), this data does not bode well for their ongoing sustainability.

There are, though, some tentative signs that newly opened UTCs and studio schools may be faring better at attracting the number of pupils they need to be viable. The proportion of planned year 10 places filled by newly opened UTCs and studio schools was higher than the average across all such institutions in 2015/16. Newly opened studio schools filled, on average, 63 per cent of year 10 places, while newly opened UTCs filled 73 per cent (compared to 61 per cent of all studio schools and UTCs). This could suggest that new 14–19 institutions are finding ways to overcome some of the barriers to recruitment experienced by schools opened in previous years.

FIGURE 3.3

The vast majority of UTCs and studio schools are not recruiting enough pupils in year 10 to fill planned places. Some are operating significantly under-capacity.

Number of year 10 places filled in UTCs and studio schools as a proportion of planned places (%) (2015/16)



Source: IPPR analysis of data provided by Department for Education following freedom of information request

However, drawing such conclusions is likely to be premature, given that there are several examples of institutions whose high recruitment in the first year has been followed by a dramatic fall in the proportion of planned places filled, sometimes resulting in closure.

- **Hackney UTC** opened in 2012/13 and filled 77 per cent of its planned year 10 places, before closing three years later.
- **Tendring Enterprise Studio School** filled 88 per cent of planned year 10 places in its first year, before closing four years later after recruitment levels dropped to around one-third of available places.
- **The UTC for New Technologies at Daventry** filled 79 per cent of planned places in 2013/14, but by 2015/16 this had fallen to 33 per cent. In December 2016 it announced that it was to close.

BARRIERS TO RECRUITMENT

It is clear that if 14–19 institutions cannot overcome recruitment difficulties and attract sufficient numbers of pupils, their ongoing viability is seriously called into question. This is acknowledged even by these schools' strongest advocates. For example, in 2016, Lord Baker said that it was proving to be a 'struggle to keep [UTCs] going' due to recruitment difficulties (Exley 2016a).

But what are the barriers to 14–19 institutions recruiting sufficient numbers of pupils? Are they the result of avoidable mistakes which can be ironed out as the UTC and studio school programmes continue to

grow, or are they due to more substantial, systemic factors that will be more difficult, if not impossible, to overcome?

Our stakeholder analysis within local education markets revealed three sets of barriers to recruitment. The first are **structural** and result from the system of per-pupil funding for schools. The second are **local** and result from adversarial relationships and a lack of communication within local education markets. The third are **societal** and result from the degree to which perceptions regarding the relative benefits of academic and technical/vocational education are embedded.

Structural barriers: per-pupil funding system disincentivises transition at 14

The first and most important set of barriers to 14–19 institutions being able to recruit sufficient numbers of pupils is structural, and is driven by the desire among mainstream secondary schools to protect their budgets by preventing an outflow of pupils in year 10.

The system of per-pupil funding, by which schools receive government funding, creates a strong incentive for secondary schools to operate at full capacity, which requires the ability to attract sufficient numbers of new pupils at year 7 and retain as many as possible thereafter.

Given that 11 and 16 are the predominant ages of transition within the English system, there is fierce competition among schools to attract pupils in year 7, and then again (for those schools which have a sixth form) in year 12. Failure to do this effectively will result in a school being under capacity and losing out on potential funding. However, between these natural transition points, there is generally little movement of pupils between schools.

Per-pupil funding in England's schools

Schools' funding is distributed from the Education Funding Agency (EFA) within the Department for Education, via local authorities for maintained schools, or directly to academies. The amount of per-pupil funding individual schools receive is dependent on the historical allocation received by the local authority, as well as local funding formulas weighted according to factors such as deprivation and prior attainment. Per-pupil funding for schools outside London is generally between £4,200 and £5,300. In London it can rise to around £8,500 in some boroughs (Gurney-Read 2015).

The government is proposing the phased introduction of a new national funding formula for schools, to be introduced from 2018/19. This is intended to retain the principle that schools receive a basic amount per pupil, and that this is topped up according to factors reflecting pupil characteristics, as well as school and area costs (HoC 2017). The new funding formula will, therefore, not significantly alter the impact of per-pupil funding on 14–19 institutions' ability to effectively recruit pupils.

The existence of 14–19 institutions poses a fundamental challenge to this system. The introduction of a new point of transition at 14, whereby 14–19 institutions actively attempt to recruit pupils away from mainstream secondary schools at a point when these schools do not themselves actively recruit new pupils, is deeply problematic.

> *'You think you've got your kids and then, actually, there's [this] idea [that] they can go off... You think you've got bums on seats and you haven't.'*
> Assistant headteacher, mainstream secondary school

Incentives for schools to maximise pupil numbers are so strong that they can lead, in some cases, to mainstream secondary schools taking active measures to prevent pupils leaving to enrol in a nearby 14–19 institution. During our engagement with local stakeholders, we heard the following claims.

- **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.

> *'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

Mainstream secondary schools have received criticism that, when taking such measures, they are not always acting in the best interests of pupils who might benefit from transition at 14. However, it is important to remember that school leaders must balance the interests of individual pupils alongside the collective interest of the school. As such, there is also an argument that they are reacting in an understandable, even logical, way within a market-based schools system such as ours.

This is particularly true given the wider squeeze on funding that schools are currently experiencing. In 2016, the Institute for Fiscal Studies estimated that there will be at least a 7 per cent real terms reduction in per-pupil spending between 2015/16 and 2019/20 (rising to 8 per cent if changes in schools' costs are also taken into account) (Belfield and

Sibieta 2016). With tightening budgets, the incentive for mainstream schools to minimise outflow of pupils into 14–19 institutions is intensified.

Local barriers: A lack of consultation and engagement can harden adversarial relationships and prevent the establishment of strong communication channels

The second set of barriers to 14–19 institutions being able to recruit sufficient numbers of pupils is local, and is driven by a lack of effective consultation and engagement within local education markets.

Because 14–19 institutions are legally defined as free schools, they do not require the approval of the local authority before they are established. Instead, the decision over whether or not to approve the opening of a new 14–19 institution is taken entirely by the Department for Education.

This can lead, in some cases, to 14–19 institutions being set up without prior consultation and engagement locally. Consultation and engagement is vital if 14–19 institutions are to be able to generate positive relationships with key stakeholders, dispel myths, and embed themselves within local education markets. Where it is absent or minimal, though, adversarial relationships can be hardened, communication channels fail to materialise, and future cooperation is jeopardised.

> *'[There is] a real sense of us… being the enemy and stealing students from other schools.'*
> Vice Principal, Studio School

During our stakeholder analysis with representatives of mainstream secondary schools and local authorities, three main complaints – each arising as a result of a lack of consultation and engagement – were reported most frequently.

The **first** was that the opening of a new 14–19 institution did not fit with the needs of the local education market. For example, we heard complaints from local authorities and mainstream schools that 14–19 institutions had been set up despite there already being an oversupply of pupil places locally. The 'free school' model of place planning – which applies to 14–19 institutions – means new schools are sometimes permitted to open in areas where there is no shortage of pupil places. This model has been accused of being 'unregulated', and can intensify competition for places as more schools will come to operate under capacity.

> *'It was, "We're opening a studio school. Like it or lump it."'*
> Headteacher, mainstream secondary school

Are 14–19 institutions being established in places where there is 'local need'?

Our analysis supports the argument that 14–19 institutions often open in places where there is no apparent 'local need'. It shows that there is no clear relationship between the presence of a 14–19 institution in a local area and key variables relating to the quality of local schools (such as Ofsted scores, GCSE results, GCSE value-added, and the admissions appeal rate).

Similarly, our analysis shows there to be no clear relationship between the presence of a 14–19 institution within a local area and key area-level variables, such as the presence of particular occupational sectors, the local unemployment rate, the qualification levels of the local population, and the ethnicity of the local population. There are just two exceptions of note:

- 14–19 institutions are more likely to be located in areas where an increased proportion of the local population is employed in occupations within the hotel, distribution and restaurant sectors.
- 14–19 institutions are less likely to be located in areas where an increased proportion of the local population is employed in associate professional and technical occupations, such as mechanical or electrical engineering.

A feeling among local stakeholders of having been omitted from the decision to establish a 14–19 institution can therefore come to quickly harden into ongoing opposition. This can make it harder for 14–19 institutions to advertise their existence to pupils and parents, and promote themselves as an attractive alternative for pupils going into year 10.

The **second** complaint was a feeling that 14–19 institutions had received significant amounts of government funding, while their own budgets had been squeezed over recent years.

> *'You go over [to the UTC] and it's sleek and glossy… and they're treating it like a workplace. And yeah – great. But give me the same money and I can do the same thing. That's the bit that grates.'*
>
> Headteacher, mainstream secondary school

The **third** was that 14–19 institutions pose a direct means of competition to mainstream secondary schools, rather than providing a distinctive, 'specialist' offer suitable only for a minority of pupils. Particularly when 14–19 institutions are newly established, there is a real fear that they will look to recruit a significant number of year 10 pupils from numerous individual schools. This is partly the result of the structural barriers explored above. But it can also be due to the failure of some 14–19 institutions to communicate their aims effectively, and emphasise how their offer to pupils and parents is distinct from that which is available in mainstream secondary schools (this is a point which will be explored in more detail in chapter 5).

The sense among mainstream secondary schools that 14–19 institutions are direct competitors is not aided by the fact that they have a wide catchment area (this is particularly true of UTCs). This can increase the number of schools which come to view a 14–19 institution as a direct competitor for pupil places. Whereas secondary school pupils travel, on average, 2 kilometres to get to school, this rises to 5.5 kilometres for pupils attending 14–19 institutions, and 6.2 kilometres for pupils attending UTCs specifically (Cook et al 2016).

'In the early years we were in really undignified scraps with other schools. Making kids cry, lots of misinformation, struggling with trying to explain what we are.'
Headteacher, studio school

Societal barriers: perceptions on relative benefits of academic and vocational/technical learning

The third set of barriers to 14–19 institutions being able to recruit sufficient numbers of pupils is societal, and is driven by the extent to which perceptions regarding the relative benefits of academic and technical/vocational education are embedded.

Our stakeholder analysis generated numerous examples – from pupils, parents and senior school leaders – of beliefs regarding the relative status of technical and vocational education acting as a barrier to recruitment. These were particularly evident when we spoke with year 10 pupils and parents who had chosen not to transition at 14, and who had continued on in the same mainstream secondary school at which they had completed year 9. When asked to reflect on their motivations for not transitioning at 14, stakeholders raised the following points most frequently:

- a desire to 'keep options open', and a fear of the implications of 'specialising' at age 14
- focussing on GCSEs in academic subjects provides the best means of future success and ability to follow different routes
- a general preference for the 'golden route' of A levels followed by university
- vocational and technical options constitute a 'lesser offer'
- acknowledgement of the possibility of changing interests after age 14.[7]

'[The UTC] was… quite modern... but I thought, choosing a career, if I didn't like it, I think it would have been like really difficult to get out of it. Because you can't just go back into mainstream school.'
Year 10 pupil, mainstream secondary school

'I think [studio schools are] good if you know what you definitely want to do in life... But if you're not sure it, kind of… limits your options.'
Year 10 pupil, mainstream secondary school

Factors such as these can combine to result in low pupil and parent demand for transition at 14, and can heighten the perceived risk involved in moving to a new and unproven model focussing on technical and vocational education. Where these beliefs are also held by teachers in mainstream secondary schools, they can further reinforce the dissuasion of pupils who might otherwise consider transitioning at 14.

7 During our stakeholder analysis, year 10 pupils and parents also raised the following regarding their motivations for *not* opting to transition at 14: a desire to remain with established friendship groups, a desire not to break or sacrifice established relationships with teachers, a desire to avoid increased travel time, and a desire to remain within a secondary school chosen for its possession of a distinctive characteristic (such as being a faith school).

'I think children's doors should be kept open for as long as possible. I think it's quite dangerous expecting children to make decisions, very narrow kinds of decisions, at the age of 14. I think experience is everything.'

Headteacher, mainstream secondary school

'For me, as a parent, I would want as many doors open for as long as possible. So if it was my child who's expressing an interest, I'd probably advise them against it, purely on the basis [that] "you might change your mind later, and if you don't keep it as open and broad as possible at this stage, then what will happen when you change your mind?".'

Assistant headteacher, mainstream secondary school

SUMMARY

UTCs and studio schools are, on the whole, failing to recruit enough pupils, and are largely operating significantly under capacity. In the 2015/16 academic year:

- the average size of year 10 across UTCs and studio schools was 60 pupils (compared to a national average of 159)
- seven UTCs and studio schools had a year 10 cohort of fewer than 20 pupils
- an average of 39 per cent of planned year 10 places went unfilled in both UTCs and studio schools.

This has contributed to a number of closures of both UTCs and studio schools over recent years. Eight UTCs and 14 studio schools have now closed, announced that they are to close, or have been forced to convert to a new model in order to avoid closure.

Where recruitment into year 10 is low in a 14–19 institution's first years after opening, this can be very difficult ever to recover from. However, even some UTCs and studio schools that have experienced strong early recruitment have gone on to experience sharp dips in pupil numbers and eventual closure. Worryingly, our assessment of current year 10 numbers suggests that a number of UTCs and studio schools are following the same trajectory as those to have already closed due to poor recruitment. Eight UTCs and studio schools filled less than one quarter of planned places in 2015/16.

UTCs and studio schools are failing to recruit enough pupils due to three sets of barriers:

- **structural barriers:** per-pupil funding system disincentivises transition at 14
- **local barriers:** a lack of consultation and engagement can harden adversarial relationships and prevent the establishment of strong communication channels
- **societal barriers**: perceptions on relative benefits of academic and vocational/technical learning.

The most fundamental of these are structural barriers. By looking to recruit pupils at age 14, UTCs and studio schools are perceived to pose a threat to the ongoing viability of local mainstream secondary schools.

For each pupil that these schools lose to a 14–19 institution, they lose an amount of per-pupil funding. This is particularly problematic given the extent of the current squeeze on school funding.

In response, some mainstream secondary schools would appear to be implementing defensive strategies to prevent pupils and parents from making fully informed decisions about the potential benefits and drawbacks of transition at 14. On top of this, other stakeholders in local education markets, such as local authorities, are sometimes reacting to a lack of consultation by refusing to fully cooperate with 14–19 institutions and work towards their success. Finally, where parents and pupils are aware of the possibility of transition at 14, they appear to be dissuaded by the pervasiveness of a culture which prioritises learning in traditional, academic subjects.

4. PUPIL CHARACTERISTICS AND MOTIVATIONS FOR TRANSITION

The second measure by which to assess the success or failure of 14–19 institutions – and UTCs and studio schools in particular – is their ability to recruit a comprehensive intake in year 10, drawing even numbers of male and female pupils, pupils with different levels of prior attainment, and pupils from households and neighbourhoods with different levels of income. Ensuring that they are able to attract a broad mix of pupils is vital if UTCs and studio schools are to combat accusations that they – like previous models of specialist vocational and technical institutions – lead to the 'tracking' of disadvantaged or low-attaining pupils.

This chapter explores the characteristics of year 10 pupils joining UTCs and studio schools, and considers why pupils choose to transition at 14, the relative importance of 'push' and 'pull' factors affecting their decisions, and the extent to which 14–19 institutions' intake is affected by mainstream secondary schools.[8]

14–19 INSTITUTIONS, AND STUDIO SCHOOLS IN PARTICULAR, ARE FAILING TO ATTRACT A COMPREHENSIVE INTAKE OF YEAR 10 PUPILS

Our statistical analysis of year 10 pupils who joined 14–19 institutions in September 2013 and 2014 found that these pupils' characteristics varied from the national average in a number of ways.

Pupils in 14–19 institutions are significantly more likely to be male.

- **The proportion of male pupils is far higher in 14–19 institutions** (68 per cent) than the average across other schools (51 per cent).
- **This gender imbalance is particularly pronounced in UTCs,** where less than one quarter (23 per cent) of the year 10 intake is female, compared to 41 per cent in studio schools.

Taken as a whole, prior and predicted attainment is lower among pupils in 14–19 institutions (although studio schools disproportionately cater for low-achieving pupils, while UTCs tend to attract middle attainers).

Pupils attending 14–19 institutions:

- **have, on average, lower prior attainment at key stage 2:** this is the case at both ages 7 and 11, and is particularly evident for reading and writing

8 See Cook et al 2016 for more detail on the characteristics of pupils joining 14–19 institutions in year 10.

- **make less progress between the ages of 7 and 11 than the national average**, and are 30 per cent more likely to have made significantly less progress than those who attend mainstream secondary schools
- **have predicted GCSE results that are below the national average** – 45 per cent of the intake of 14–19 institutions are predicted to achieve 5 A*–C grades at GCSE (including English and maths), compared to 53 per cent among all other schools
- **are more likely to be predicted to achieve lower grades (C/D and below) at GCSE than those in all other schools, and less likely to achieve higher grades (B/C and above)**; although, as is also the case across all other schools, pupils in 14–19 institutions are most likely to be predicted to achieve C/D grades.

Prior and predicted attainment is lower among pupils attending studio schools compared to UTCs.

- **Prior attainment in maths at ages 7 and 11 is identical to the national average among pupils attending UTCs, but below the national average for those attending studio schools.** 24 per cent of pupils in studio schools performed significantly below expectations at key stage 2 (based on their attainment at key stage 1), compared to 14 per cent in all other schools.
- **Based on their attainment at key stage 2, pupils attending studio schools are predicted to achieve lower grades at GCSE than those at UTCs.** Compared to those at studio schools, pupils in UTCs are more likely to achieve grades A*–C and less likely to achieve grades D–F/G.

Studio schools disproportionately attract pupils from deprived or low-income households and neighbourhoods. This is not true of UTCs.

- **The proportion of pupils in UTCs who are eligible for free school meals is slightly lower than the national average, while that of studio schools is higher.** The proportion of studio schools' intake on free school meals is around 20 per cent, whereas it is 13 per cent for UTCs (the national average is 15 per cent).
- **UTCs' intake is drawn equally from both affluent and deprived neighbourhoods, while that of studio schools is drawn disproportionately from the most deprived neighbourhoods.** According to the Income Deprivation Affecting Children Index (IDACI) – which measures the proportion of children aged under 16 who live in low-income households within a local area – around two-thirds of the intake of studio schools are drawn from the most deprived 50 per cent of households, compared to around half of UTCs' intake.

However, there is some evidence that these trends may be becoming less entrenched. Comparing the 2013/14 and 2014/15 cohorts, the latter is marginally more likely to be male (67 per cent to 68 per cent), less likely to be entitled to free school meals (17 per cent to 15 per cent) and to be predicted a slightly higher GCSE points score (365 to 373). This change was wholly accounted for by new 14–19 institutions that opened in 2014, rather than a changing intake among existing ones, and so suggests that newer 14–19 institutions are attracting a slightly more comprehensive

intake, with greater numbers of pupils from less deprived households and with higher prior and predicted attainment.

UTCs, studio schools and pupils with special educational needs[9]

One in five pupils in studio schools has special educational needs (SEN), compared to 1 in 7 pupils in UTCs and 1 in 8 pupils in mainstream secondary schools. As of January 2016, 21.4 per cent of pupils in studio schools had SEN compared to 14.4 per cent in UTCs and 12.7 per cent in state-funded mainstream secondary schools.

When broken down, this data shows that pupils in studio schools are *significantly* more likely to be on SEN support (19.4 per cent of pupils compared to 11.0 per cent in state-funded mainstream secondary schools), and marginally more likely to have SEN with a statement or Education, Health and Care (EHC) plan (2.0 per cent compared to 1.7 per cent).

In UTCs, 12.9 per cent of pupils receive SEN support. Although this is also above the proportion among state-funded mainstream secondary schools, it is significantly lower than the rate among studio schools. In UTCs, 1.5 per cent of pupils have SEN with a statement or EHC plan, which is marginally below the proportion among state-funded mainstream secondary schools.[10]

WHAT FACTORS ARE AFFECTING 14–19 INSTITUTIONS' ABILITY TO ATTRACT A COMPREHENSIVE INTAKE?

Our statistical analysis of the characteristics of year 10 pupils shows that 14–19 institutions are largely failing to attract a comprehensive intake, and that this is particularly true for studio schools. But why is this the case? What are the factors driving 14–19 institutions' recruitment patterns?[11]

'Push factors' linked to pupils' experience in mainstream secondary schools would appear to be more significant than 'pull factors' linked to the perceived benefits of the UTC and studio school models

A complex web of factors can influence the decisions taken by pupils and parents who choose to transition at 14. However, our stakeholder analysis – and, in particular, our conversations with year 10 pupils in UTCs and studio schools and their parents – suggests that 'push factors' are more significant than 'pull factors' in affecting transition at 14.

9 Unlike the rest of the data displayed in this chapter, this data refers to all pupils across all year groups, rather than solely to year 10 pupils.

10 See: https://www.gov.uk/government/statistics/special-educational-needs-in-england-january-2016

11 This section contains results from both our statistical analysis of data from the Department for Education's National Pupil Database (NPD) – referred to here as 'statistical analysis' – and results from our qualitative stakeholder analysis – referred to here as 'stakeholder analysis'.

TABLE 4.1

'Push factors' are more significant than 'pull factors' in affecting transition at 14

*Factors affecting pupil and parent decisions to transition at 14**

Theme	Push factors	Pull factors
Curriculum	**Disengagement with traditional subjects, and/or feeling curriculum is too narrow**	Specific interest in specialist technical or vocational subjects (not available in previous school)
Models of learning	**Disengagement with traditional models of learning (feeling of 'not learning well' in previous environment)**	Emphasis on alternative models of learning (such as project-based learning)
Social	**Having been bullied (or experienced other social difficulties) at previous school**	Friends (or family members) having made the transition, and reporting a positive experience; friendship groups moving together
Behaviour	**Poor behaviour**	Possibility of a 'last chance' for pupils who have faced multiple exclusions
Attainment	**Low prior attainment**	Opportunity to (re-)commit to learning
Environment and relationships	**Poor relationships with teachers**	'Adult-like' environment
Future prospects	Lack of clear careers advice	**Links to (sometimes well-known) employers / enhanced employment prospects / clear pathways into attractive occupations**
Family	Parental disillusionment with existing school	**Family members working in industries relating to the 14–19 institution's specialism**
Pastoral / SEN	**Lack of pastoral provisions, and/ or provisions for pupils with special educational needs**	More suitable learning environment for children with special educational needs
Infrastructure / equipment	Lack of technical equipment	**New buildings and equipment (e.g. laptop incentives)**
Fresh start	**General desire to 'reinvent' oneself**	Opportunity for a 'fresh start'

Source: IPPR analysis

* For each 'theme', the text in bold denotes whether 'push' or 'pull' factors came through as being particularly important during the stakeholder analysis.

> *'I think I probably would have just stayed here because… you've made friends and… you're all settled in now, and you're just going to have a fresh start [if you leave to join a 14–19 institution]. You're not going to know anyone, it's just going to be like going back to the start.'*
>
> Year 10 pupil, mainstream secondary school

Our stakeholder analysis revealed very few examples of where pupils who were happy in their previous school had decided to transition at 14. Pull factors – regarding the perceived advantages of the UTC and studio school models – were important in some cases, but were almost always in addition to pre-existing push factors. It was much more common for a pupil to be motivated by push factors in the absence of pull factors than vice versa. This was particularly true for pupils who had moved into studio schools, compared to those who had moved into UTCs. Subject specialisms and employer links appeared to play a bigger role in recruitment into UTCs. For studio schools, push factors associated with dissatisfaction with previous school were more important.

'I think people [move to a studio school] because they have a problem, not because they are seeking something in a positive way.'
Headteacher, mainstream secondary school

Examples of pupils who transition at 14

Not all of the motivating factors set out in table 4.1 apply to all pupils who transition at 14. Our stakeholder analysis suggests that certain factors often occur together. Below are three examples of broad 'types' of pupils who choose to transition at 14.

1. Pupils with a desire to reinvent themselves in a new environment due to social difficulties (being bullied, few friends, poor behaviour, low attainment, poor teacher relationships).
2. Medium/low attainers motivated by vocational subjects and alternative learning models ('not learning well' in previous environment, low attainment, special educational needs).
3. High/medium attainers motivated by disengagement with academic subjects and desire to follow a technical specialism (clearer career pathways, high-profile employer sponsors, technical specialism).

The particular importance of push factors is also demonstrated by the fact that 14–19 institutions draw disproportionately from schools with adverse Ofsted ratings. Taking the 2013/14 and 2014/15 academic years together, 39 per cent of the year 10 cohort in 14–19 institutions came from schools rated as 'inadequate' or 'requires improvement', compared to 26 per cent of all pupils in the same cohort. Similarly, when comparing pupils within the same local area, the likelihood of attending a 14–19 institution is related to the characteristics of the school the pupil attends at age 13.[12] In general, the better performing the school, the less likely a pupil is to opt to move to a 14–19 institution (Cook et al 2016). A desire to 'escape' a poorly performing school would therefore appear to be another important push factor affecting pupils' choices.

Taken together, this suggests that recruitment into 14–19 institutions (particularly studio schools) may be dependent on the poor performance of mainstream secondary schools and their inability to meet pupils' needs, rather than the attractiveness of the UTC and studio school models.

Mainstream secondary schools encourage transition only for pupils who are 'struggling'

An important issue reported by senior leaders at 14–19 institutions during our stakeholder analysis was that some mainstream secondary schools deliberately encourage only their most challenging pupils to transition at 14 – those who are 'struggling' due to poor behaviour and/or low attainment.

12 Where local area is defined as a parliamentary constituency (although the results hold true for local authority districts also).

'I feel that [local mainstream secondary schools] are trying to stitch us up with some of their most challenging students.'
Executive Principal, Studio School

Until recently, there has been an incentive on schools to transition out low-performing pupils (those who are unlikely to receive 5 A*–C grades at GCSE, including English and maths) in order to boost their league table performance. With the replacement of this performance measure with Progress 8 from 2015/16, there is less incentive to lose these pupils. However, Progress 8 instead creates an incentive to lose pupils who the school expects to make significantly less progress than they ought to between years 7 and 11 (Nye 2017a). (See chapter 5 for a more detailed discussion of pupil and school performance measures.)

There is also variation in which kinds of schools UTCs and studio schools attract pupils from. Our statistical analysis suggests that 14–19 institutions are, in general, attracting the lower-attaining and more disadvantaged pupils from '*good*' and '*outstanding*' schools. Within these schools, pupils who live in the most deprived 25 per cent of postcodes are 34 per cent more likely to enrol in a 14–19 institution than those in the most affluent 25 per cent.

Pupils in schools rated as '*inadequate*' or '*requires improvement*' are more likely to experience a greater number of push factors which might encourage them to transition at 14. As such, these schools have less control over exactly which pupils opt to transition. Again, this is reflected in our statistical analysis, which shows that it is, on the whole, the higher-attaining and less disadvantaged pupils from schools rated as '*inadequate*' or '*requires improvement*' who are more likely to transition at 14.

Similarly, our statistical analysis showed there to be a relationship between the likelihood of a pupil enrolling in a 14–19 institution and the academic performance of pupils at the school they attend at age 13. For each additional 10 per cent of the pupil population who achieve five A*–C grades at GCSE (including English and maths), the likelihood of a pupil from that school joining a 14–19 institution declines by 6 per cent.

'We're mopping up an awful lot of kids that other people have given up on completely, or kids who have not… liked where they are at all.'
Vice principal, studio school

Two sets of attitudes to 14–19 institutions' recruitment

Our stakeholder analysis suggests the presence of two broad sets of attitudes to 14–19 institutions' recruitment among leaders at mainstream secondary schools.

Mainstream secondary schools with a *relaxed attitude* are those that are more likely to report having a positive relationship with 14–19 institution, and possessing some combination of the following characteristics: a positive Ofsted rating, being over capacity, or having a 'distinctive offer' (such as being a faith school).

Mainstream secondary schools with a *nervous attitude*, on the other hand, are more likely to report having a negative relationship with 14–19 institution, and possessing some combination of the following characteristics: a negative Ofsted rating, being under capacity, or lacking a 'distinctive offer'.

Whether a school has a relaxed or nervous attitude is likely to determine the extent to which they implement 'defensive strategies' to counter the possibility of pupils opting to leave at age 14.

'Streaming' of lower-attaining pupils is taking place within MATs

A number of 14–19 institutions are members of MATs which also encompass mainstream secondary schools from which the 14–19 institution could possibly recruit pupils. This is a model which has been actively promoted by government, which has argued that a MAT can give much-needed support to a 14–19 institution (Burke et al 2016).

However, our statistical analysis demonstrates that this model is, in some places, leading to the covert 'streaming' of pupils. It shows that pupils who join a 14–19 institution from schools within the same MAT are more likely to be the lower-performing pupils in their year group compared to those who join from schools which are not within the same MAT (Cook et al 2016).

We also found that 14–19 institutions linked to MATs are more likely to have an intake taken predominantly from a single mainstream secondary school. This suggests that they are far more reliant on a mainstream school within the MAT to be their 'feeder' school. Where there is a 'feeder' school which is also covertly 'streaming' pupils, there would appear to be a strong possibility of the 14–19 institution attracting a disproportionate number of low-attainers.

SUMMARY

Studio schools are, on the whole, failing to recruit a comprehensive intake of pupils, and recruit a disproportionate number of low-attainers and pupils from disadvantaged backgrounds.

- 20 per cent of year 10 pupils in studio schools were eligible for free school meals in 2013 and 2014, compared to a national average of 15 per cent.
- 24 per cent of pupils in studio schools performed significantly below expectations at key stage 2 (based on their attainment at key stage 1), compared to 14 per cent in all other schools.

UTCs, however, are recruiting an intake which is closer to the national average in terms of both prior and predicted attainment and socioeconomic disadvantage.

- 13 per cent of year 10 pupils in UTCs were eligible for free school meals in 2013 and 2014, compared to a national average of 15 per cent.
- Prior attainment in maths at ages 7 and 11 is identical to the national average among pupils attending UTCs.

- Based on their attainment at key stage 2, pupils in UTCs are more likely to achieve grades A*–C and less likely to achieve grades D-F/G compared to pupils attending studio schools.

Pupils in studio schools are also significantly more likely to have special educational needs: 21.4 per cent of pupils in studio schools have SEN, compared to 12.7 per cent across all state-funded secondary schools.

The shape of 14–19 institutions' year 10 intake is most affected by three sets of factors.

- **Push factors linked to pupils' experiences in mainstream secondary schools would appear to be more significant than pull factors linked to the perceived benefits of the UTC and studio school models.** Push factors are often linked to the performance of mainstream secondary schools – 14–19 institutions draw disproportionately from schools with adverse Ofsted ratings.
- **Mainstream secondary schools encourage transition only for pupils who are 'struggling'** – usually due to bad behaviour and/or low attainment. There is particular evidence of this for 14–19 institutions within MATs, where 'feeder' schools are, in some places, acting to covertly 'stream' struggling pupils.

As well as failing to recruit sufficient numbers of pupils, 14–19 institutions are also failing to attract a broad mix of pupils. Both our statistical and stakeholder analysis of the year 10 intake leaves studio schools, in particular, open to accusations of 'tracking' disadvantaged pupils, rather than providing an inclusive and attractive offer distinct from that provided by mainstream secondary schools.

5. CURRICULUM OFFERS, PERFORMANCE AND PROGRESS

The third measure by which to assess the success or failure of 14–19 institutions – and UTCs and studio schools in particular – is the extent to which they deliver a 'broad and balanced' curriculum offer to pupils with access to high-quality vocational and technical qualifications alongside core academic content. This is also linked to the fourth measure, which is the extent to which UTCs and studio schools help to enhance pupils' performance and progress.

In this chapter, we consider the shape of the curriculum offers delivered by UTCs and studio schools, and the effects of these offers on attainment, academic progress, destinations and non-academic progress and development.

QUALIFICATIONS: WHAT COUNTS AS A 'BROAD AND BALANCED' CURRICULUM OFFER?

Rates of entry into GCSE and non-GCSE subjects among pupils in UTCs and studio schools differ in a number of significant ways from the national average (tables 5.1 and 5.2). This suggests that the curriculum offers delivered by these institutions differ from that which is available within mainstream secondary schools. It also suggests that there are significant differences in the curriculum offers delivered by UTCs compared to studio schools.

- **Pupils in UTCs are significantly more likely to study GCSEs in a number of STEM subjects compared to both studio schools and the national average.** For example, pupils in UTCs are twice as likely to study GCSE design and technology (product design) compared to the national average, and three times more likely compared to pupils in studio schools.
- **Pupils in UTCs are more likely to study traditional STEM GCSEs compared to the national average, while pupils in studio schools are less likely.** For example, they are more likely to study separate GCSEs in chemistry, biology and physics, while pupils in studio schools are more likely to study a single GCSE in (core) science.
- **Pupils in both studio schools and UTCs are significantly less likely to study GCSEs in arts, languages and humanities compared to the national average.** For example, pupils in studio schools are four times less likely to study GCSE history compared to the national average.

- **Pupils in studio schools are more likely to study GCSEs in vocational (non-STEM) subjects.** For example, pupils in studio schools are five times more likely to study GCSE hospitality and catering compared to the national average.
- **Pupils in both UTCs and studio schools are more likely to study a range of non-GCSE options at key stage 4.** Pupils in studio schools are more likely to study non-GCSEs in arts and humanities such as multimedia, whereas pupils in UTCs are more likely to study non-GCSEs in STEM subjects such as engineering studies.

So while 14–19 institutions deliver curriculum offers which are distinct from those available within mainstream secondary schools, there are a number of differences between the UTC and studio school offers. There is significant variation among and between UTCs and studio schools regarding how far to deliver a 'broad and balanced curriculum' to pupils. Combining the data in tables 5.1 and 5.2 with the results of our stakeholder analysis would suggest that there are three broad curriculum offers delivered by UTCs and studio schools.

TABLE 5.1

Pupils at UTCs, studio schools and mainstream secondary schools are likely to take different combinations of GCSEs

GCSE entries per pupil in studio schools, UTCs and mainstream secondary schools (selected subjects) (2015/16)

	Entries per pupil		
GCSE subject	Studio schools	UTCs	Mainstream secondary schools
English			
English language	0.31	0.55	0.57
English literature	0.58	0.69	0.75
English language and literature	0.06	0.16	0.05
Humanities			
Geography	0.16	0.34	0.40
History	0.10	0.10	0.44
Languages			
French	0.05	0.08	0.23
German	0.01	0.07	0.09
Spanish	0.01	0.08	0.15
Maths and science			
Biology	0.13	0.30	0.23
Chemistry	0.12	0.34	0.23
Physics	0.12	0.34	0.23
(Core) Science	0.84	0.68	0.74
Mathematics	0.81	0.97	0.96
Other STEM subjects			
Computer studies / Computing	0.18	0.38	0.11
Design and technology: Electronic products	0.00	0.04	0.01
Design and technology: Product design	0.05	0.15	0.07
Environmental science	0.01	0.05	0.00
Information and communications technology	0.15	0.07	0.13

Source: IPPR analysis of school performance data obtained from https://www.compare-school-performance.service.gov.uk/

TABLE 5.2

Pupils at UTCs and studio schools are more likely to take some non-GCSE qualifications.

Non-GCSE entries per pupil in studio schools, UTCs and mainstream secondary schools (selected subjects) (2015/16)

	Entries per pupil		
Non-GCSE subject	Studio schools	UTCs	Mainstream secondary schools
BTEC First Award L1/L2 – Band C – P-D			
Art design	0.04	0.00	0.01
Business studies	0.14	0.03	0.04
Computer architecture / Systems	0.07	0.01	0.03
Engineering studies	0.08	0.28	0.02
Health studies	0.11	0.00	0.03
Multimedia	0.12	0.00	0.01
OCR L1/L2 Cambridge National Certificate			
Engineering studies	0.03	0.66	0.00
Manufacturing engineering	0.00	0.29	0.00

Source: IPPR analysis of school performance data obtained from https://www.compare-school-performance.service.gov.uk/

1. Technical offer

This model is most common among UTCs, and is designed to deliver a key stage 4 curriculum which combines core STEM GCSEs (such as maths and the sciences) with additional STEM GCSEs (such as design and technology), and a small number of non-GCSE STEM options (such as BTEC engineering). GCSEs in the arts, humanities and languages play a more peripheral role than is the case in mainstream secondary schools, or may even be absent altogether.

Case study: 14–19 institution delivering a 'technical offer'

One UTC principal told us how, as part of the school's approval process, there was a requirement that all pupils would take humanities and a language at GCSE. As such, in the UTC's opening year, all pupils were entered into GCSEs in these subjects, despite the vast majority lacking an interest in them. The principal told us that they now regret imposing this requirement on pupils. The UTC continues to offer these subjects, but doesn't insist that pupils take them, as most continue to lack an interest. In 2015/16, just three pupils took GCSE German at the UTC. The UTC is now considering whether to stop offering humanities and languages altogether.

2. Vocational offer

This model is most common among studio schools, and is designed to deliver a key stage 4 curriculum which combines condensed GCSEs in core academic subjects (such as (core) science and (combined) English language and literature) with GCSEs in non-STEM vocational subjects (such as hospitality and catering) and a relatively large number of non-GCSE vocational options (such as BTEC health studies). Again, GCSEs in

the arts, humanities and languages play a more peripheral role than is the case in mainstream secondary schools.

Case study: 14–19 institutions delivering a 'vocational offer'

One studio school principal told us how the school attracts a relatively large number of pupils with low-literacy. They therefore prefer a model which includes an expanded number of vocational options largely delivered by work-based learning approaches. These options are largely based on work-based learning.

Another studio school principal told us how, during key stage 4, a STEM-focussed curriculum was found not to be working particularly well for their sizeable cohort of challenging pupils. They are therefore planning to change the curriculum offer to shift towards delivering a greater number of vocational qualifications at level 1, as well as GCSEs in subjects such as PE.

3. Blended offer

This model is designed to deliver a key stage 4 curriculum which combines GCSEs in core academic subjects (such as maths and science) with GCSEs in arts, humanities and languages. It is also likely to include options to study additional STEM GCSEs (such as design and technology), and a limited number of non-GCSE options (figure 5.1). It is therefore a 'middle ground' between a traditional academic curriculum and the technical and vocational offers described above.

Case study: 14–19 institutions delivering a 'blended offer'

One UTC Principal described to us how they have sought to combine strong elements of both vocational and academic learning in their curriculum offer:

> *'We have the best academic teaching, and the right vocational and technical teaching – linked to [our] industrial employers… it's about a strong academic curriculum… wrapping the vocational around that and [embedding] the vocational curriculum wherever you possibly can, and [ensuring] quality and [that] the teaching involved is the best academic level it can be.'*

They described the difficulty in balancing vocational and academic learning – describing a 'clash of cultures' which exists between the two – and the potential benefits of successfully delivering a blended curriculum.

> *'Bringing these two together and having to harness them... there is pain involved... but it is worth it. There is a tremendous amount of excitement about the innovation aspect of it, but the ongoing challenge is there.'*

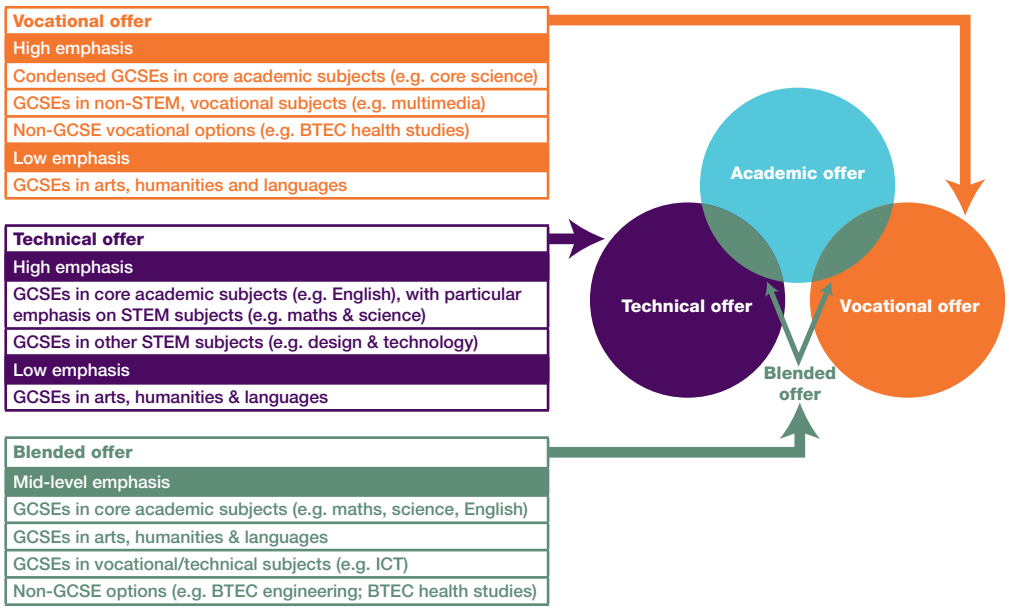
They also described the pitfalls which can exist when a blended model isn't delivered effectively.

'You can go too far one way or the other way. If you go too far the other way you end up with an FE college or an apprentice centre/training provider that doesn't deliver… academic qualifications. And then all of a sudden your results aren't good academically, and you have the Department for Education and Ofsted crawling all over you.'

FIGURE 5.1

UTCs and studio schools each offer one of three curriculum offers to pupils: a technical offer; a vocational offer; or a blended offer

Typology and key features of key stage 4 curriculum offers



Source: IPPR analysis of school performance data obtained from https://www.compare-school-performance.service.gov.uk/

WHAT ARE THE DRIVERS OF THESE DIFFERENT CURRICULUM MODELS?

The implementation of a 'broad and balanced curriculum' does, then, vary significantly between 14–19 institutions, as well as between individual UTCs and studio schools. But what factors have driven individual 14–19 institutions to choose to deliver different curriculum offers? The choices taken by 14–19 institutions' leaders have been affected by a number of education reforms introduced since 2010.

Curriculum reforms since 2010: vocational qualifications, EBacc and Progress/Attainment 8

Following the Wolf Report (2011), reforms to level 2 vocational qualifications have been introduced.

- The 'GCSE equivalency' of a vast number of vocational qualifications was removed or reduced. A single non-GCSE

vocational qualification can now count for no more than one GCSE in league table measures (previously some had counted for up to six).

- Vocational qualifications have become more exam-focussed. Assessment for qualifications such as level 2 BTECs has come to be more focussed on terminal exams rather than coursework and the demonstration of practical learning, seeing them more closely resemble GCSEs.

In keeping with the findings of the Wolf Report, these reforms were justified on the basis of reducing the number of pupils taking qualifications which had little or no currency among employers, and to prevent pupils from disadvantaged backgrounds being diverted towards 'easier' options rather than those recognised more often by Russell Group universities (see for example Cook 2013).

These reforms were also designed to complement the introduction of the English Baccalaureate (EBacc) in 2010.

The EBacc measures schools' performance according to the percentage of pupils achieving grade C or above in seven designated subjects (double English, maths, a foreign language, double science, and history or geography). The government has set out an ambition that 90 per cent of pupils enter the EBacc (DfE 2016). In 2016/17, 36.8 per cent of pupils in England entered the EBacc, and 23.1 per cent of pupils achieved it (DfE 2017).

The final reform was the introduction of the Progress 8 and Attainment 8 measures. From 2015/16, these replaced the five A*–C grades at GCSE (including English and maths) measure in league tables of school performance.

Progress 8 measures progress at key stage 4 in relation to prior attainment at key stage 2. It therefore gives an indication as to how well schools are helping to boost attainment among pupils. It is intended, in part, to remove the incentive for 'gaming', whereby schools divert disproportionate time and resource to pupils on the C/D borderline, in order to maximise the number of pupils awarded five A*–C grades at GCSE (including English and maths).

To arrive at a Progress 8 score for an individual pupil, the subjects are divided into three 'buckets'. The first contains GCSE maths and English, which are given double weighting. The second contains a pupil's three best grades from the other EBacc subjects. The third contains a pupil's three best grades from other EBacc subjects or approved qualifications, including vocational or arts subjects. A pupil's Attainment 8 score is worked out using their average grade across each of these 8 subjects, and measures overall attainment rather than progress.

Under this new system, EBacc subjects are prioritised, and English and maths given extra weighting, although up to three vocational qualifications can count towards the Progress 8 and Attainment 8 indicators.

If a pupil were to enter only English, maths and two other EBacc subjects, for example, then they would have a 'gap' in the second

bucket, which would bring down their overall score. Similarly, if they only entered two subjects eligible for the third bucket, they would incur a 'gap'.

The reforms to vocational qualifications and introduction of the EBacc were designed to reassert the primacy of GCSEs in core academic subjects. They have strengthened incentives for schools to restrict access to the former in favour of the latter in order to protect their league table performance.

Together, these reforms have, however, created an overriding confusion for 14–19 institutions. The studio school and UTC models were developed and initiated in order to boost technical and vocational learning from key stage 4. But, at the same time, government has introduced measures to prioritise learning in academic subjects and penalise schools that choose to offer an enhanced vocational or technical component at key stage 4, **including studio schools and UTCs.**

> *'…in a system whose currency is exams in general, and GCSEs in particular, it is difficult to grow a school model with a rather different view of what success is. The current debate regarding the compulsory introduction of the English Baccalaureate is a perfect illustration of this. Imposing this standardised model would threaten the very existence of studio schools, and other schools with distinctive approaches. In the meantime the uncertainty is inevitably destabilising.'*
> Studio Schools Trust 2016

Achievement in 'approved' vocational qualifications is still recognised via the third Progress 8 'bucket'. However, during our stakeholder analysis we heard complaints that this 'approved' list is still too restrictive, and means that qualifications and subjects which would be beneficial to pupils are omitted from 14–19 institutions' performance measures. If a UTC or studio school opts to enter pupils into these qualifications, and the pupil performs well, this will not be recognised. We also heard complaints that vocational qualifications' increasing focus on exam-based assessment has made them less accessible to pupils who are not suited to traditional models of learning.

The variation in curriculum offers explored above has, therefore, developed as a result of 14–19 institutions seeking different ways to 'square the circle' between government priorities and a commitment to technical and vocational education.

PUPIL PERFORMANCE AND PROGRESS: LEAGUE TABLE PERFORMANCE MEASURES

EBacc achievement and entry

League table data shows that UTCs and studio schools both record low EBacc achievement levels (figure 5.2). On average, just 3 per cent of pupils in both UTCs and studio schools achieved the EBacc in 2015/16, compared to a national average of 23 per cent.[13] In 72 per cent of studio schools and 54 per cent of UTCs, 0 per cent of pupils achieved the EBacc.[14] Just a single

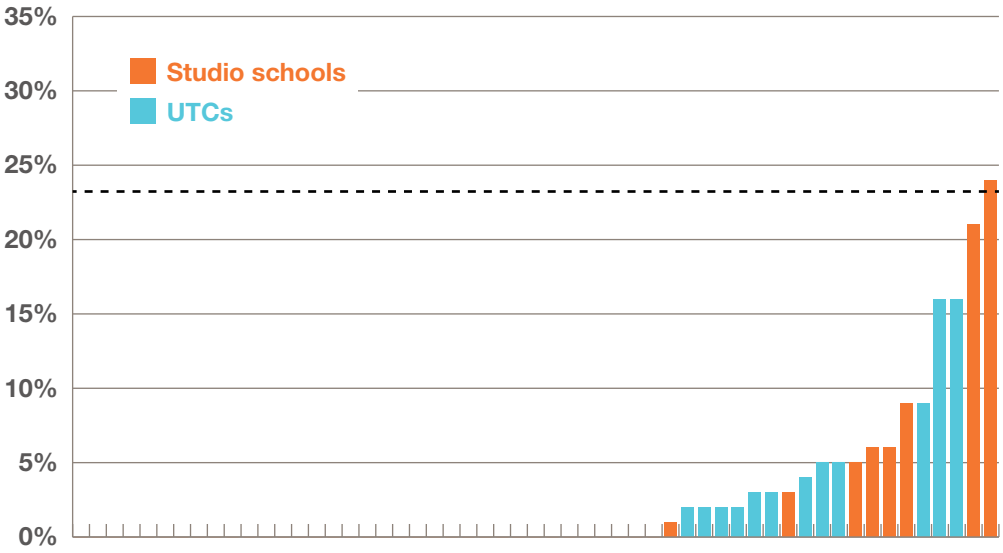
13 IPPR analysis of Department for Education statistical release data (DfE 2017).
14 IPPR analysis of Department for Education statistical release data (DfE 2017).

14–19 institution – De Salis Studio College (24 per cent) – scored an EBacc achievement rate above the national average.

FIGURE 5.2

All UTCs, and all but one studio school, record EBacc achievement levels below the national average

Percentage of pupils to achieve the EBacc in 2015/16 in studio schools and UTCs (blue) (dotted line marks the average EBacc achievement rate across all schools)



Source: IPPR analysis of Department for Education statistical release data (DfE 2017)

This can be explained in large part by very low rates of EBacc *entry* among 14–19 institutions (figure 5.3). For the cohort that completed key stage 4 in 2015/16, just 6 per cent of pupils in studio schools and 10 per cent of pupils in UTCs were entered for the EBacc (compared to a national average of 37 per cent).[15]

While the low rate of EBacc entry should mean that low EBacc achievement rates do not come as a surprise, it does suggest that relatively few 14–19 institutions are opting to deliver a 'blended' offer which emphasises EBacc entry. Instead, 14–19 institutions (and particularly studio schools) would appear to be willing to damage their position on performance league tables in order to divert pupils onto subjects not covered by the EBacc, and so deliver a curriculum offer distinct from that available in mainstream secondary schools.

GCSE achievement (five A*–C grades, including English and maths)

Irrespective of EBacc performance, key stage 4 attainment at 14–19 institutions is below the national average. In 2015/16, an average of 35 per cent of pupils in UTCs and 26 per cent of pupils in studio schools achieved five A*–C grades at GCSE (including English and maths) (30 per cent in total), compared to a national average of 54 per cent.[16]

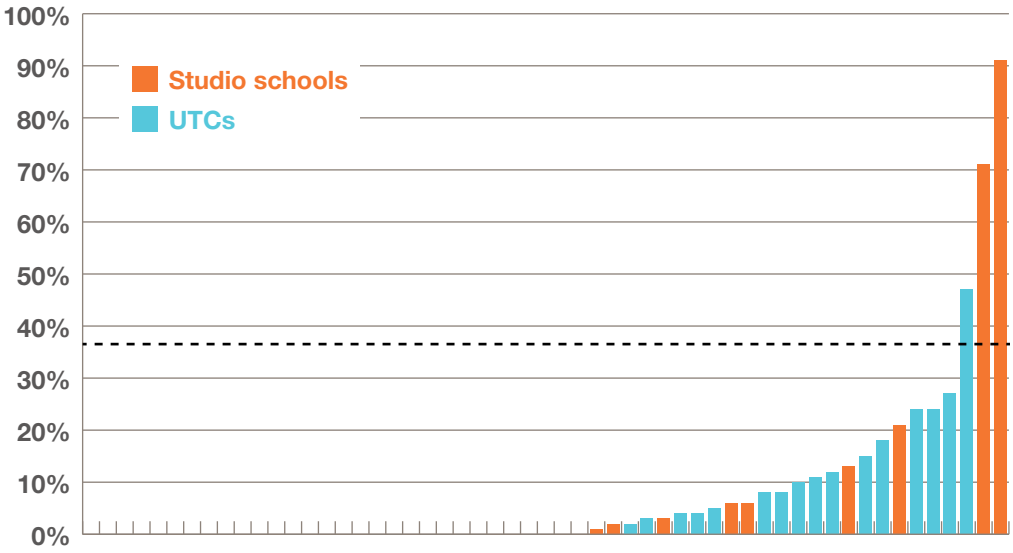
15 IPPR analysis of Department for Education statistical release data (DfE 2017).

16 IPPR analysis of data taken from the Telegraph's school performance calculator (Yorke 2017).

FIGURE 5.3

Pupils at both UTCs and studio schools are significantly less likely to be entered into the full range of EBacc subjects

Percentage of pupils to enter the EBacc in 2015/16 in studio schools and UTCs (dotted line marks the average EBacc entry rate across all schools)



Source: IPPR analysis of Department for Education statistical release data (DfE 2017)

In chapter 4 we saw how 45 per cent of this intake were predicted to achieve five A*–C grades at GCSE (including English and maths) based on their key stage 2 attainment. The fact that just 30 per cent achieved this in practice shows how their progress was slowed between age 11 and 16. This is likely to be due to two main factors.

First, we know that 14–19 institutions (and particularly studio schools) attract a disproportionate number of low-attainers. As we saw in chapter 4, pupils joining 14–19 institutions are predicted low GCSE attainment based on their performance at key stage 2. This data shows those predictions are largely being fulfilled.

Second, table 5.1 showed how pupils in 14–19 institutions (particularly studio schools) are more likely to take condensed GCSEs in core subjects, meaning they will often receive a single GCSE for English language and literature rather than two separate qualifications, for example. They are also less likely to be entered into GCSEs which would, in mainstream secondary schools, be a matter of course, such as humanities and languages; and are more likely to study vocational qualifications not recognised in league tables.

Progress 8 and Attainment 8

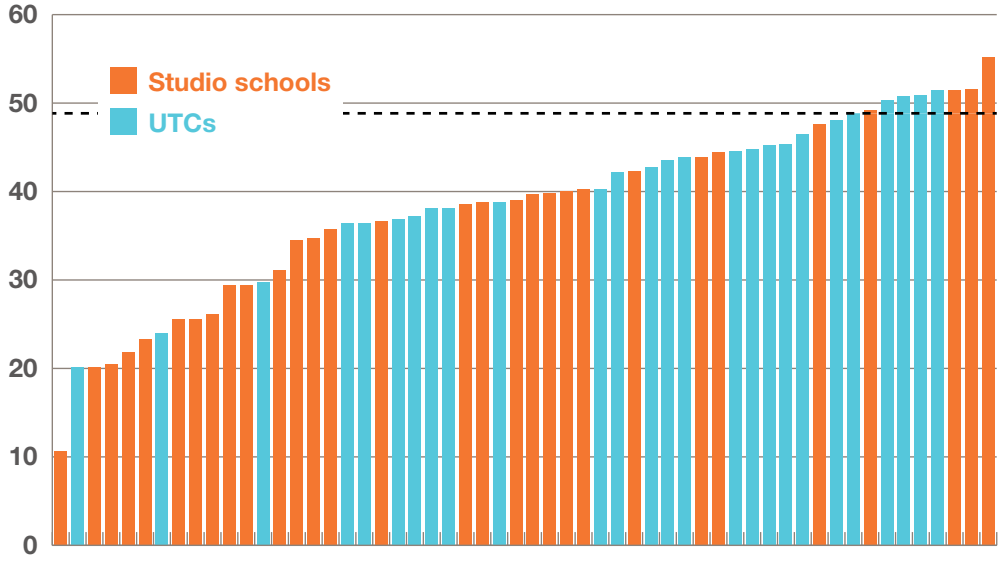
While it should not, perhaps, come as a surprise that EBacc and wider GCSE performance is below average in 14–19 institutions, it would be reasonable to expect these schools' Progress 8 scores to be more positive. Incorporating a wider suite of subjects, and measuring progress

rather than final attainment, the Progress 8 measure should provide the most appropriate performance measure to apply to 14–19 institutions.

FIGURE 5.4

A significant majority of UTCs and studio schools score below the national average for Attainment 8

Attainment 8 scores for studio schools and UTCs in 2015/16 (dotted line marks the average attainment 8 score across all schools)



Source: IPPR analysis of Department for Education statistical release data (DfE 2017)

However, the data does not suggest that 14–19 institutions are helping pupils to improve their progress. Two-thirds of both UTCs (65 per cent) and studio schools (67 per cent) achieved a Progress 8 score that was 'well below average' for pupils in 2015/16, meaning that they fall within the bottom 10 per cent of schools nationally. By contrast, no UTCs or studio schools achieved a score that was either 'well above average' or 'above average', meaning there are no such institutions which fall within the top 30 per cent of schools nationally for Progress 8. In 2015/16, the average Attainment 8 score for studio schools was 35.6 and for UTCs was 41.4 – both significantly below the national average of 48.5 (figure 5.4).[17]

Comparing studio schools and UTCs, the former have, on the whole, a slightly better record on Progress 8, with more schools rated as 'average' rather than 'below average' (figure 5.5). This would suggest that they are better than UTCs at boosting pupils' progress. However, the higher average Attainment 8 score for UTCs provides further evidence that they are attracting higher-attaining pupils.

Low Progress 8 scores should be of serious concern to 14–19 institutions. However, it is possible that they can be partly explained by: slowed progress occurring largely in years 7–9, meaning improvements in progress while at the 14–19 institution may not be reflected in Progress 8 scores; and

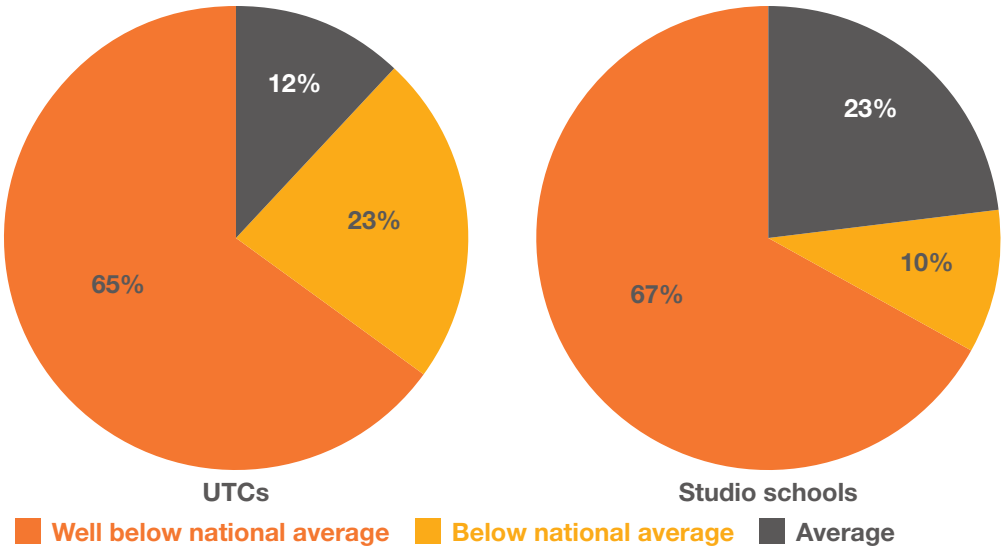
17 IPPR analysis of Department for Education statistical release data (DfE 2017).

Progress 8 'buckets' being too narrow, meaning the progress of pupils who take subjects which sit outside them is not reflected in the score.

FIGURE 5.5

The majority of UTCs and studio schools fall well below the national average according to the Progress 8 measure

Progress 8 scores in 14–19 institutions (2015/16) (UTCs = left, studio schools = right)



Source: IPPR analysis of Department for Education statistical release data (DfE 2017)

DESTINATIONS

As we saw in chapter 2, proponents of 14–19 institutions argue that the UTC and studio school models can help to create pathways into higher education and work.

According to the Baker Dearing Educational Trust, pupils who leave UTCs are overwhelmingly likely to avoid going on to become not in education, employment or training (NEET). They argue that, in July 2015, 99.5 per cent of 16-year-old leavers stayed in education, started an apprenticeship or got a job, while 97 per cent of 18-year-old leavers went into further learning or work (Baker 2016). However, verifiable destinations data is available from only two UTCs. For pupils who completed year 11 in 2014, 98 per cent of pupils from JCB Academy and 91 per cent of pupils from Aston University Engineering Academy stayed in education or went into employment (DfE 2017).

Verifiable destinations data is available for nine studio schools. For these schools, an average of 84 per cent of pupils stayed in education or went into employment after completing year 11.[18] This is significantly lower than the national average of 94 per cent (DfE 2017).

18 Data is only available for studio schools and UTCs which opened in 2012/13 or before, and which remained open in 2015/16.

Over the next three years, more destinations data will become available for UTCs and studio schools that opened after 2012. Analysis of this data will provide an opportunity to assess more rigorously the claim that UTCs and studio schools enhance pupils' prospects for higher education and work.

NON-ACADEMIC MEASURES: ENGAGEMENT AND DEVELOPMENT

As we saw in chapter 2, proponents of 14–19 institutions also argue that the UTC and studio school models can help pupils to develop skills which are important to pupils' development and levels of engagement, but which are less commonly measured than academic outcomes. For example, the Studio Schools Trust (2016) argues that its pupils 'make rapid progress across a range of indicators. Many of these indicators (confidence, attitude to learning, resilience) are valuable in the real world, but rarely measured in mainstream education.' It points to its national survey of studio school pupils, which found 82 per cent to be more focussed on their future, 72 per cent to be more engaged, 77 per cent to feel happier, and 80 per cent to feel more confident as a result of having moved school (Studio Schools Trust 2016). Similarly, Baker (2016) argues that UTCs help pupils to acquire skills and experiences including reasoning skills, problem-solving skills, teamwork skills, confidence and social skills, critical thinking, active listening and presentational skills.

There is, however, a lack of robust evidence to support claims that the UTC and studio school models help to boost engagement and development. Testimonies from pupils and parents collected via our stakeholder analysis do, though, suggest that UTCs and studio schools can help to develop additional skills which can enhance pupils' development and help them make real progress. A selection of these are outlined below.

Independence and autonomy

> *'It was just more, "yes, we accept you for who you are". And [a] more… adult-based working environment in that, "yes, you're here to study, we're here to help you".'*
>
> Parent

Some pupils noted how the longer working day meant that they could avoid having to do work at home, and that they could email teachers with queries if they need to.

Ambition and drive

> *'It's… made me want to go for what I dreamed of… in my old school I'd wanted to go for something else, because of the way they were teaching, but now it's made me go for what I want to do.'*
>
> Pupil

Some pupils reported that thinking about their future had become more important since moving to the 14–19 institution.

Thirst for learning

'I've never been excited to learn before, but coming here has changed my perspective on education'

Pupil

Some pupils noted how they had become more engaged with education since moving to a 14–19 institution, meaning longer school days and travel times were only minor issues.

Social skills and confidence

'I can't quite believe the change in [my son]. And I have so many comments saying '… that place has done wonders for him'. His confidence has gone through the roof.'

Parent

Several pupils discussed how they had been bullied and 'didn't fit in' at their previous school, but that the environment at the 14–19 institution had helped them to make new friends. Smaller class sizes were noted as having played a particularly important role.

Relationships with adults

'We are treated as equals to the teachers… we can say their first name and we are treated as young adults instead of being children [with them being] above us.'

Pupil

Some pupils also noted the benefits of greater interaction with 'the outside world' through work experience and engagement with employers.

SUMMARY

14–19 institutions largely deliver one of three curriculum offers: a technical offer, a vocational offer, or a blended offer. UTCs are more likely to deliver a technical offer, studio schools are more likely to deliver a vocational offer, while both UTCs and studio schools can opt to deliver a blended offer. Each of these curriculum offers differs from that which is available in mainstream secondary schools. As such, the qualifications studied by pupils in UTCs and studio schools during key stage 4 differ from the national average in a number of important ways.

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.

While there is some qualitative evidence to support the claims of 14–19 institution leaders that they are helping pupils to progress in ways not measured by academic metrics, **the Progress 8 scores for both UTCs and studio schools are significantly below average, and a real cause for concern**. Two-thirds of UTCs and studio schools fall within the bottom 10 per cent of schools nationally according to Progress 8 scores.

The decision by a large number of UTCs and studio schools to forego curriculum offers which maximise league table performance would appear to reinforce their failure to recruit a comprehensive intake. As league table performance suffers, the 'attractiveness' of 14–19 institutions is likely to diminish in the eyes of parents, making it more difficult to attract pupils from a mix of backgrounds and with a mix of abilities. Again, this can reinforce the risk that 14–19 institutions lead to the 'tracking' of pupils during key stage 4.

6. CONCLUSION: A CYCLE OF DECLINE

In the previous chapters, we saw how UTCs and studio schools are:

- failing to recruit sufficient numbers of pupils and are often operating significantly under capacity
- largely failing to attract a comprehensive intake of pupils
- delivering curriculum offers which are often not 'broad and balanced', and which differ from the offers available at mainstream secondary schools in a number of ways
- failing to enhance the performance and progress of pupils (at least according to key academic measures) resulting in low league table performance.

This chapter sets out the cumulative effects of these characteristics, namely that UTCs and studio schools can quickly become trapped in a 'cycle of decline' from which it is very difficult to escape. It is entry into this cycle which has, in several cases, resulted in a 14–19 institutions' closure. It also explores whether 14–19 institutions are able to thrive within the current English education system.

A CYCLE OF DECLINE

Barriers to recruitment and inability to fill sufficient numbers of year 10 places

Entry into a cycle of decline (figure 6.1) is driven by the three sets of barriers to recruitment explored in chapter 3 (structural, local and societal). The majority of UTCs and studio schools fail to overcome these barriers in their first years after opening. As such, a significant number fail to recruit sufficient numbers of pupils and come to immediately operate under capacity.

Reduced funding

Where UTCs and studio schools come to operate under capacity, they will receive less funding from government than they had planned for prior to opening. Although these schools – particularly UTCs – can receive substantial government investment in the form of new infrastructure and equipment prior to opening, once they have begun admitting pupils their funding model is the same as other schools.

Ability to attract a comprehensive intake is reduced

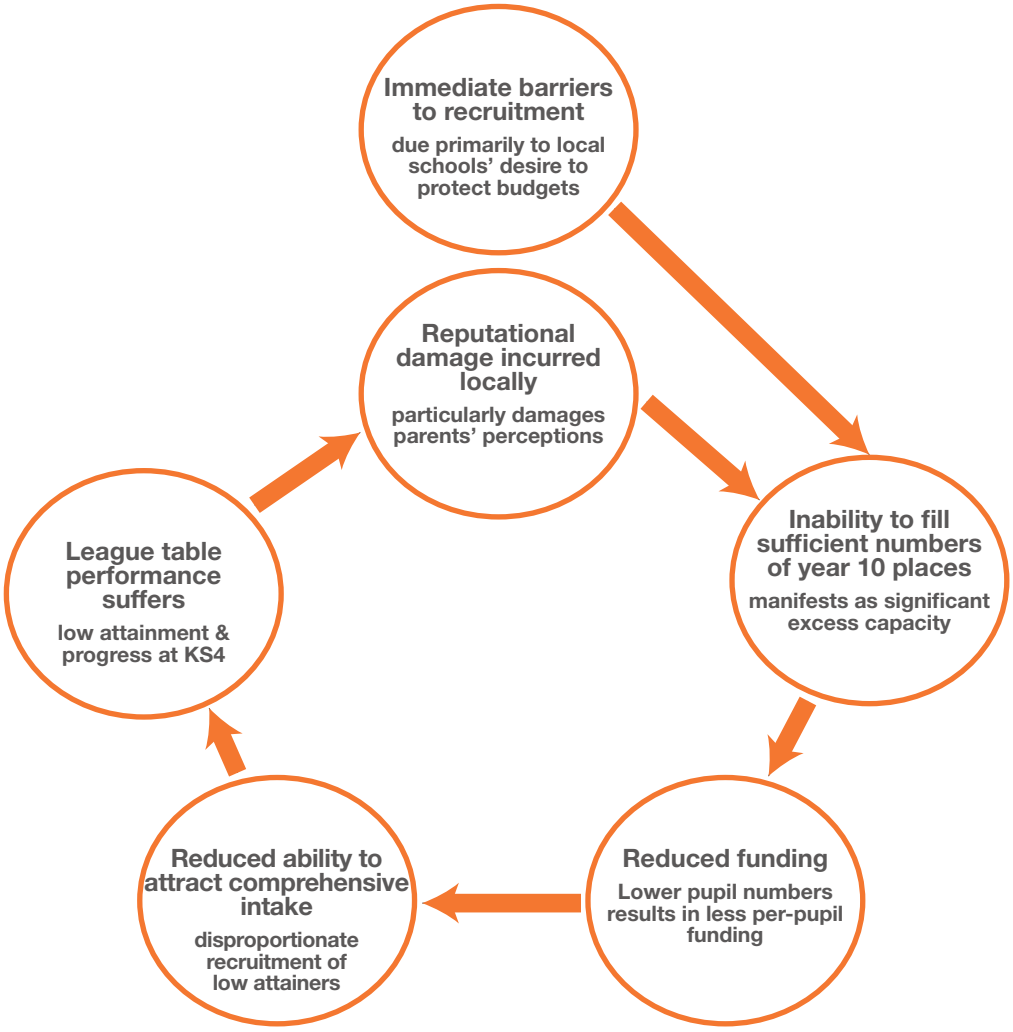
The requirement to maximise income, or at least not suffer significantly reduced budgets, can then increase the pressure to boost recruitment by any means possible. This creates an incentive for UTCs and studio schools to broaden the range of pupils who they seek to attract, and reduces their

ability to exclusively recruit pupils with a strong interest in, or aptitude for, vocational and technical subjects and alternative models of learning.

There is evidence that mainstream secondary schools often look to encourage only those pupils who are 'struggling' – and have low attainment, or poor behaviour, or both – to transition into UTCs and studio schools. After experiencing initial recruitment difficulties, it can be harder for UTCs and studio schools to push back against this 'streaming', due to the financial imperative to maximise pupil numbers. Their ability to control the comprehensiveness of their intake is reduced. Studio schools in particular therefore come to attract a disproportionate number of low attainers and pupils from disadvantaged backgrounds.

FIGURE 6.1

Barriers to recruiting pupils at age 14 means UTCs and studio schools risk falling into a 'cycle of decline' which can lead to eventual closure
The 'cycle of decline' for 14–19 institutions



League table performance suffers

UTCs and studio schools are forced to try to 'square the circle' between their initial remit – to deliver a distinctive curriculum offer to pupils – and strong government incentives to prioritise learning in a relatively narrow set of core academic subjects.

Faced with these competing incentives, a significant number choose to sacrifice directing pupils towards EBacc subjects in favour of delivering a specialist (technical or vocational) curriculum offer. EBacc entry and achievement rates among pupils in UTCs and studio schools are both significantly below the national average.

Where recruitment pressures drive UTCs and studio schools towards attracting a disproportionate number of pupils with low prior attainment at key stage 2, this often plays out as low performance and progress at key stage 4. UTCs' and studio schools' Progress 8 scores are significantly below the national average.

This combination of attracting a low-attaining cohort and choosing not to prioritise EBacc subjects means UTCs' and studio schools' league table performance can quickly suffer.

Reputational damage incurred locally

Where a UTC or studio school enters league tables in a low position, this can quickly come to cement a perception that the school is low quality, and so dissuade parents and teachers from encouraging pupils to transition at 14. A cycle of low recruitment and a lack of comprehensiveness is therefore entered into.

This is amplified by the fact that many UTCs and studio schools struggle to advertise their presence and their distinctiveness to parents, due to adversarial relationships built up with mainstream secondary schools and local authorities. Where individual UTCs and studio schools come to be viewed as low quality, this can also serve to tarnish the 'brand' and more deeply entrench stigma attached to vocational and technical education.

There are, however, also important differences between UTCs and studio schools. The evidence on recruitment numbers and comprehensiveness of intake suggests that studio schools are particularly susceptible to falling into a cycle of decline (as does the greater number of closures compared to UTCs). UTCs attract a higher-attaining intake and studio schools attract different cohorts of pupils, deliver different kinds of education to pupils, and essentially serve a different purpose.

CAN 14–19 INSTITUTIONS THRIVE WITHIN THE ENGLISH SCHOOLS SYSTEM?

School-level changes: conditions for success

Entry into a 'cycle of decline' is not inevitable. A small number of UTCs and studio schools are either over capacity, or have positive Ofsted ratings, or both. Others that are operating under capacity look to have a reasonable chance of avoiding the same fate as those that have closed. Our stakeholder analysis suggests that there are a number of 'conditions for success' that could help individual UTCs and studio schools to avoid falling onto a path towards eventual closure (table 6.1).

TABLE 6.1

Conditions for success for UTCs and studio schools

Condition for success	Explanation
Establish local need for pupil places	Failure to do so will likely intensify barriers to recruitment by hardening adversarial relationships with mainstream secondary schools, based on competition.
Foster a positive relationship with the local authority	Even in a largely academised school system, local authorities can play an important role in brokering relationships between 14–19 institutions and a range of stakeholder groups, as well as to help advertise their presence and encourage admissions. Failure to foster a positive relationship can therefore undermine the potential for wider collaboration and effective recruitment.
Consult with mainstream secondary schools within local education market	This is important to build local understanding of the 14–19 institution's model and aims, as well as its potential benefits for pupils. It can also help to dispel myths which otherwise risk contributing to adversarial relationships. Consultation can help establish direct lines of communication from the outset, and maximise opportunities for ongoing collaboration.
Establish strong links within the local economy	This is important for 14–19 institutions to be able to make the case to parents that they enhance pupils' prospects and reduce the risk that they become NEET. Strong links with employers and universities can also help to provide pull factors to aid recruitment.
Choose an appropriate location	Where a 14–19 institution chooses to open in a building previously occupied by a failing school, there is real risk that it will simply inherit that school's reputation, damaging its recruitment potential. An attractive location with good transport links and with close proximity to employer and university partners can provide important pull factors to aid recruitment.
Design and communicate a distinctive curriculum offer	A curriculum offer which is distinctive from those already available within a local education market can provide an important pull factor for pupils. It can also minimise the risk that mainstream secondary schools view the institution as a competitor, and so seek to undermine its recruitment. However, the curriculum offer must also be 'broad and balanced' enough to allay fears of 'tracking' and maximise opportunities for positive league table performance.
Design a strategic approach to pupil recruitment	In the face of resistance from mainstream secondary schools, 14–19 institutions should develop an innovative approach to pupil recruitment, directly communicating with pupils and parents (through direct mail, open evenings, etc). Where possible, they should also seek to stay true to their aim of recruiting pupils only with an explicit commitment to the institution's specialism. By planning to gradually increase pupil numbers towards full capacity, the cost implications of aiming for full capacity and drastically falling short are mitigated.
Ensure appropriate teacher recruitment	Teachers with experience of working in industry, as well as those with specific expertise in delivering alternative learning models (such as project-based learning), can help to engage pupils and build a distinctive offer compared to mainstream secondary schools.
Make use of, and help to develop, a strong brand	Where 14–19 institutions can rely on a strong brand, this can provide an important pull factor to entice pupils and parents. The absence of a strong brand can intensify the perceived risk of transitioning at 14.

Source: IPPR analysis

The conditions are, however, necessary but not sufficient. There is a strong case to suggest that those UTCs and studio schools to have avoided a cycle of decline have done so in spite of the model to which they've ascribed, largely as the result of very strong leadership and significant buy-in from local stakeholders.

Legislative changes

In its 2016 white paper, the government set out an ambition that schools should be accountable for the results of pupils who they send to alternative provision (AP) or exclude, in order to reduce incentives to 'manage out' pupils who are struggling in order to boost league table performance (DfE 2016). However, there have been some calls for this to be extended to also include pupils who transition into UTCs and studio schools. Reweighting league table performance to include all pupils who receive some of their education at a school, in proportion to how long they spent there, suggests that 88 per cent of schools would have experienced lower headline pass rates for five A*–C grades at GCSE (including English and maths) in 2014/15 (Nye 2017b).

Introducing new legislation of this kind could help to minimise incentives for mainstream secondary schools to 'stream' low-attaining pupils or those who are struggling due to behavioural issues into UTCs and studio schools. However, it does not necessarily follow that this would result in mainstream secondary schools encouraging transition for all pupils. More likely, it would increase incentives to minimise transition altogether.

However, government *does* look set to introduce legislation which is likely to remove some barriers to UTCs' and studio schools' recruitment. The Technical and Further Education Act – which is due to be passed into law later in 2017 – is likely to include an amendment to require that mainstream secondary schools provide an opportunity for 'a range of education and training providers' to access pupils aged between 13 and 18, in order to promote 'technical education qualifications and apprenticeships'. Schools will also be required to publish a policy statement detailing the process by which they will allow providers of technical education – including UTCs and studio schools – access to their pupils in order to share information about their institutions (Whittaker 2017).

This is intended to assist 14–19 institutions' recruitment by forcing mainstream secondary schools to permit UTC and studio school leaders onto their premises in order to promote themselves as viable alternatives for pupils. However, it will not change the underlying fact that 14 is – within the English system – an unnatural transition point. As such, the incentive – driven by the system of per-pupil funding – for mainstream secondary schools to retain as many pupils as possible until at least age 16 is unchanged.

There is a strong possibility that the introduction of this requirement will improve the ability of UTCs and studio schools to recruit pupils. However, there is a serious question as to whether it is sufficient for the programmes to turn around to the extent needed for them to thrive. On the one hand, it is possible that mainstream secondary schools will react by planning for reduced pupil numbers in years 10 and 11 in order to cope with an increased proportion of pupils leaving at age 14. On the other, there is a risk that adversarial relationships between 14–19 institutions and mainstream schools are hardened as more of the latter perceive the former as a real threat to their own viability.

International examples

There are successful international examples of specialist vocational and technical institutions that recruit students at age 14. For example, studies have demonstrated how graduates of Career and Technical (CTE) high schools in the US outperform students at other high schools, and that these schools can be oversubscribed to the extent that over 50 per cent of applicants are screened out (Neild et al 2013). In European countries such as Austria and Switzerland, the 'dual system' approach is widely praised, and sees more than 80 per cent of young people follow a vocational, rather than academic, route (GDTVE 2011).

Career and Technical Education high schools

CTE high schools were founded in the early 1990s and, by 2008, had grown to make up 3.7 per cent of public high schools in the US.[19]

They are based around a broadly similar model to UTCs and studio schools, and aim to blend vocational and technical education with core academic content, while providing a greater degree of the former than is generally available in mainstream upper-secondary institutions. They provide students with a sufficiently strong academic curriculum to allow them to achieve a high school diploma, while also requiring that they undertake sufficient vocational credits to 'major' in a specific occupation area.

They have also emerged in a country where vocational and technical education at the upper-secondary level has the same longstanding cultural disregard as in England. By the 1990s, vocational and technical education in the US had come to be viewed as a 'dumping ground' associated with race- and class-based tracking and poor student outcomes, and so was rebranded as CTE by the Department of Education (Atlas 2016).

Unlike UTCs and studio schools, however, there is some evidence that CTE high schools are, at least in some states, thriving. A 2013 study examined those to have graduated from five CTE high schools in Philadelphia between 2003 and 2005. It found that CTE high school graduates generally outperformed graduates of regular high schools (in terms of attainment and attendance). It also found that these schools were oversubscribed, sometimes to the extent that they had chosen to screen applicants to test for factors such as interest in the relevant career fields, performance and behaviour. On average across the five schools, 52 per cent of applicants were screened out for the 2004 and 2005 cohorts (Neild et al 2013). This suggests that CTE high schools often deliver a high quality academic, as well as vocational, education, leading them to create a sense of prestige and cement their attractiveness to parents relative to other local schools.

The significant difference in the circumstances of CTE high schools compared to UTCs and studio schools is that, in the US, there is universal transition at age 14. This results in the absence of structural barriers to recruitment which, in turn, allows local and societal

19 See: https://nces.ed.gov/surveys/ctes/tables/h01.asp

barriers to recruitment to be overcome. For example, given that all students in the US are actively seeking to identify their preferred high school at age 14, CTE high schools are inevitably seen by parents and pupils as one option among a wider suite. There are, therefore, no shortage of willing 'feeder' schools, and recruitment is not dependent on the strength of these relationships.

However, these successes have occurred in schools systems where 14 is the embedded age of transition. As such, these institutions are not forced to overcome the same number of barriers as UTCs and studio schools. Instead, they work within the boundaries of the existing system.

Whole-system reform?

There have been sporadic calls for the English schools system to be reformed so as to deliver a coherent upper-secondary phase from age 14–19, with universal institutional transition at 14. This would see our schools system more closely resemble that of the United States and much of Europe, and create the conditions in which UTCs and studio schools could be expected to thrive. For example, Lord Baker has called for the national curriculum to be restricted to age 14, with the upper-secondary phase reconfigured so as to allow a pupil to follow one of four distinct pathways: university technical college, liberal arts college, sports, creative and performing arts college, or career college (Baker 2013).

However, government policy is moving further away from this kind of model, and has reaffirmed its commitment to a core academic curriculum delivered up to age 16, followed by students choosing to follow either an academic or technical option thereafter. Within the context of an 11–16 secondary phase characterised predominantly by the EBacc and Progress 8, the odds are stacked against the success of UTCs and studio schools.

There may well be value in revisiting arguments as to the relative merits of whole-system reform which would see the scrapping of GCSEs and the introduction of a coherent upper-secondary phase with pupils following a single diploma in a specialist institution from age 14. However, it is far from clear that the potential benefits would outweigh the disruptive effects of such a radical upheaval of the schools system.

Could UTCs and studio schools be used to help improve technical provision within the FE sector?

The government's Post-16 Skills Plan, as well as the broader aims set out in the *Building our Industrial Strategy* green paper, require that post-16 provision is geared up to deliver high-quality technical and vocational provision across the 15 routes through which T levels are to be delivered (BIS and DFE 2016, HMG 2017). However, it is not yet clear that the FE sector is equipped to meet this challenge. There are two particular areas for concern.

First, serious concerns have been raised about the *quality* of some FE provision. For the academic year 2015/16, almost one in three general FE colleges (29 per cent) received a negative Ofsted rating (either 'requires improvement' or 'inadequate') (Exley 2016b). In 2016, Sir Michael

Wilshaw – the then chief inspector of schools for Ofsted – gave this assessment of the FE sector:

> *'Right across the country, we find colleges that simply aren't delivering what's needed. In too many cases, inspectors are coming across weak provision, characterised by poor outcomes for learners and apprentices, high drop-out rates and sub-standard work experience placements that fail to develop students' industry-specific skills… too many FE colleges are still packing their curriculum with low-quality courses that fail to match the skills gaps in the local and national labour market.'*
>
> Sir Michael Wilshaw quoted in Belgutay 2016b

Wilshaw and Ofsted have raised particular concern regarding the extent to which general FE colleges deliver high-quality technical courses and qualifications. The 2015/16 Chief Inspector's Annual Report argued that students studying technical and vocational courses in an FE setting are, compared to those studying academic courses, more likely to experience poor-quality teaching, be given undemanding work, and undertake study that lacks relevance to future career paths and local/national skills shortages (Ofsted 2016). This concern was echoed in the *Building our Industrial Strategy* green paper, which argued that 'while there is good provision, too many of our [FE] colleges only offer a broad, generalist curriculum at lower qualification levels; the sector has too little provision of higher-level, technical qualifications' (HMG 2017).

Second, it is not clear that, according to current provision and planning, there will be a sufficient number of 16–19 *places* available for students. There is evidence that demographic pressures are set to increase demand throughout the English education system, eventually reaching 16–19 provision. For example, the number of primary school applications is now significantly above the number of secondary school places available (Wainwright 2016). While the government has committed new funding to boost the number of secondary places (Coughlan 2017), no such commitment has yet been made to ensure adequate provision is available post-16, despite the increased participation age.

There is an urgent need, therefore, to ensure that the opportunities to improve the quality and esteem of technical and vocational education provided by the Post-16 Skills Plan and new emphasis on industrial strategy are not missed. T levels must be delivered through institutions that can guarantee high quality. And these high quality courses must be available in enough institutions to be able to meet the increased demand brought about by demographic changes.

14–19 institutions – particularly UTCs – have the potential to help plug the current and future gaps in specialist technical 16–19 provision. However, as we have seen above, their current model of recruiting pupils from age 14 is holding them back.

SUMMARY

A significant number of UTCs and studio schools have become, or risk becoming, trapped in a 'cycle of decline' soon after opening. Driven first by barriers to recruitment, this downward cycle is then accelerated by reduced funding, a disproportionately low-attaining intake, and poor league table performance. It results in the reputation of the school being cemented as poor quality, which in turn acts as an ongoing barrier to recruitment outside of 'streaming' by mainstream secondary schools. The eight UTCs and 14 studio schools that have closed in recent years are all likely to have failed to find a way out of this cycle.

However, not all UTCs and studio schools have fallen into this cycle. Those which have avoided this fate have done so by satisfying a number of conditions for success, which can help to mitigate barriers to recruitment.

The structural barriers to recruitment experienced by UTCs and studio schools are rooted in the fact that transition at 14 breaks with the status quo within the wider system. While the success of a small number of 14–19 institutions shows that these barriers to recruitment can be mitigated, there is no evidence that they can be overcome to the scale which would see UTCs and studio schools thrive within a system designed around transition at 11 and 16. What is more, government policy has increasingly crystallised around age 16 being the point at which students are able to follow an explicit technical option.

Within this context, 14–19 institutions are, on the whole, likely to continue to be plagued by the cycle of decline set in motion by structural barriers to recruitment. It is not clear whether new legislative changes designed to assist their recruitment will be able to turn around the UTC and studio school programmes to the necessary degree.

On the basis of the evidence collected through this study, it therefore follows that these models – in their current form – are not sustainable within the existing English schools system.

7. RECOMMENDATIONS

Persisting with the status quo on 14–19 education institutions – gradually increasing their number while ignoring the structural barriers to their success – is highly unlikely to lead to a high quality education for the majority of pupils in these schools. On this basis, this chapter sets out recommendations for the reform of the UTC and studio school programmes in order to give them the best chance of future success.

UNIVERSITY TECHNICAL COLLEGES

- **There are a significant number of UTCs which look to be following a trajectory towards closure.** In 2015/16, 13 UTCs (which currently remain open) filled less than 50 per cent of planned year 10 places.
- **UTCs are, on the whole, succeeding in attracting a comprehensive year 10 intake.** In terms of deprivation and disadvantage, pupils in UTCs broadly match the national average. These pupils' prior attainment in maths at ages 7 and 11 are also identical to the national average.
- **However, UTCs league table performance is significantly below average.** In 2015/16, just 10 per cent of UTC pupils were entered for the EBacc, and 3 per cent achieved it (compared to a national average of 37 and 23 per cent respectively); two-thirds of UTCs rank in the bottom 10 per cent of schools nationally for Progress 8. (This can be explained in part by UTCs often choosing not to enter pupils onto EBacc subjects, thereby delivering a curriculum offer distinct from the offer available in mainstream secondary schools.)
- **UTCs are, on the whole, failing to deliver a high-quality education to pupils, despite attracting a relatively comprehensive intake.** In 2015/16, an average of 35 per cent of pupils in UTCs achieved five A*–C grades at GCSE (including English and maths), compared to a national average of 54 per cent.
- **UTCs are vulnerable to fall into a cycle of decline** due to structural barriers to recruitment which are extremely difficult to overcome.
- **Government policy is increasingly designed to cement transition at age 16,** when students are to choose between following an academic and technical option for continued learning.

On the basis of this evidence, it is our contention that no schools should be opened in the knowledge that they face such significant barriers to success. There is insufficient evidence to demonstrate that transition at 14 is advantageous to pupils with an interest in pursuing qualifications in technical subjects. However, it is vital that there is a system of high-quality technical education in order to ensure young people develop the skills necessary to match the needs of the labour market. This is of particular

importance given ongoing concern over the FE sector's ability to deliver high-quality technical provision to sufficient numbers of students, in line with the government's ambition for developing technical skills as part of its new industrial strategy.

- **UTCs should become high-quality providers of technical education for students aged 16–19. All new UTCs should open according to this revised remit. Existing UTCs should also largely convert to become 16–19 providers, with the exception of those with a record of high performance.**
  - UTCs should be made to align with STEM-focussed technical routes to be introduced as part of the government's Post-16 Skills Plan, and focus on the delivery of level 2 and 3 qualifications (including T levels) associated with up to two of these routes.
  - They should retain their strong links with industry and university partners, and provide a high-quality pathway into university, work or an Institute of Technology.
  - Only UTCs with a positive Ofsted rating and good pupil outcomes should be permitted to remain open as 14–19 free schools.
  - With the exception of these schools, 2017/18 should be the final point at which year 10 pupils are recruited into existing UTCs. From 2018/19, year 10 recruitment should be phased out as UTCs prepare to convert to become post-16 providers from 2019/20.
  - Where appropriate, UTCs should be considered for the delivery of 'pathfinder' technical routes from 2019/20.
  - Individual UTCs should also have the option of converting to mainstream secondary schools (11–16/18). In such cases, they should be subject to the same performance criteria as other schools, and have no special admissions procedures.
  - The extent and quality of existing local 16–19 college provision for particular occupational specialisms should be considered prior to the approved conversion of a UTC. UTCs have the potential to deliver targeted, high-quality technical provision in up to two occupational specialisms. This should not impede on the ability of local FE colleges to provide general provision across a wider range of technical routes.

Repurposing the UTC programme in this way will provide it with the best chance of future success, and the best rationale for its expansion over the course of the next parliament.

STUDIO SCHOOLS

- **There are a significant number of studio schools which look to be following a trajectory towards closure.** In 2015/16, seven studio schools (which currently remain open) filled less than 50 per cent of planned year 10 places.
- **Studio schools are leading to the 'tracking' of disadvantaged and low-attaining pupils.** Compared to the national average, pupils joining studio schools in year 10 have lower attainment at key stage 2 and make less progress between ages 7 and 11. Pupils joining studio schools are also more likely to be eligible for free school meals than the national average (20 per cent compared to 15 per cent of pupils).

- **Pupils in studio schools are significantly more likely to have special educational needs** (21.4 per cent compared to 12.7 per cent across all state-funded secondary schools).
- **The studio school model is not a sufficiently large driver for recruitment.** On the basis of our qualitative evidence, recruitment is primarily driven by pupils' dissatisfaction with life at their previous school, rather than an active commitment to vocational and technical learning.
- **Studio schools experience poor league table performance.** In 2015/16, just 6 per cent of studio school pupils were entered for the EBacc, and 3 per cent achieved it (compared to a national average of 37 and 23 per cent respectively). Two-thirds of studio schools rank in the bottom 10 per cent of schools nationally for Progress 8. (This can be explained in part by studio schools, like UTCs, often choosing not to enter pupils onto EBacc subjects, thereby delivering a curriculum offer distinct from the offer available in mainstream secondary schools.)
- **Studio schools are, on the whole, failing to deliver a high-quality education to pupils, and are failing to improve progress and attainment.** In 2015/16, an average of 26 per cent of pupils in studio schools achieved five A*–C grades at GCSE (including English and maths), compared to a national average of 54 per cent.
- **Studio schools are highly vulnerable to fall into a cycle of decline** due to structural barriers to recruitment which are extremely difficult to overcome.

On the basis of this evidence, it is our contention that no new schools should be opened in the knowledge that they face such significant barriers to success, and have departed so dramatically from their original purpose. There is insufficient evidence to demonstrate that studio schools enhance the attainment and progress of pupils of different abilities by delivering high-quality vocational provision.

- **There should be a block on the creation of new studio schools after 2017/18. In order to remain open, existing studio schools should be required to join a local MAT in order to safeguard their future viability.**
  - Being overseen by MATs will allow studio schools to access a more readily available pool of potential pupils, access staff and expertise currently tied up in mainstream secondary schools, and broaden the curriculum offer to pupils to ensure it remains high quality.
  - MAT-level reporting should be more widely introduced in order to minimise incentives for the 'streaming' of pupils into studio schools within MATs.
  - The performance of pupils who transfer to a studio school should be reflected in the key stage 4 performance metrics of the school from which they have transferred. Again, this would minimise incentives to stream, and ensure that there is strong collaboration between mainstream secondary schools and studio schools within a single MAT.

- Studio schools unable to identify a local MAT with which to partner should be required to convert to an 11–16 mainstream secondary school or merge with an existing FE provider to deliver post-16 provision only.
- Government should review the extent to which studio schools' performance changes following the requirement that they join MATs. Should there be a dramatic improvement in performance, government should retain the option to lift the block on the opening of new studio schools.
- The Department for Education should launch a new review into institutional transitions for pupils with special educational needs and other social or behavioural problems. The biggest risk of discontinuing the studio schools programme is that the needs of these pupils will go unmet in mainstream secondary schools, leading to demand for places in alternative provision (AP).

REFERENCES

Atlas (2016) *Career and Technical Education: Overview.* http://atlas.newamerica.org/career-technical-education

Baker K (2013) 'Transforming 14-18 Education' in *14-18: A new vision for secondary education*, Bloomsbury: 1–14

Baker K (2016) 14–19 *Education: A new baccalaureate*, Edge Foundation. http://www.edge.co.uk/sites/default/files/documents/14–19_education_-_a_new_baccalaureate.pdf

Belfield C and Sibieta L (2016) *Long-run Trends in School Spending in England*, Institute for Fiscal Studies: Nuffield Foundation. http://www.nuffieldfoundation.org/sites/default/files/files/Long_run_trends_school_spending_England_R115.pdf

Belgutay J (2016a) 'Number of colleges taking on 14-16 students falls for first time', *TES*, 30 September 2016. https://www.tes.com/news/further-education/breaking-news/number-colleges-taking-14-16-students-falls-first-time

Belgutay J (2016b) 'Ofsted: Wilshaw slams 'alarming rate of underperformance and failure' in colleges', *TES*, 20 July 2016. https://www.tes.com/news/further-education/breaking-news/ofsted-wilshaw-slams-alarming-rate-underperformance-and-failure

Burke J, Robertson A and Whittaker F (2016) 'Boles says UTCs 'stronger' in multi-academy trusts', *FE Week*, 7 March 2016. http://feweek.co.uk/2016/03/07/boles-says-utcs-stronger-in-multi-academy-trusts/

Clifton J, Thompson S and Thorley C (2014) *Winning the Global Race? Jobs, skills and the importance of vocational education*, IPPR. http://www.ippr.org/publications/winning-the-global-race-jobs-skills-and-the-importance-of-vocational-education

Cook W (2013) *Vocational Education in England's Schools: Protecting options for pre-16 pupils*, IPPR. http://www.ippr.org/publications/vocational-education-in-english-schools-protecting-options-for-pre-16-pupils

Cook W, Thorley J and Clifton C (2016) *Transitions at 14: Analysing the intake of 14–19 education institutions*, IPPR. http://www.ippr.org/publications/transitions-at-14

Coughlan S (2017) 'Extra school places and building repairs in £2.4bn boost', BBC News website, 3 April 2017 http://www.bbc.co.uk/news/education-39475391

Department for Business Innovation and Skills (BIS) and Department for Education (DFE) (2016) *Post-16 Skills Plan*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536068/56259_Cm_9280_print.pdf

Department for Education [DfE] (2015a) 'Schools, Pupils and their Characteristics: January 2015'. https://www.gov.uk/government/statistics/schools-pupils-and-their-characteristics-january-2015

Department for Education's [DfE] (2015b) National Pupil Database. https://www.gov.uk/government/collections/national-pupil-database

Department for Education [DfE] (2016) 'Educational Excellence Everywhere'. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/508447/Educational_Excellence_Everywhere.pdf

Department for Education [DfE] (2017) *Revised GCSE and equivalent results in England, 2015 to 2016*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/584473/SFR03_2017.pdf

Duffy G and Elwood J (2013) 'The perspectives of 'disengaged' students in the 14–19 phase on motivations and barriers to learning within the contexts of institutions and classrooms', *London Review of Education*, 11(2): 112–126. http://www.ingentaconnect.com/content/ioep/clre/2013/00000011/00000002/art00003?crawler=true

Education Funding Agency [EFA] (2016) *Full-time enrolment of 14- to 16-year-olds in further education and sixth-form colleges in 2016 to 2017 academic year*. https://www.gov.uk/guidance/full-time-enrolment-of-14-to-16-year-olds-in-further-education-and-sixth-form-colleges-in-2016-to-2017-academic-year

Evans D (2015) 'Colleges recruit hundreds more 14-16 students, new figures reveal', *TES*, 2 September 2015. https://www.tes.com/news/further-education/breaking-news/colleges-recruit-hundreds-more-14-16-students-new-figures

Exley S (2016a) 'Lord Baker: UTCs 'struggling to keep going', *TES*, 21 October 2016. https://www.tes.com/news/further-education/breaking-news/lord-baker-utcs-struggling-keep-going

Exley S (2016b) 'Ofsted annual report: key points for FE', *TES*, 1 December 2016. https://www.tes.com/news/further-education/breaking-news/ofsted-annual-report-key-points-fe

Exley S (2017) 'Hammond to spend £500m a year on technical education reforms', *TES*, 5 March 2017. https://www.tes.com/news/further-education/breaking-news/hammond-spend-ps500m-a-year-technical-education-reforms

General Directorate for Technical and Vocational Education, Adult Education and Sport – Austrian Federal Ministry for Education, Arts and Culture [GDTVE] (2011) *Technical and Vocational Education in Austria*. http://www.arqa-vet.at/fileadmin/download_files/BBinOEsterreich_Broschuere_EN.pdf

Gove M (2017) 'Dividing our children at 14 has not worked', *The Times*, 10 February 2017. http://www.thetimes.co.uk/article/dividing-our-children-at-14-has-not-worked-5hmdm9mrq

Gurney-Read J (2015) 'School funding is a 'postcode lottery', head teachers warn', *Telegraph*, 16 March 2015. http://www.telegraph.co.uk/education/educationnews/11473308/School-funding-is-a-postcode-lottery-head-teachers-warn.html

HM Government [HMG] (2017) *Building our Industrial Strategy*. https://beisgovuk.citizenspace.com/strategy/industrial-strategy/supporting_documents/buildingourindustrialstrategygreenpaper.pdf

Lumby J (2012) Disengaged and disaffected young people: surviving the system. *British Educational Research Journal* 38(2): 261–279. http://eprints.soton.ac.uk/167743/

Neild R C, Boccanfuso C and Byrnes V (2013) *The Academic Impact of Career and Technical Schools: A case study of a large urban school district*, Johns Hopkins University. http://new.every1graduates.org/wp-content/uploads/2013/02/The-Academic-Impacts-of-Career-and-Technical-Schools.pdf

Nye P (2017a) 'Who's left: Will progress 8 reduce incentives to lose low attaining pupils?', *Education Data Lab*. http://educationdatalab.org.uk/2017/01/whos-left-will-progress-8-reduce-incentives-to-lose-low-attaining-pupils/

Nye P (2017b) 'Who's left: The main findings', *Education Data Lab*. http://educationdatalab.org.uk/2017/01/whos-left-the-main-findings/

Ofsted (2007) The Key Stage 4 Curriculum: Increased flexibility and work-related learning. http://dera.ioe.ac.uk/7100/1/The%20Key%20Stage%204%20curriculum%20increased%20flexibility%20and%20work-related%20learning.pdf

Ofsted (2016) The Annual Report of Her Majesty's Chief Inspector of Education, Children's Services and Skills 2015/16. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/574186/Ofsted_annual_report_education_and_skills_201516_web-ready.pdf

Richardson W and Wiborg S (2010) *English technical and vocational education in historical and comparative perspective: Considerations for University Technical Colleges*, Baker Dearing Educational Trust. http://www.edge.co.uk/media/16991/considerations_for_university_technical_colleges.pdf

Robertson A (2016) 'UTC will not open despite DfE spending over £8m', *FE Week*, 7 September 2016. http://feweek.co.uk/2016/09/07/utc-will-not-open-despite-dfe-spending-over-8m/

Ross A (2009) *Disengagement from Education Among 14-16 year olds*, National Centre for Social Research, for the Department for Children, Schools and Families. http://dera.ioe.ac.uk/10620/1/dcsf-rr178.pdf

Ross A, Green R, Brown V, Pickering K, Schoon I, and Vignoles A (2011) *The impact of KS4 vocational courses on disengaged young people's engagement with education 15-18*, Department for Education – Centre for Analysis of Youth Transitions (CAYT). https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/197679/DFE-RB165.pdf

Steedman H and S Stoney (2004) *Disengagement 14-16: Context and Evidence*, Centre for Economic Performance – London School of Economics and Political Science. http://cep.lse.ac.uk/pubs/download/dp0654.pdf

Studio Schools Trust (2016) *Studio Schools: Taking stock five years on*. https://studioschoolstrust.org/sites/default/files/Studio%20Schools%20report.pdf

UK Commission for Employment and Skills [UKCES] (2015) *Employer Skills Survey 2015: UK results*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/525444/UKCESS_2015_Report_for_web__May_.pdf 21/09/2016

Whittaker F (2017) 'Bid to force hostile schools to promote technical education succeeds', *Schools Week*, 23 February 2017. https://schoolsweek.co.uk/bid-to-force-hostile-schools-to-promote-technical-education-succeeds/

Wolf A (2011) *Review of Vocational Education – The Wolf Report*. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/180504/DFE-00031-2011.pdf

Yorke H (2017) 'GCSE school league tables 2016: compare your school's performance', *Telegraph*, 19 January 2017. http://www.telegraph.co.uk/education/2017/01/19/gcse-school-league-tables-2016-compare-schools-performance/

APPENDIX

TABLE A.1

UTC recruitment data

UTC Name	Year opened	Year closed	2015/16			2014/15			2013/14			2012/13			2011/12		
			Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity
JCB Academy	2011		120	195	163	138	191	138	138	145	105	138	136	99	120	116	97
Black Country UTC	2011	2015	closed	closed	n/a	120	22	18	120	35	29	120	23	19	120	60	50
Hackney UTC	2012	2015	closed	closed	n/a	100	0	0	100	42	42	100	77	77			
Central Bedfordshire UTC	2012	2016	150	0	0	150	0	0	150	38	25	150	0	0			
Aston University Engineering Academy	2012		120	115	96	150	118	79	150	84	56	100	57	57			
Bristol Technology & Engineering Academy	2013		132	66	50	120	110	92	120	128	107						
Buckinghamshire UTC	2013		120	29	24	120	28	23	120	49	41						
Liverpool Life Sciences UTC	2013		200	98	49	200	100	50	200	84	42						
UTC Sheffield	2013		120	96	80	120	106	88	120	109	91						
The Elstree UTC	2013		120	75	63	120	91	76	100	126	126						
The UTC for New Technologies at Daventry	2013	2017	120	39	33	120	59	49	120	95	79						
UTC Plymouth	2013		130	47	36	100	56	56	150	94	63						
Silverstone	2013		138	98	71	138	130	94	138	110	80						
UTC, Royal Borough of Greenwich*	2013	2016	150	14	9	150	66	44	150	139	93						
Wigan UTC**	2013		125	0	0	125	0	0	125	20	16						
UTC Lancashire	2013	2016	180	37	21	140	48	34	140	42	30						
UTC Reading	2014		120	56	47	90	50	56	90	60	67						
Elutec	2014		150	47	31	150	103	69									
Energy Coast UTC	2014		120	131	109	80	83	104									
Heathrow Aviation Engineering UTC	2014		120	42	35	75	37	49									
Lincoln UTC	2014		160	71	44	140	81	58									

UTC Name	Year opened	Year closed	2015/16			2014/15			2013/14			2012/13			2011/12		
			Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity
Norfolk UTC	2014		150	84	56	150	89	59									
Sir Charles Kao UTC	2014		125	45	36	125	96	77									
The GM Sustainable Engineering UTC	2014	2017	150	42	28	120	55	46									
The Leigh UTC	2014		150	63	42	150	54	36									
The Watford UTC	2014		120	44	37	120	50	42									
Tottenham UTC***	2014	2017	168	32	19	105	31	30									
UTC Cambridge	2014		125	78	62	125	58	46									
UTC Swindon	2014		150	26	17	150	25	17									
WMG Academy for Young Engineers	2014		160	94	59	160	109	68									
Derby Manufacturing UTC	2015		120	121	101												
Health Futures UTC	2015		150	146	97												
Humber UTC	2015		150	80	53												
Medway UTC	2015		90	90	100												
South Devon UTC	2015		80	50	63												
South Wiltshire UTC	2015		104	103	99												
UTC Bolton	2015		120	130	108												
UTC Oxfordshire	2015		90	88	98												
UTC@harbourside	2015		60	52	87												
UTC@MediaCityUK	2015		120	91	76												
West Midlands Construction UTC	2015		150	69	46												

Source: Data provided by the Department for Education in response to a freedom of information request
*UTC Royal Borough of Greenwich is to convert to an 11–18 secondary school from 2017/18
**Wigan UTC did not admit year 10 pupils for 2014/15 and 2015/16
***Tottenham UTC is to convert to a sixth form academy from 2017/18
Notes: Planned capacity: where available, all planned capacity data has been taken from published UTC admissions policies.
Enrolment numbers: all data for enrolled pupil numbers extracted from published Spring Census data from 2011 to 2016.

TABLE A.2

Studio school recruitment data

Studio school name	Year opened	Year closed	2015/16			2014/15			2013/14			2012/13			2011/12			2010/11		
			Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity
The Creative and Media Studio School*	2010		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Studio School Luton	2010	2016	75	15	20	75	17	23	75	19	25	75	45	60	75	30	40	75	28	37
Durham Studio School**	2011	2015	closed	closed	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
Harpurhey Studio School	2011	2013	closed	closed	n/a	closed	closed	n/a	closed	closed	n/a	n/a	n/a	n/a	n/a	15	n/a			
Stephenson Studio School	2011		90	67	74	100	35	35	100	33	33	70	39	56	100	60	60			
Bradford Studio School	2012	2016	50	0	0	50	4	8	50	9	18	50	18	36						
Fulham Enterprise Studio*	2012		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
The Hull Studio School	2012	2014	closed	closed	n/a	closed	closed	n/a	75	25	33	60	82	137						
Hyndburn Studio School	2012	2013	closed	closed	n/a	closed	closed	n/a	closed	closed	n/a	40	23	58						
LeAF Studio	2012		115	58	50	115	29	25	115	68	59	115	48	42						
Ockendon Studio School*	2012		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a						
Parkside Studio College	2012		60	37	62	60	63	105	60	32	53	60	48	80						
Stoke Studio College for Construction and Building Excellence	2012		25	17	68	25	10	40	75	11	15	60	31	52						
Tendring Enterprise Studio School	2012	2016	75	0	0	150	54	36	150	56	37	75	66	88						
The Da Vinci Studio School of Science and Engineering	2012	2017	40	67	168	80	62	78	90	76	84	90	40	44						
The Midland Studio College Hinckley	2012	2016	75	14	19	75	64	85	75	74	99	75	72	96						
Create Studio School	2013	2015	closed	closed	n/a	50	18	36	30	26	87									
Darwen Aldridge Enterprise Studio	2013		80	52	65	75	9	12	75	50	67									
Devon Studio School	2013		75	42	56	60	64	107	75	46	61									
Inspire Enterprise Academy	2013	2015	closed	closed	n/a	70	17	24	70	34	49									
Kajans hospitality & catering studio school	2013	2014	closed	closed	n/a	closed	closed	n/a	50	24	48									
Midland Studio College Nuneaton	2013	2016	75	0	0	75	27	36	75	63	84									
New Campus Basildon Studio School	2013		87	23	26	60	27	45	60	41	68									
Rye Studio School	2013		50	16	32	50	23	46	50	30	60									

Studio school name	Year opened	Year closed	2015/16			2014/15			2013/14			2012/13			2011/12			2010/11		
			Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity	Y10 approved	Y10 enrolled	% Planned capacity
Stoke Studio College for Manufacturing and Design Engineering	2013		50	16	32	50	9	18	75	0	0									
The Da Vinci Studio School of Creative Enterprise	2013	2017	90	44	49	80	53	66	90	36	40									
The Studio School Liverpool	2013		75	90	120	75	75	100	75	72	96									
Walsall Studio School	2013		75	54	72	55	55	100	55	30	55									
Waverley Studio College	2013		60	49	82	75	50	67	75	59	79									
Apollo Studio Academy	2014		50	38	76	50	31	62												
De Salis Studio College	2014		60	29	48	60	10	17												
Dorset Studio School	2014		72	45	63	72	0	0												
Isle of Wight Studio School	2014		75	52	69	75	73	97												
Knutsford Academy The Studio	2014		75	38	51	75	56	75												
Manchester Creative Studio	2014		60	40	67	15	18	120												
Sir Frank Whittle Studio School	2014		55	12	22	75	24	32												
Space Studio Banbury	2014		75	50	67	75	44	59												
Studio West	2014		40	44	110	40	33	83												
The Bath Studio School	2014		70	24	34	40	21	53												
The Future Tech Studio	2014	2017	60	106	177	65	98	151												
Vision Studio School	2014		75	71	95	75	46	61												
Atrium Studio School	2015		75	0	0															
Digitech Studio School	2015		75	70	93															
Mendip Studio School	2015		75	35	47															
Plymouth Studio School	2015		60	37	62															
Space Studio West London	2015		75	48	64															
The IKB Studio School	2015		40	20	50															

Source: Data provided by the Department for Education in response to a freedom of information request
*School within a school
**No admission of pre-16 pupils
Notes: Planned capacity: where available, all planned capacity data has been taken from published studio schools admissions policies.
Enrolment numbers: all data for enrolled pupil numbers extracted from published Spring Census data from 2011 to 2016.

TABLE A.3

UTC performance data

UTC Name	Year opened	Year closed	AC5EM	EBacc		Progress 8		Attainment 8
			Achievement (%)	Entry (%)	Achievement (%)	Score	Band	Score
JCB Academy	2011		62	0	0	-0.44	below average	48.1
Central Bedfordshire UTC	2012	2016	0	0	0	-1.06	well below average	24
Aston University Engineering Academy	2012		28	3	0	-0.41	below average	42.2
Bristol Technology and Engineering Academy	2013		61	0	0	-0.28	below average	48.9
Buckinghamshire UTC	2013		33	0	0	-0.99	well below average	38.1
Liverpool Life Sciences UTC	2013		54	21	16	-0.29	below average	51.5
UTC Sheffield	2013		47	6	2	-0.73	well below average	44.8
The Elstree UTC	2013		57	0	0	-0.76	well below average	43.5
The UTC for New Technologies at Daventry	2013	2017	11	0	0	-0.73	well below average	36.4
UTC Plymouth	2013		19	0	0	-0.7	well below average	37.2
Silverstone UTC	2013		47	27	2	-0.53	well below average	45.2
UTC Lancashire	2013	2016	21	0	0	-0.74	well below average	36.9
UTC Reading	2014		62	18	16	-0.19	average	50.3
Elutec	2014		23	0	0	-1.16	well below average	36.4
Energy Coast UTC	2014		46	91	4	-0.69	well below average	44.6
Heathrow Aviation Engineering UTC	2014		28	8	5	0.22	average	50.9
Lincoln UTC	2014		42	4	3	-0.27	below average	50.8
Norfolk UTC	2014		51	15	3	-0.27	below average	46.5
Sir Charles Kao UTC	2014		15	47	2	-0.12	well below average	38.1
The GM Sustainable Engineering UTC	2014	2017	0	0	0	-2.51	well below average	20.1
The Leigh UTC	2014		38	0	0	-0.09	average	42.8
The Watford UTC	2014		42	2	0	-0.96	well below average	40.3
Tottenham UTC	2014	2017	22	0	0	-1.71	well below average	29.7
UTC Cambridge	2014		4	5	2	-0.89	well below average	43.9
UTC Swindon	2014		34	11	5	-1.19	well below average	38.8
WMG Academy for Young Engineers	2014		50	13	9	-0.57	well below average	45.3

Source: https://www.compare-school-performance.service.gov.uk/

TABLE A1.4

Studio school performance data

Studio School Name	Year opened	Year closed	AC5EM Achievement (%)	EBacc Entry (%)	EBacc Achievement (%)	Progress 8 Score	Progress 8 Band	Attainment 8 Score
Studio School Luton	2010	2016	12	6	0	-2.09	well below average	20.5
Stephenson Studio School	2011		41	24	6	-0.49	below average	38.8
Bradford Studio School	2012	2016	0	0	0	-2.09	well below average	25.6
LeAf Studio	2012		54	71	21	0.21	average	51.6
Parkside Studio College	2012		15	0	0	-1.14	well below average	29.4
Stoke Studio College for Construction and Building Excellence	2012		20	0	0	-0.37	average	38.6
Tendring Enterprise Studio School	2012	2016	2	0	0	-2.32	well below average	10.6
The Da Vinci Studio School of Science and Engineering	2012	2017	7	0	0	-2.16	well below average	23.3
The Midland Studio College Hinckley	2012	2016	17	0	0	-1.23	well below average	31.1
Darwen Aldridge Enterprise Studio	2013		4	4	0	-2.01	well below average	21.8
Devon Studio School	2013		29	2	0	-0.89	well below average	36.6
The Midland Studio College Nuneaton	2013	2016	9	0	0	-1.79	well below average	26.1
New Campus Basildon Studio School	2013		9	0	0	-1.66	well below average	20.1
Rye Studio School	2013		33	0	0	-0.75	well below average	39.8
Stoke Studio College for Manufacturing and Design Engineering	2013		15	0	0	-0.55	average	35.8
The Da Vinci Studio School for Creative Enterprise	2013	2017	14	0	0	-1.42	well below average	29.4
The Studio School Liverpool	2013		40	3	3	-0.29	below average	49.2
Walsall Studio School	2013		20	0	0	-1.34	well below average	34.5
Waverley Studio College	2013		23	0	0	-0.61	well below average	39.7
Apollo Studio Academy	2014		19	0	0	-0.62	well below average	40.3
De Salis Studio College	2014		81	24	24	0.22	average	55.2
Isle of Wight Studio School	2014		35	1	1	-0.71	well below average	39
Knutsford Academy The Studio	2014		50	8	6	-0.64	well below average	43.9
Manchester Creative Studio	2014		10	0	0	-2.2	well below average	25.6
Sir Frank Whittle Studio School	2014		39	0	0	0.15	average	47.6
Space Studio Banbury	2014		58	12	9	-0.1	average	51.5
Studio West	2014		57	0	0	-0.56	well below average	42.3
The Bath Studio School	2014		14	10	5	-0.45	average	40
The Future Tech Studio	2014	2017	29	0	0	-0.32	below average	44.5
Vision Studio School	2014		9	0	0	-0.79	well below average	34.7

Source: https://www.compare-school-performance.service.gov.uk/

IDEAS to
CHANGE BRITAIN

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