

**Technical Education in 'Lived Markets': University  
Technical College leaders' perceptions of and  
responses to competitive pressure**

**Doctor in Education (EdD)**

**UCL Institute of Education**

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## **Acknowledgements**

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## **Statement Concerning Work Previously Submitted**

I hereby acknowledge that this thesis incorporates elements of data from the Foundations of Professionalism (FoP) and the Institution Focused Study (IFS) that are included in the Institute of Education portfolio of work for the EdD. The IFS was an empirical study of one UTC explored and analysed under the conceptual lens of localism. The work presented for this thesis draws on the IFS study, a topic similar to that of this thesis, to consider the wider implications of laissez-faire localism and competitive practices for UTC providers and their leaders, and I have made reference to this in the thesis. In all other respects this thesis is new work, and where information has been derived from other sources I confirm that this has been indicated in the thesis.

## **Declarations**

I, Dianne Gomery, hereby declare that, except where explicit attribution is made, the work presented in this thesis, and in its entirety, is my own.

## **Anonymity**

The transcripts and the data have been edited to preserve the anonymity and confidentiality of research participants

## **Word Count**

44996 words

## **Copyright**

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## **Abstract**

This study analyses the complexities of competition and competitive practices within lived markets across nine University Technical College (UTC) case studies. The research built upon Jabbar's (2015) conceptual framework of school competition in the USA to conceptualise how competition and competitive practices may be conceived in England. Despite the growth in UTC numbers since 2010, with 50 operating (July 2019) and each with a capacity for between 500 and 800 students aged from 14 to 19 years, relatively little was known about how these providers interacted with existing local provision. The research analysed UTC leaders' perceptions of competition, the mediating factors they believe have contributed to perceived competition and competitive pressure, the range of strategies they developed in response to those perceptions, and the resulting outcomes. The findings indicated that these leaders' perceptions of competition and the associated competitive pressures were broadly in tension with their belief in technical education, the national ethos and vision for UTCs, the government's national accountability measures, and partnership working with local providers. The findings analyse the consequences of these tensions and, in so doing, contribute to a greater theoretical and conceptual understanding of the contemporary expansion of the tenets of the quasi-market into mainstream and technical schooling. The main contributions of this thesis are that it provides; a greater understanding of the ways in which competition and supply side liberalisation operate at a local level, and offers a new conceptual framework for researching school-to-school competition in England. The study highlights the need for further research of the impact of competition on all schools and students within a given region, and highlights the importance of strengthening policy 'memory' with regards to technical education. The findings will be of broad interest to researchers interested in technical education, leadership roles, quasi-markets and competition, parental choice, and social segregation.

**Key words:** Competition, competitive practices, lived market, parental choice, quasi-market, social segregation, technical education,

## Impact Statement

This study places UTCs into the recent history of technical education in England. The research and findings indicate that there are tensions between the sample UTCs' original ethos and vision for technical education and their offer in practice, and that competitive pressure has impacted on UTC leaders' autonomy and capacity to deliver on their ethos and vision. Significantly, these tensions are both historic and are being reproduced and represented in new and different ways.

While UTCs may have succeeded in part by drawing together students interested in technical education, the evidence of this research indicates that the curriculum at Key Stage 4 (KS4) was more aligned to mainstream provision than that which Baker Dearing Educational Trust (BDT) had originally conceived of, and that students' academic achievement was below the national average.

At an organisation level the research presents examples of the challenges UTC leaders have perceived and 'encountered' within their individual lived market contexts. The insights presented in this thesis may encourage potential leaders of technical education provision to carefully consider the role prior to taking up the post. Future developers of new provision, nationally and internationally, might use this research to inform their planning and long-term strategy to generate networks that can strengthen a provider's position within their local hierarchy of providers.

At a policy level the study highlights the lack of policy learning and memory that enabled the UTC model to become established despite the similarities to past visions for job specific skill acquisition initiatives that proliferated from the 1980s onwards (see Literature Review Part 2). In parallel, these initiatives have been facilitated by the increased marketisation of education in England, in particular since 2010, which has impacted on leaders' autonomy, staff workload, students' progression opportunities and academic achievement, and parental choice.

Internationally, as globalisation increasingly impacts on education in response to the changing national demands of industry and the labour market, there is much interest in the transition between school and the world of work, the notion of work and working relations and how these intersect with each other (Kress, 2008; Standing, 2016). The findings demonstrate that there is a need to re-consider the ways in which quasi-market tenets rooted in the commercial world are

becoming embedded in global mainstream schooling (Kaptzon & Yemini, 2018; Verger, Lubienski, & Steiner-Khamsi, 2016). The findings and the analysis are intended to stimulate researcher enquiry and further debate about the future of UTCs and whether its 'blueprint' should be re-thought or 'cut up'.



*Figure 0.1. Cutting Up the UTC Blueprint (FE Week, 18 Mar 2017)*

Notably, this research has impacted significantly on my professionalism, and potentially that of peers engaged in similar roles supporting new educational providers. Crucially, this study's findings challenge us to critically consider the implications of our work within and across what are becoming increasingly complex lived market contexts. On a personal level the impact of this research is significant. I have submitted abstracts, presented at conferences, published in journals and have become a BELMAS peer reviewer.

## Reflective Statement

In my early teaching career I co-wrote one of a series of vocational Art and Design qualifications that were devised in the early 1980s known as 'BTECs' (Business and Technology Education Council), and supported engineering colleagues to write their study programmes to be delivered in a Further Education College (FEC). The work involved co-devising projects with industry to develop students' high-level competencies and transferable skills, and aid their transition into work. Since that time I have been aware of the impact of education policy initiatives and reforms on technical and vocational education. I am particularly interested in project-based learning, the role of employers in devising projects and how these may co-exist within the curriculum. This was most recently explored through my professional work with UTCs, where practical learning and theoretical understanding are intended to be brought together in meaningful contexts:

There is a fusion of intellectual and physical activities, which characterizes the architect, technician, builder or designer. This crucial distinction is educationally significant (Gazeley & Pring, 2013, p. 72).

Young's (2008) exploration of curriculum policy proposed there are often two competing imperatives or ideologies at play. The first was rooted in 'neo-conservative traditionalism' that was largely covert and embedded in leading educational institutions. The second was "more overt and becoming increasingly dominant in government rhetoric" (Young, 2008, p. 19), rooted in the ideas of the 'technical instrumentalists' who contested the idea promoted by the neo-conservatives that knowledge itself was a means to an end.

The concept of straddling two competing imperatives, the 'theoretical' and 'practical', has mirrored my professional working life, which has encompassed working as an artist, designer, teaching in FE, lecturing in art-history, writing Higher Education (HE) modules, and latterly working in the private education sector. The professional doctoral journey has lent itself well to this interest in the theoretical and the practical, which has come full circle from the first module through to this thesis. The Foundations of Professionalism (FoP), Methods of Enquiry 1 and 2, and the Institution Focused Study (IFS) are therefore the repositories of the programme's 'components' that are evidence of a much larger and intense journey of personal transformation over a six-year period leading to a re-positioning of my

professional self. The emergence of this new professional self has taken shape incrementally, gradually rooting itself into a new, albeit increasingly more familiar, academic community.

My approach to the EdD modules and this thesis, was to view the journey as generating a series of connotative chains, each informing the other and becoming more than the sum of their parts, whereby new knowledge is acquired, interpreted, reflected upon and internalised, and importantly informed my praxis. Put more simply, I viewed the journey as a series of building blocks that would collectively empower me to engage more meaningfully with the literature, the process and practice of doctoral study, and therefore allow for a deeper understanding and appreciation of the past and current complexities of technical education in England.

In the FoP I explored professionalism in relation to my role as a Strategic Partnership Manager and my engagement with the professional community responsible for developing the concept, curriculum, sponsor engagement and expansion of UTCs in England. During this module I explored Barnett's "Ecological Registers" (2011) as a theoretical conceptualisation of professionalism, Wenger's concept of professionals as "Communities of Practice" (2002), and how this community may operate with each other through "Cultural-Historical Activity Theory" (CHAT) (Engestrom, 2001; Lave & Wenger, 1991), and drew upon the seminal work of Wright Mills (1959). This expertly delivered module enabled me to site myself within my practice, and better understand my constructed identity as an education professional. Building on the strong footing this module generated I planned how each future module may operate as a jigsaw piece in a larger puzzle that could generate a new 'view' of what was happening in technical education and in light of government reforms.

At the end of FoP I made the conscious decision to become a member of BERA (British Educational Research Association) and BELMAS (British Educational Leadership, Management and Administration Society) through which I would receive regular updates and invitations to take part in the special interest (SIG) and research group (RIG) events as a member of these academic communities. Given my interest in CHAT, my supervisor (Professor Jacek Brant) recommended I respond to a BERA CHAT SIG call for papers and submitted an abstract (Feb, 2013). The paper focused on the UTC as a community of practice



and considered how “Activity Theory” provided a theoretical framework to better understand how the group worked on their common objective to create a UTC. The acceptance of a paper was a catalyst that boosted my confidence and signposted a re-positioning of myself as a doctoral student. This confidence was short lived. In retrospect it may have been wiser to attend a BERA event prior to presenting a paper to gauge the context, as I was operating in ‘un-trodden territory’. It was a humbling experience and one that ultimately provided an exceptional level of practical experience and numerous opportunities for reflection and reflexivity.

The FoP was followed by Methods of Enquiry 1 (MoE1), which I found valuable but less inspirational as the module’s presentations appeared to be in random order – exploring research design after submission of the first draft. At the time I felt ill-equipped to generate a meaningful and coherent research proposal despite reading numerous texts including among others: Plowright (2011); Cohen and Manion (2011); Robson (2011); Denscombe (2010); Crotty (1998) and Dowling and Brown (2010). Eventually I decided upon an exploratory, qualitative, research study with a UTC leader, which had the potential, should it be successful, of being expanded to a wider group of participants in MoE2 (Methods of Enquiry 2). This research explored the UTC model of delivering technical education through a series of projects or “industrial challenges” that were embedded in the technical education curriculum and operated, ostensibly, as a unification mechanism for bringing together academic and technical study in meaningful learning contexts.

In MoE2 I returned to the research, undertaken in MoE1, with a larger sample of UTC leaders responsible for the co-creation of industrial challenges. The aims were to explore three or four UTC leaders’ perceptions of; the ways in which these projects were designed, who contributed to their design, to what extent UTC leaders were aware of sponsors’ contributions to, and delivery of, those projects, and the potential for projects to unify the curriculum in terms of academic and technical study. The findings reported that the process of building the curriculum offer and formation of the industrial challenges was significant, and was influenced by contextual factors such as leaders’ belief in the UTC model of education and its philosophy, their past careers - both in and outside of the teaching profession, their ability to forge meaningful relationships with sponsors, and their belief in the need

for different approaches to learning and teaching within the curriculum to meet the needs of learners.

Building on that better understanding of how sponsors work closely with UTCs the IFS explored the debates surrounding the liberalisation of education providers, and in particular Hodgson and Spours' (2012) conceptualisation of three versions of localism, and its implications for upper secondary education. Hodgson and Spours' framework was deployed as a conceptual lens to study how a UTC, as a provider of technical education, may be operating at a local level. In the IFS I drew upon a series of interviews with participants to examine the concept of localism and identify emergent themes as perceived by UTC leaders, sponsors, governors and teaching staff. Importantly, the study's findings challenged the assumption that institutions will, of their own volition, come together and put aside institutional self-interest for the greater good of the learner and the local and regional skills agenda. The findings identified significant competition and competitive practices across local providers.

On completion of the IFS I undertook training in SPSS (Statistical Package for Social Sciences) quantitative software, attended National Pupil Database (NPD) training, and NVivo qualitative software training to support whichever direction the thesis may take me. After much deliberation I decided the thesis would build on the IFS findings and analyse in detail the complexities of competition and competitive practices, and the challenges these present in the quasi-market, as perceived by UTC leaders across England. The thesis builds on Jabbar's (2015) conceptual framework of school to school competition and leaders' perceptions of competition.

In retrospect, the themes that emerged from the thesis run throughout the FoP, MoE1, MoE2 and the IFS research, albeit in varying degrees. Collectively this body of research indicates there are significant challenges for leaders, and issues of social inequity, when education operates in an increasingly demand-led quasi-market. Between April and December 2017 I became increasingly aware of a need to orient myself towards a new professionalism that would require engagement with my academic community. To this end I participated in learning modules including; writing, editing and reviewing papers, and networking that could open up gateways to academic research and publishing. Building on this conscious decision to engage with my wider academic community I applied for a bursary award

(October, 2017), attended a Critical Education Policy and Leadership Studies (CEPaLS) Research Interest Group (RIG) November, 2017 (Appendix 13) and published a review of that RIG (July 2018). In November 2017 I applied to become a BELMAS Abstract Reviewer (undertaken January 2018) for the 2018 Conference and presented at the: “Crossing Boundaries in Vocational Education and Training” Conference (València, May 2019) see Appendix 16; presented at the Nordic Work Life Conference (June, 2018); and at the 5<sup>th</sup> International Conference on Employer Engagement in Education and Training (presented July 2018); and an abstract was accepted for the BELMAS Annual Conference (2019).

To date these initial forays into a new professional sphere have come to fruition. In January 2018 I received the BELMAS Student Bursary Award (Appendix 14) and in the summer 2018 I presented at: the Nordic Working Life Conference (Oslo, June, 2018); the 5<sup>th</sup> International Conference on Employer Engagement in Education and Training (London, July, 2018); the Annual Summer Conference UCL Institute of Education (London, June, 2018); and at the BELMAS Annual Conference (Windsor, July 2018). In July 2017 I revisited the IFS research and its findings and used this as the basis for a paper titled “*Laissez-faire Localism: Features and emergent themes presented in a case study University Technical College*” (Appendices 11 and 12), which was published in *Management in Education* (online April 2018, printed format July 2018).

Throughout the EdD programme I have striven to learn and apply that learning within the context of my professional praxis. The teaching and learning at the UCL Institute of Education and the supervision within the London Centre for Leadership in Learning has equipped me with the tools to critically analyse and evaluate new ideas, and link these to known concepts for research and problem solving in new and unfamiliar contexts. I now actively seek out opportunities to engage with peers, and seize opportunities to contribute to new knowledge through attendance at specialist research interest group events such as the March 2018 BELMAS “Evolving School structures: the contribution of small scale studies”, and the 14 Sept 2018 BERA event “The impact of policy on leadership practice”. In May (2019) the ‘*Pedagogy meets Market Demands*’ paper was presented at the “Crossing Boundaries” Conference in València, Spain, and was scheduled to lead a ‘Round table’ at the BELMAS Conference to discuss *University Technical*

*Colleges: Agents of Social Mobility?* Unfortunately, I was unable to attend the BELMAS conference due to a broken arm.

On reflection there has been a great deal to learn over this long period of time, and it is a deep learning much of which can never be undone. There is a level of self-realisation at play, and there is no doubt that I am changed much by this process of research and learning. While I am better able to recognise both my strengths and weaknesses I appreciate that I am still in the act of 'becoming', and committed to what may lie ahead.

## Glossary

<i>Abbreviation</i>	<i>Term</i>
14-19	Key Stages 4 and 5 phase of education
APS	Average Point Score
A8	Attainment 8 (a student's average grade across their best 8 subjects, which also count towards measuring Progress 8)
BDT	Baker Dearing Educational Trust
BERA	British Educational Research Association
BELMAS	British Education Leadership, Management and Administration Society
BIS	Business Industry and Skills
BIS	Business Innovation and Skills
BTEC	Business and Technology Education Council (1984-present day)
DCSF	Department for Children, Schools and Families
DfE	Department for Education
DfES	Department for Education and Skills
EBacc	English Baccalaureate
EFA	Education Funding Agency
ESFA	Education and Skills Funding Agency (EFA combined (2017) with the Skills Funding Agency (SFA))
ERA	Education Reform Act (1988)
FEC	Further Education College
FSM	Free School Meals
GAG	General Annual Grant
HE	Higher Education
ILP	Individual Learning Plan
IoT	Institute of Technology
KS	Key Stage: 1, 2, 3, 4 and 5 of schooling
KS4	Schooling between ages 14 and 16 (years 10 and 11 of secondary schooling). Some schools begin KS4 in year 9 (age 13)
KS5	Schooling between ages of 16 and 18 (years 12 and 13)

LA	Local Authority
LEA	Local Education Authority
LEP	Local Enterprise Partnership
LMS	Local Management of Schools
P8	Progress 8 (a value-added measure of a student's progress between Key Stage 2 and Key Stage 4 across 8 key subjects)
PAN	Pupil Admission Numbers
PNA	Pupil Number Adjustment
SEND	Special Educational Needs and Disabilities
T Level	Two year courses and qualifications devised in collaboration with employers
Tech Bacc	Technical Baccalaureate
TPE	Technical Professional Education
VET	Vocational Education and Training

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### **Terms Adopted**

**14-19** - following the Education and Skills Act (2008) and the raising of the age of compulsory participation in education (RPA), first to 17 years in 2013 and then to 18 years in 2015, some policy and academic literature refers to Key Stage 4 and Key Stage 5 as the 14-18 phase of schooling. To reflect technical, technical professional, vocational education and training, transitions at 14 (Cook, 2016) and the VET literature (Higham and Yeomans, 2011) '14-19' is adopted in this thesis.

**Attainment 8** – a Government measure of a pupil's performance across 8 subjects aligned to three groups; i) English and maths (double-weighted i.e. counted twice), ii) English Baccalaureate subjects (highest scoring) across science, computer science, geography, history and languages, and iii) 'open group' for any remaining GCSEs or other approved academic, arts, Technical and Applied General qualifications (DfE, 2019).

**Charter Schools** - are “an innovation produced in the state sector by government intervention” (Lubienski, 2009, p. 36 para 98) that were established primarily by the US public sector in the late 1980s.

**Certificate of Pre-Vocational Education (CPVE)** - specifically designed to assist young people with the transition from school to adulthood and into work by equipping them with the basic skills (core studies [60%]), knowledge and behaviours for success in adult working life (vocational and job specific studies and skill acquisition [40%]).

**Cream Skimming** - is a pejorative term used to describe the act of privileging ‘high-value’ consumers (parents and students) over others (Davies, Telhaj, Hutton, Adnett, & Coe, 2009), which in England often includes white, middle class families.

**Economic Theories of Agency** - are connected to the “introduction of limited liability and the opening up of corporate ownership to the general public through share ownership” that links competition to corporate governance (Solomon & Solomon, 2004, p. 32).

**Education Professional** - is deemed, in this thesis, to be the tradition of qualified staff connecting with and orientating themselves as educationalists to their professional communities with its occupations and associations, ethical codes, standards, and control mechanisms that collectively inform their choices and actions (Barnett, 2008; Brandsen and Honingh, 2013). The education professional typically understands the impact of external and internal factors that may also impact on their work, and in doing so develops a professional self and a “sociological imagination” of themselves and their professional environment and culture (Wright Mills, 1959, p. 14). As such, s/he is sometimes argued to be able to create and manage a ‘*constant*’ self within a changing culture and environment and reflect upon that state “to *extend* their professional understandings and skills sets” (Cunningham, 2008, p. 162).

**Free Schools and Faith Academies** - these are both a “specific type of academy set up and run independently of local authorities, based on proposals by groups of educators, parents, charities and others” (House of Commons Education Committee, 2015, p. 7), that aim to provide an inclusive education “to young people

of all abilities, from all backgrounds” (Miller, 2011). Implemented by the Coalition Government (2010-15) on a Conservative Manifesto pledge these schools are accountable, as are all schools, to the DfE for the outcomes they deliver. This initiative was implemented despite considerable resistance and evidence from academics that segregation tended to increase as competition between providers intensified (Allen & Higham, 2018; NUT, 2013). Faith Academies do not have to teach the national curriculum and have their own admissions processes. See <https://www.gov.uk/types-of-school/faith-schools>

**Junior Technical Schools** - established in England (1903), were one of three arms of the education system (Grammar, Junior Technical and Secondary Elementary Schools).

**Leaders** - this study refers collectively to research participants who held or had held senior leadership positions as either a principal (9) or a deputy principal (1) with the associated responsibilities of those positions, as “UTC leaders” or “leaders”.

**Lived Market** - denotes the context (quasi-market) or competitive arena (Bagley, Glatter, & Woods, 1997) across which competition, competitive practices and pressure may take place and how these are enacted or lived (Taylor, 2001) within a defined geographical area.

**Kenneth Baker** - The Right Honourable Lord Kenneth Baker of Dorking joined the House of Lords in 1997. He is referred to when referenced in this thesis as “Baker” unless a document states to the contrary.

**Technical Education** – employed throughout this thesis to reflect current usage (since 2010) the term denotes the academic and vocational preparation for employment in STEM (science [and applied science], technology, engineering and mathematics) and its related sectors in occupations that require an understanding of the basic principles of science and mathematics (Sanderson, 1994). These technical occupations include the industry sectors, among others, aviation, automotive, environmental and resource management, and health and medicine. While it is accepted that there are crossovers between some aspects of technical and vocational education, vocational study programmes are here defined



separately as those that tend to focus on the gradual acquisition of practical knowledge and skills (Fuller and Unwin, 2011) that are most often acquired in a workplace environment<sup>1</sup>.

**Tech levels** - available across sectors of the economy and studied by students aged 16-19 years. Philip Hammond, Conservative Government's Chancellor of the Exchequer (2016-2019), in his budget speech recognised that "these type of qualifications have not always been on an equal footing with academic ones" (BBC News, 2017).

**Transaction Cost Theory** – "an interdisciplinary alliance of law, economics, and organisation" (Williamson, 1996, p. 25)

**Technical Schools** – an outcome of the Butler Act (1944) and designed to have parity and equal status to Grammar Schools with a common recruitment age (11) and leaving age (16), and a "School Leaving Certificate" (Sanderson, 1994, p. 110) with progression into employment.

**Tripartite System** - the Spens Report (1938) and the Norwood Report (1941) led to the introduction of a tripartite system of Grammar, Technical and Modern Schools that developed further (following the 1944 Education Act) into Grammar, Secondary Technical Schools and Secondary Modern Schools. By 1975, while Grammar Schools continued, the Secondary Technical Schools and Secondary Modern Schools were embraced within Comprehensive Education.

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<sup>1</sup> For a further exploration of the divide between technical and vocational education see Fuller and Unwin (2011b).

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## Chapter 1: Introduction

In this chapter I introduce the rationale for studying leaders' perceptions of competition and their competitive practices, identify the research problem, and outline the research aims. This is followed by a discussion of my researcher positionality that provides an insight into the personal impetus to undertake this research, how this may have influenced the research, and examines the potential for bias. I am acutely aware that a researcher's standpoint "is a fundamental platform on which enquiry is developed" (Clough & Nutbrown, 2012, p. 10) and 'meaning' constructed (Crotty, 1998).

In considering a suitable topic for this thesis the initial starting point was my IFS, which was a single case-study exploration of technical education provider 'Brunel UTC' (B-UTC), analysed through the conceptual lens of localism (Hodgson & Spours, 2012). My findings indicated that B-UTC's overriding alignment was to a 'laissez-faire' form of localism (see Appendix 12), where "learners were seen as customers and their demand was expected to drive provision at the local level" (Gomery, 2015, p. 64). During that research, and through observations and respondent interviews, a number of concerns were voiced regarding B-UTC's poor rate of student recruitment, and the school intake in terms of overall lack of balance of gender, socio-economic status, and prior academic attainment. In addition, B-UTC was managing the dissonance between staff expectations for their roles and the sponsors' vision for B-UTC, versus the highly competitive environment in which they found themselves operating. I found that:

A consequence of the expansion of education provision across B-UTC's region, according to the Chair of B-UTC Board and a number of participants, had been the increase in competition between local schools, and their unwillingness to work collaboratively, to a lesser or greater degree, to provide specialist vocational provision across its region (Gomery, 2015, p. 50).

Collectively, B-UTC raised a number of concerns regarding the complexities of the local education market that were beyond the scope of my professional role, and not possible to address within the limitations of the IFS study. Notwithstanding, these concerns and the issues they raised had the potential to impact on how, and in what ways, I was able to professionally support new providers that now included academies, Free Schools, Faith Schools, Studio Schools, and UTCs. This diversity

reflected the pattern of successive governments' support for the increased supply of new providers of schools.

There was in general, however, a paucity of information pertaining to UTCs and how they operated within their individual market contexts, and also in terms of policy. As the diversity of educational provision was expanded there were increasing opportunities to research, and gain a better understanding and in-depth knowledge of the complexities of the market. These complexities encompassed: provider-to-provider competitive practices; the control of the entry of new providers; the quality of providers' services; how competitive practices have been perceived; how these in turn had influenced the actual education that was altered or developed in response; and the challenges this presented.

UTCs were described in 2015 as "the biggest institutional innovation in vocational education made by David Cameron's [UK Prime Minister, Coalition Conservative and Liberal Democrat] Government [2010-15]" (Burke, 2017 [par. 3]). By 2017 the government's approach had changed, as articulated by Cameron's former Secretary of State for Education (2010-14), Michael Gove, who said that:

Twice as many UTCs are inadequate as outstanding, according to Ofsted. UTC pupils have lower GCSE scores, make less progress academically and acquire fewer qualifications than their contemporaries in comprehensives (Burke, 2017 [par. 5]).

Gove's comments combined with UTCs' poor admission rates and staff concerns raised in my IFS findings, led me to further consider and question: what may be happening to UTCs in their respective markets, what may be impacting on their ability to compete for students and increase admissions, and whether their strategies and approaches were underdeveloped, ineffective, or compromised in some way.

Furthermore, I considered how, and in what ways, to research such competition and competitive practices, both theoretically and in practical terms, and in particular from the perspective of those closely engaged in strategic decision-making. Through my professional practice I had a metaphorical 'bridge' to UTC leaders (principals) actively engaged in all aspects of UTC technical education that could, when sensitively handled, be crossed and built upon to unveil how these leaders had managed and responded to the perceived complexities of competition and competitive practices of their local context.

## **Rationale, Research Aims, Positionality and Research Question**

The rationale for this study was therefore developed in response to my observations as an education professional, my close engagement with UTC leaders, the exploration of professionalism in the FoP, MoE1 and 2 modules, and issues raised in the IFS case study findings, which had the potential to impact on my professional role and the future support I could develop. In my professional capacity there was a need to know more about the factors at play that informed UTC leaders' perceptions of competition and, importantly, how they responded to those competitive pressures within their local lived market. As Levačić (2004) and Jabbar (2015b, 2015c) have argued, what actually influences an institution's responses and its activities is highly influenced by individuals' perceptions of competition and competitive practices.

In responding to my observations as a practitioner three research aims were identified. Firstly, my aim was to draw out the competitive pressures and practices of the lived market from the perceptions of UTC leaders, and in doing so to uncover the mediating factors leaders believe to operate and influenced the range of strategies they developed in response to those competitive pressures and practices, and to identify the resulting outcomes. Secondly, the aim was to remedy the current paucity of knowledge regarding UTCs, and build upon this to site UTCs within technical and vocational education and training (VET) and the education market. Thirdly, the intention of this research and the new knowledge it generated was to open up debate and stimulate researcher enquiry into the contemporary expansion of the tenets of the quasi-market into mainstream schooling, and thereby identify the potential implications of competition for UTCs and the young people they serve, and the challenges these presented for leaders.

I have worked nationally and internationally in private sector industries (1977-82 and 2004-16) and as a lecturer in FE and HE sectors (1982-86 and 1986-2004) and when I entered education (1982) it was specifically to bring my knowledge, skills and industrial experience into education. Collectively these experiences have helped me straddle the 'worlds' of industry and employers, and that of education. My roles in both sectors have often required me to operate as a 'boundary crossing' individual who is "comfortable with the continual construction of their identity in new contexts" (Lindgren & Wåhlin, 2001, p. 357) that can dramatically accelerate



learning, provide drive, energy and focus (Cunningham, 2008). In general I also welcome the opportunity to “act more independently vis-à-vis other people and to make sense of these interruptions by using them as occasions for learning” (cited in Lindgren and Wahlin, 1999, p. 358 Weick, 1996).

In my private sector role as a Strategic Partnership Manager (2010-16) I supported new types of provision, in particular UTCs and Studio Schools. This role was undertaken with each provider for a relatively short period of time lasting 6 to 12 months, and most often took place during the planning stage and prior to the principal's appointment. The support focused on a range of factors that included, among others, working closely with the UTC planning team, contributing to the educational vision and its alignment to the needs of sponsors, devising employer projects, modelling the curriculum and its design, and student progression opportunities. I believe that my work was valuable, and much needed at that time, as I was able to bring a level of strategic thinking coupled with project management skills, indicative of the commercial market, into the public sector. Nevertheless, I was acutely aware of how some education scholars viewed any private sector involvement in public education as a problematic force (Ball, 2008c, 2018). I was also mindful of successive governments' reforms, including attempts to liberalise the supply side of the quasi-market in schools, which were serving to reduce partnership working across providers (Lumby & Morrison, 2006), and that the landscape of provision was becoming increasingly diverse and fragmented (Walford, 2014a).

Throughout this strategic partnership work I encouraged stakeholders to share their professional practice and expertise to develop the content of the educational vision, and to work collaboratively to deliver that shared vision. In doing so I was able to bring to this work my educational experience that had included qualification development (BTECs in 1983), and curriculum development and quality assurance (HE and FE). In addition I was able to apply the skills learnt in and valued by industry; devising projects and assessment models linked to project management, creative, and technical skills. During this time, interestingly, any consideration of providers' competitive practices and interdependencies had been outside of my remit. However, I was aware that new providers, following the appointment of the principal, during the set-up phase or once open, were

experiencing difficulties in particular in student recruitment and financial management.

Throughout my professional experience I have not found any organisation where I have taught or professionally supported, willing to cede a reduction of its autonomy, its status and position within the local provider hierarchy, nor a reduction in funding as an outcome of student transfers to other providers, unless it was actively choosing to do so. Rather, I have found collaboration between institutions to be generally based on that which is of mutual benefit or advancement, to be overt, documented, and relatively formal in its arrangements, particularly when related to professional development and the sharing of 'good practice'. Conversely, I have found competition and competitive practices between providers to be less articulated, less open and less documented, which can make competition between providers a difficult area to research, and to identify the challenges such practices present. It was therefore, in my view, research that merited conceptualisation and further analysis. My interest in this research therefore emanated from my professional practice supporting new providers; my experience of working in industry; my support for vocational education; an appreciation of the complexities of technical education and the UTC model; and the relative paucity of available information known about UTCs and the processes at play.

In 2012, as I embarked on this research I was aware that the topic was complex as there were a number of different institutions involved – mainstream schooling, Further Education (FE) and HE institutions, and sponsor engagement that crossed the boundaries of HE and industry. The concept of establishing technical education institutions that placed a foothold in many non-aligned 'camps' as opposed to a firm foothold in one was, in my professional view, an idea that invited investigation. Indeed, in the FoP module I had proposed that UTCs were excellent institutions by which:

To explore the multiple perspectives and networks of interacting activity systems, professional learning and the expansive learning that takes place (Gomery, 2013b, p. 18).

Given the unusual combined range of my professional and practical experience coupled with my belief in technical and vocational education as pathways that are different from but of equal value to academic pathways, I was well placed to take

on this research, which would also be of benefit within my professional role. While I intended to use these valuable professional experiences and my positionality to inform my research I was acutely aware of how my prior professional work in the private sector, my support for vocational study tracks, and my professional engagement with UTC leaders may pose a range of potential biases. I was therefore mindful to ensure that I continuously reflected upon my positionality, rigour was maximised, and bias where it existed, was recognised, openly acknowledged and where possible minimised. Nonetheless, I appreciated that my professional experiences and relationships were also acting as significant enablers to facilitate access to those leaders who were willing to discuss the opportunities and challenges they had experienced.

As an education professional I returned to the conundrum of what could explain why UTCs were failing to thrive when: the education model and curriculum were well-considered and thoughtfully planned to maximise students' teaching and learning experiences; sponsors were inputting into the projects and setting the UTC's ethos and vision; and government and UTC leaders were broadly in favour of the education offer. Yet, UTC student admission numbers were low and many were struggling to establish themselves within their respective lived markets. It was therefore a research topic that would be beneficial to my professional role and to academic research in general, and was one that warranted further investigation. At this stage I naively imagined that UTCs' 'failure to thrive' might possibly be remedied if there was a better understanding in the early planning stage of how a lived market operated in practice and the processes at play.

The research aims are therefore threefold; firstly, to draw out the competitive pressures and practices of the lived market as perceived by leaders, uncover the mediating factors they believe operate and have influenced the strategies they developed in response to those competitive pressures and practices, and to identify the resulting outcomes. Secondly, my aim was to remedy the relative paucity of existing knowledge regarding UTCs, and build upon this to site UTCs within the development of the education quasi-market in England. The third aim was to generate new knowledge that would open up debate and stimulate researcher' enquiry into the tenets of the quasi-market (competition, supply-side liberalisation, per-pupil funding, parental choice, diversity of provision and demand-

led education) and its incremental expansion into mainstream schooling, and the potential implications of this for schools, the young people they serve, and the challenges this presents for leaders.

Aligned to the research aims the overarching research question is: *How do UTC leaders perceive local competition and respond to any competitive pressures?* To help answer this question a further three sub-questions were added as deeper probes and to increase reliability: *what competitive pressure and practices have UTC leaders perceived; what strategies have they adopted in response to those perceived competitive pressures; and what were the outcomes, to date, of this perceived competition and competitive practices for the research participants, their institutions and the students they serve?*

As an advocate of different teaching and learning tracks these research aims and the overarching question are very important, for I believe that some students benefit from a more practical approach when learning theory, and I have had first-hand experience of students learning theory through their practice when 'real world' projects were employed as teaching and learning gateways that operate as "tangible, useful activities in real life" (Farkas, 2010, p. 30). In addition, I believe the way that knowledge is conceptualised (Young & Muller, 2014), its transfer between novice and expert (Lucas, Spencer, & Claxton, 2012) as advocated by the UTC model of technical education, can facilitate technical and occupational practice and enable the novice to achieve higher levels of expertise in the workplace or aid their progression to further study - the differences and overlap between academic, technical and vocational education are explored in the Literature Review Chapter 2.

## **Thesis Structure**

In response to the research rationale, aims and research questions the thesis structure was developed across the following Chapters.

### **Chapter 2: Literature Review**

The literature review draws together existing knowledge from across: quasi-markets, technical education and UTCs reflecting the interrelated and complex systems, policy reforms and institutions that have contributed to UTCs' inception and development. The chapter closes with a conceptual framing of the competition and competitive practices in England.

### **Chapter 3: Research Design and Methodology**

Here I reiterate the rationale for undertaking this study, and restate the research aims and research questions, and the conceptual framing that inform the research design. The research design is justified in light of my ontological and epistemological positioning and theoretical perspective, and the methods, data collection and analysis, and ethical factors are given consideration.

### **Chapter 4: Findings**

This chapter opens with a brief reiteration of the research aims and research questions and introduces the nine cases and ten participants, followed by an overview of BDT's ethos and vision and its iterations across each case. The qualitative and document data are brought together to report the findings, and answer the research questions.

### **Chapter 5: Outcomes**

Here I employ the descriptive statistical data to present and interpret students' nationally reported examination performance outcomes across the nine cases.

### **Chapter 6: Analysis and Discussion**

In this Chapter I analyse and discuss the findings in light of the literature review and summarise the case clusters as niche providers, sponsor engagement and importantly, the 'technical / academic divide', and do so in relation to BDT's concept of the UTC 'ideal'.

## **Chapter 7: Conclusion**

Finally, I consider the limitations of the thesis, and reflect upon my contribution to professional practice, its implications and the possibilities for future research.

## **Chapter 2: Literature Review**

### **Introduction**

The literature was reviewed to bring together existing knowledge pertaining to UTCs that would fulfil the research aims, and support answering the research question/s. Throughout the review I sought to better understand how UTCs had evolved and the education climate and policy context into which they had emerged. The review is organised into three parts. Firstly, I focus on the introduction of the quasi-market into education in England, how processes of competition have been found to operate and the creation of new provision to stimulate competition. Secondly, I focus on technical education and the perceived divide between academic and technical study, its sociology and status. I site the emergence of the UTC model into this context. Thirdly and finally, I outline a conceptual framing for this research, which draws on key perspectives from the literature.

### **Part 1 - Competition and Markets**

In varying degrees governments across the world from the mid-1980s onwards have introduced market mechanisms into state education based on the assumption that markets will foster choice and competition, encourage innovation, drive up standards and reduce inequities (Ahlin, 2003; Lubienski, 2009; Power & Frandji, 2010). In England, the concept of organising schooling as a formal market can be broadly traced to the mid-to-late 1980s under Prime Minister Margaret Thatcher's Conservative Government (1979-90) (Woods and Simkins, 2014). Influenced by the theories of the liberal economist Hayek and think-tanks such as the Institute for Economic Affairs (Johnson & Mansell, 2014), Thatcher's wider support for market economics, was reflected in the subsequent 1988 Education Reform Act (ERA). This marked the beginning of a significant shift from local democratic governance towards an increased focus on market competition and, it was claimed in policy, the needs of individual consumers (Le Grand, 2011b; Walford, 2014).

The underlying hypothesis was that markets were efficient mechanisms and that schools would become more effective when they responded to the rights of individual consumers (parents and students) to choose their school. The incentives to do so were also clear, as funding for schools was linked more closely to per-

capita funding. It is important to note, however, that the formalisation of a market in state education did not follow 'free market' principles, but rather created a so-called 'quasi-market'. This meant that the benefits, professedly, gained from the efficiency of markets, were to be underpinned by public administration and finance systems and externally defined accountability and targets (Le Grand, 2011b). Schools operating in a quasi-market can be understood therefore to remain under the indirect control of central government (Sahlgren, 2013) as the market regulator, with services "paid for out of general taxation" and, importantly for the user, these services being "free at the point of delivery" so that there is no price mechanism (Dolowitz, Marsh, & O'Neill, 2002, p. 8). Le Grand had argued that:

Quasi-markets involved retaining state funding for these services, but replacing state monopoly in the provision of these services by a plurality of independent providers who competed for business from state-appointed purchasers (in healthcare) or directly from users (in education) (Le Grand, 2011a, p. 3).

Following the ERA, successive governments, (New Labour [1997-2010], the Coalition [2010-15] and current Conservative Government [2015-]) have committed to, but placed varying degrees of emphasis on, 'choice', 'competition' and school diversity. These different emphases have reflected their common, albeit varying, adoption of a sometimes conflicting mix of neoliberal, neoconservative and new managerial approaches to educational reform (Ball, 2008). As these have influenced the emergence and operation of quasi-markets in England, I briefly introduce each of these approaches in turn.

Within neoliberal approaches to educational reform, the state's role is typically focussed on building and administering an institutional framework that facilitates the functioning of markets. As such, there is an important but 'minimal role' for the state (Ball, 2008, p. 15). This has led to claims that neoliberalism, as a set of laissez-faire liberal economic ideas, is "inherently unstable" and (re)creates inequalities (Harvey, 2005, p. 81) through the entrepreneurial mechanisms of the quasi-market by introducing choice for consumers and, importantly, competition between providers. Neoliberal approaches in education typically value consumer choice and provider competition as incentives for diversity and improvement. This includes a focus on supply side liberalisation to enable new providers of schools to enter the market as new competitors. This can also extend to the opening up of new markets for profit-making (Apple, 2000). The purposes of education can



typically be focused on human capital development, supplying the labour needed to keep the wider economy competitive. As Harvey (2005, p.2) summarises, neoliberalism more widely can be understood as:

A theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills with an institutional framework characterized by strong private property rights, free markets, and free trade.

Neoconservative approaches to educational reform can be understood as giving “priority to social authority, social order and national identity, and a strong state” (Ball, 2008, p. 15). Its ideology typically favours state influence over culture and knowledge whereby an historical (and ideological) rendition of education based on the ‘past’ is adopted in the belief that it is possible to gain consensus over knowledge (Williams, 2001). This ideology can lead to a return not only to a traditional curriculum, it can also lead to the privileging of certain types of knowledge and subjects studied, and the aspired behaviours, characteristics and values among students. In practice, neoconservatism has influenced school reforms since 1988, for example through the introduction of the national curriculum (1989), and by lending its support for neoliberal values that foster a mistrust of democracy, and help maintain market freedoms that, purportedly, foster innovation (Harvey, 2005, p. 82). However, as Harvey (2005, p. 82) argues, neoconservatism also works to reshape neoliberal educational reforms:

First, in its concern for order as an answer to the chaos of individual interests, and second, in its concern for an overweening morality as the necessary social glue to keep the body politic secure in the face of external and internal dangers.

Combined neoliberal and neoconservative strategies can serve to label “culturally and economically disenfranchised communities”, most often through the media, that work to “shift responsibility for their [the community and the individual] educational marginalisation to both teachers and these communities themselves” (Apple, 2006, p. 21). Importantly, this dual force of neoliberalism and neoconservatism works in tandem to recast the goals of educational systems “in narrowly economic terms that call for market based reforms” (Apple, 2006).

New-managerialism, as a third approach to educational reform, is typically based on rational thought and ideas that promote management, and control

through targets and intervention systems coupled with accountability and hierarchical systems (Connell, 2013). This embraces the concepts of “efficiency and effectiveness through bureaucracy and accountability”, and utilises these concepts as key levers for reform (Cranston, 2013, p. 131) through the use of targets and interventions to govern, and thereby potentially control, the system. A new-managerial approach can be aligned to neoliberal (and neoconservative) approaches to reforms, for instance enabling the increased creation of and access to data that provides evidence of student progress against measurable targets (Ofsted, 2013; Ozga, 2009).

From the 1980s onwards England has moved gradually away from its public accounting tradition towards a “New Public Management (NPM)” that reflects “a new global paradigm in public management” (Hood, 1995, p. 93). Reflecting NPM’s emphasis upon organisational ‘best practice’ coupled with public accountability it has been termed “accountingization” (Power & Laughlin, 1992, p. 133). The mixing of these different approaches to educational reform can be seen clearly in post-2010 Government policy. For example, reflecting a centralist, neo-conservative and new managerialist approach to data, the Coalition Government’s then Secretary of State for Education (2010-14), Michael Gove, introduced the English Baccalaureate (EBacc) as a non-compulsory national performance indicator that captures schools’ performance across GCSE subjects: English, maths, the sciences, a humanity subject and a modern foreign language (DfE, 2010). A potential effect of the EBacc measure was its capacity to accentuate the importance the government placed on measuring schools’ performance in academic subjects. Importantly, the EBacc measure had the potential to leverage change in many schools’ curriculum offer that reflected the value of the subjects it [government] measured and the value government placed on the reporting of academic achievement. These measures signified a neoconservative approach to the championing of traditional academic subjects, and a re-emphasising of the importance the government placed on these. At the same time, the publishing of this data alongside Ofsted reports and new measures of student progress is intended to allow “parents to make informed decisions about where to educate

their children”<sup>2</sup> (Ofsted, 2017, p. 3). This therefore operates at the same time as to further facilitate incremental, if state-directed, change within state education quasi-market.

Together this mixing of differing combinations of neoliberal, neoconservative and new managerial approaches influence how and to what degree and ways in which ‘competition’ can operate in the quasi-market. Further, it means that, as Woods et al (1998, p. 145) argued, the “complexity of relations and directive influences” can make it “extremely difficult to identify unequivocally that a certain change is the direct result of a policy initiative” such as introducing market mechanisms.

### ***Idealised market mechanisms***

These insights on the complexity of the introduction and ongoing reform of quasi-markets can sometimes feel in tension with the seeming simplicity of free market ideals. For instance, a number of optimum criteria are often presented as being required to stimulate efficient competition between schools. Le Grand (2011a; 2011b) sets out four such criteria. First, parents are argued to need to have a set of national standards or conditions by which to assess schools. Second, there needs to be a good number of schools for parents to choose from. Third, parents must allow their children to travel beyond the ‘local’ area to a school of their choice (with the removal of local barriers to admissions). Finally, school funding needs to follow pupils whereby the incentive to recruit students equates to financial resourcing (per-pupil funding), survival (expansion or closure) or reward (additional resourcing).

Croft (2015) argues that to support the tenets of the quasi-market and enable schools to operate competitively, schools also need to have significant autonomy to act at a strategic level, with independence from local government control, as well as funding on a per-pupil basis that provides an incentive for schools to compete to recruit students. Sahlgren (2013) argues that schools need to maximise their distinctive approaches by developing a niche in the market to enable a school to

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<sup>2</sup> Ofsted believes itself to be “a force for improvement through intelligent, responsible and focused inspection and regulation” and claims its work is “evidence-led” and that its “evaluation tools and frameworks will be valid and reliable” (Ofsted, 2017, p. 6).

gain a particular high profile and high status. This follows mainstream (neoclassical) economic theory and the assumption that the presence of competitive pressure between schools 'ought' to have a positive effect on school performance (Agasisti and Murtinu, 2012). Belfield and Levin (Belfield & Levin, 2002, p. 248) assert that:

Competition may encourage schools to eliminate ineffectual programs, cutting wasteful costs, or may motivate students who are better matched to schools of choice.

Increasing the diverse supply of providers so that schools have to compete for pupils to remain viable, it is commonly argued, can further these efficiencies. This, according to these principles, enables "good schools to thrive, while 'poor' ones close thus producing whole system improvement" (Johnson and Mansell, 2014, p. 3).

It is notable, however, that across these criteria for efficient markets, a clear definition of 'competition' as a concept is often absent. As Linick (2014, p.2) argues, without a "clear definition of competition and how to measure it, educational researchers will struggle to accurately quantify the ways these reforms impact students". Informed by the preceding discussion, the definition of competition adopted in this thesis (below) is intentionally what could be viewed as 'provocative' - see author's insertions. It is a definition more generally employed, accepted and understood as reflective of the business sector. This definition serves to alert us to the range of potential responses to competition that may reasonably be anticipated when competition in education is perceived of in this way:

Competition [a contest to establish superiority or supremacy] is not played on a level playing field; that competitors compete [employ strategies to present favourably their products or services] in terms of the symbolic capital that they have to offer [to gain a competitive advantage], which is changing over time and in relation to what others possess; and that the results (always provisional) are important for transforming the 'rules of the game' (Dezalay & Garth, 1996)<sup>3</sup>.

Thus, in accordance with the proposed definition, responses to competition may include: schools presenting their offer favourably in an effort to compete and gain a competitive advantage over others; some schools will thrive and increase their capacity; some schools may decline in popularity leading to potential closure; that this 'state of play' and the results of competition can change overtime particularly in relation to other schools' outcomes and

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<sup>3</sup> [ ] Author's insertions

performance in the market; and that negative outcomes can reproduce inequalities within education. I add to this definition the need to understand competition in state education as operating across a bounded area and a relational setting, that needs to be understood “within the complexity of those relations” (Grace, 1995, p. 3).

### ***Local ‘lived markets’***

As Grace implies, as well as understanding ‘competition’ in theory, there is also a need to understand how choice and competition interact *in practice* to influence school practices. While national policies provide the rules and structure of the market, the operation of choice and competition in practice is influenced by local, school-specific factors such as spatial phenomena and relationships with sites of competition. This has been termed the “lived market” (Taylor, 2001, p. 197), which can be understood to operate in specific local areas in which competitive practices and competitive interdependencies between schools are understood as being local in character.

One of the earliest studies of local markets in England was the Parental and School Choice Interaction study (Woods, Bagley, & Glatter, 1998), which was undertaken over a 3-year period (1993-96). This study highlighted the “localised and complex nature of markets in education and reported the ways in which senior school managers adopted a variety of strategies to respond to the local competitive arena in which they found themselves” (Bagley, 2006, p. 347). In particular the study investigated:

Parental choice of school and school decision-making: how secondary schools respond to competition (including how they obtain, interpret and act upon clues regarding parental preferences, and what factors constrain them in understanding and reacting to such information) and how parents react to these responses (including their perception of choice and constraints upon it) (Glatter, 1993, para. 1).

In terms of how school leaders perceived and responded to competition, Woods et al (1998), argued that school leaders were often concerned with the school’s operations and its external relations and their responsive actions included: ‘promotional action’ to try to ensure that external perceptions of the school were as positive as possible; ‘environmental scanning’ to understand local market and particularly the actions of other schools; ‘substantive change’, which included changes to curriculum, building and facilities as well as attempted changes of the

student body (through admission criteria); and 'resource management', both to try to improve efficiency and to secure additional income.

Woods et al's (1998) findings also highlighted how both academic performance and the composition of the student body were key factors, particularly when viewed in relation to how parental choice and school competition actually operated locally. In particular, competition could lead schools to focus on a privileging of academic subjects within the curriculum, especially in external examinations, as this aligned with their assessment of wider dominant norms about quality and status. The Woods et al study has informed a range of subsequent research. This includes a recent study undertaken by Jabbar (2015c) in the metropolitan region of New Orleans, Louisiana in the USA. Jabbar provides an important insight into competition and competitive relationships between schools and school leaders as the study was undertaken in the context of school reforms following Hurricane Katrina (2005), which re-opened the majority of local schools as 'Charter Schools'<sup>4</sup>. As such the area of study had a high Charter School density and a strongly market-oriented policy environment. Using data from interviews in 30 Charter schools Jabbar's study examined how school choice and competition influenced school-level actions, and in particular school principals' perceptions of competition and their competitive practices.

Jabbar's findings indicate that schools, when operating in a crowded marketplace, were more able to avoid competition when they carved out a distinct niche offer that, ostensibly, provided better opportunities to match students' interests. However, while schools tended to draw upon a range of strategies in response to competition, the most prevalent competitive strategy involved marketing of the school to compete for a place in what was perceived as a competitive environment. A majority of the sample (23 schools) had employed marketing strategies to make their school 'attractive'. As Jabbar explains, this response is subtly different to the traditional economic view of competition as a mechanism to stimulate educational improvement. In particular, the pattern of marketing indicated that a considerable number of schools were seeking to mimic higher status schools to avoid gaining a lower status. As Lubienski (2003) argues this highlights the potential for

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<sup>4</sup> Charter schools- "an innovation produced in the state sector by government intervention" that were established primarily by the U.S. public sector in the late 1980s (Lubienski, 2009, p. 36 para 98).

isomorphism rather than diversity in markets, particularly when organisations are competing on the same basis with a broadly similar ‘product’ (Betts & Loveless, 2005).

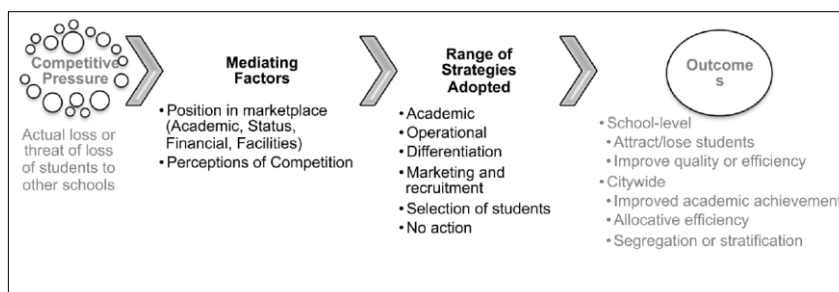


Figure 2.1 Conceptualisation of Competition (Jabbar, 2015, p. 34)<sup>5</sup>

In seeking to conceptualise how perceptions of competitive pressures could lead to (different) responsive strategies by schools and outcomes for students, Jabbar developed a framework comprising of four insights: competitive pressure; mediating factors; range of strategies adopted; and outcomes (see *Figure 2.1*). Importantly, this highlights how leaders’ experiences of market pressures can vary depending “in part on their [school’s] status within the market hierarchy”, as well as factors such as a school’s “geography, student transfers, school performance, principal characteristics” (Jabbar, 2015a, p. 1093). This both emphasises the importance of the local lived market and provides a conceptualisation of the channels through which competition may influence student and school-level outcomes.

### ***Critiques of quasi-markets***

The broad findings of Woods et al and Jabbar – that perceptions influence actions; and that actions influence outcomes, which can reproduce inequalities – have been corroborated by a range of other studies of competition in state school markets.

Importantly, research of local education markets as a “space” for the “movement of pupil numbers between schools” (Taylor, 2001, p. 198) has often identified patterns of competition that are hierarchical across schools. For instance, Taylor (2001, p.

<sup>5</sup> ‘Allocative efficiency’ (USA) represents consumer preferences for a service, which provides a marginal benefit to consumers equal to the marginal cost of producing that service.

199) argued that the hierarchical nature of competition between schools “was generally related to the examination performance of those schools and their physical location relative to other schools in the competition space”. Maintaining a dominant position in a local hierarchy can lead schools to devise activities and events that focus on promoting the school favourably, and to distinguish it when compared with other schools across its lived market. Schools may also privilege academic subjects within the curriculum (Young, 2011) to confirm and project their image as high performing and high status schools and work hard, in England, to be graded ‘Outstanding’ by Ofsted. These national performance indicators can therefore help schools maintain a dominant position and higher status within local schools’ hierarchy and market (van Zanten, 2009). Such a dominant position may place a school well to privilege or attract admissions from high performing students who, in turn, can enable the school to perform academically well.

A factor for many schools when making choices to maintain their position in the school hierarchy is the cost of delivering teaching and learning to their student cohorts, including staffing costs. This cost factor may act as a driver to cream skim<sup>6</sup> “in favour of pupils which are easier to teach and which therefore don’t cost so much” (Croft, 2015, p. 2). It is important to note here therefore that the collective power of perceptions of competition and competitive practices between schools drives providers to position themselves as well as they can within the local hierarchy of the lived market (Taylor, 2001; Bagley, 2006). In addition, the temptation by one school to ‘adjust’ their student intake can influence other schools’ responses (Delvaux & van Zanten, 2006; van Zanten, 2009), including the pushing out of low performing students into other schools (Davies et al., 2009).

These school actions interact with patterns of parental and student choice. While policy has typically positioned choice as having the potential to match schools and students more appropriately than planning, and to help reduce inequities resulting from housing patterns, choice may be valued more ‘in principle’ than actuality (Exley, 2014) and be problematic and complex in nature (Waslander, Pater, & Weide, 2010). It is therefore important to consider what factors may contribute to

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<sup>6</sup> See Glossary



parental 'buy-in' of provision as a "means by which families can escape what are deemed to be poor quality schools" (Exley, 2014, p. 24). When lower socio-economic class families 'play' in this choice 'game' they can be at a disadvantage as they may lack the cultural, financial and cultural capital resources necessary to play the game well (Lubienski, 2015; van Zanten, 2005). For some families a refusal to participate in this 'game' is a positive act based upon a preference to wed themselves and their children to their locality (Helgøy, Homme, & Gewirtz, 2007; Reay & Ball, 1997), and to trust in the work of local schools (van Zanten, 2005). The extent to which providing parental school 'choice' is a mechanism to improve educational outcomes is therefore highly contested (Allen & Vignoles, 2010).

Indeed, there is evidence that in contexts of choice and greater school autonomy (particularly over student admissions) there is a further clustering of disadvantaged students into certain schools and "between-school segregation" (Gorard, 2016, p. 142). The long-term underlying level of segregation is complex, but Gorard argues that school diversity in England, as represented by the growth of Academies and Free Schools, and the continued existence of faith-based and selective schools is linked to greater socio-economic segregation. There are also arguments more widely that the marketisation of education and parental choice are contributing to a 'naturalising' of educational inequity (Power & Frandji, 2010). Connell (2013, p. 279) argues for instance that education quasi-markets, in particular those underpinned by neoliberal ideology, have been instrumental in the rise in inequality, not as an accidental side, but as a restoration of privilege and the dismantlement of redistributive mechanisms for social equity.

While these arguments are also highly contested, there is certainly limited evidence to support claims that market-oriented reforms are linked to performance gains and pupil achievement. Evidence suggests there can be both winners and losers in differential school choice programmes, with some schools and students being 'left behind' (Burgess, McKenna, & Allen, 2014; Burgess, Propper, & Wilson, 2007). There is also little evidence that successive governments' support for markets, and the numerous reforms and education initiatives since 1988, have significantly addressed social equity and the deeply embedded prevailing attitudes

towards academic and technical study (Fuller & Unwin, 2011b; Hayes, Reynolds, McLucas, & Morgan, 2012; Young & Muller, 2014).

A further implication of the rise of quasi-market driven initiatives is the tendency to shift teachers and school leaders' sense of identity and belonging away from the tradition of connecting and orientating themselves as educationalists in professional communities, along with their occupations and associations, ethical codes and standards (Barnett, 2011). The argument here is that "professional work competence becomes primarily defined and assessed" (Evetts, 2008, p. 537), and the professional becomes increasingly an agent of the "organization's mores and customer's wishes" (Brandsen & Honingh, 2013, p. 878). Further, school leaders in particular may perceive that their (and their school's) very survival necessitates professional realignment to the dominant ethos and vision of competition and performance and thus to the raft of 'transparent', quantitative statistics and external surveillance monitoring systems that have accompanied quasi-market reforms (Bottery, 2000). In the context of these shifts, Ball (2018, p588) argues that the education quasi-market is "re-forming the meaning and practices of education" and changing the way in which we not only understand education, but most importantly, "how education is represented and understood" (Ball, Junemann, & Santori, 2017, p. 143).

### ***Liberalisation of the supply-side***

These critiques are not, however, the consensus in policy. Indeed, for proponents of the quasi-market in England who have been influential in policy making (Croft 2015, Sahlgren 2013, Le Grand 2011), the problems of 'quasi' markets point rather to the need for greater alignment to free market principles. In particular, this is the argument that, in order to provide consumers (parents) with greater choice, the quasi-market needs a greater diversity of school providers – and the ability of providers to enter (and exit) the marketplace more easily. Successive governments have viewed this argument, for greater market freedoms and the mechanisms to achieve an increased and diverse range of providers, slightly differently. In the early 2000s 'New Labour' policies attempted to place greater emphasis on social inclusion, yet did little to stifle the quasi-market forces implemented by its predecessor Conservative Government (Norris & Adam, 2017). While initially favouring a focus on high standards and accountability (captured in the slogan

'standards not structures'), New Labour quickly returned however to 'structures', critiquing comprehensive schools as 'bog-standard' and encouraging new providers into the education markets, including through the sponsorship of academies. It was in 2010 that policy attempts at supply side liberalisation were 'massified', including through the aims of system wide academisation, the creation of Free schools, UTCs and Studio Schools and the emergence of Multi-Academy Trusts.

Informed by earlier market reforms, a guiding policy principle in supply side liberalisation has been that new providers should have autonomy to innovate and be independent of Local Authorities. The argument is that new providers from beyond the state will do a better job, particularly where the local state is deemed to have failed. However there is a range of critiques of these assumptions. The Association of Colleges (AoC 2007b, p.40-41) was sceptical of New Labour's policies and argued (2007) that allowing an expansion of supply into the market could deplete existing sector specialists, dissipate existing resources across an increased number of providers, dilute the volume of learners for existing institutions, and "make the management of their learning more problematic" (2007b, p. 40-41). Hodgson and Spours (2014) argue that institutional competition between new providers can in fact generate fewer opportunities for partnership working and thereby limit student progression routes and destinations. Further, the potential for 'diversity' from new 'autonomous' providers may not be an outcome of supply side reforms in the English context given that both market competition and state regulation can have isomorphic incentives. As Ball (2008b, p. 50) argues:

It is a mis-recognition to see these reform processes as simply a strategy of devolution and deregulation – they are processes of re-regulation – not the abandonment by the state of its control over public services but the establishment of a new form of control.

To some extent, it remains an empirical question as to whether post-2010 supply side reforms have stimulated new competition and institutional diversity. This includes the emergence of specific 'niche' provision focused on 'technical education', as in the case of UTCs. What this review of quasi-markets has suggested is that both the formal structures of market (as set out in policy and accountability mechanisms) *and* the perceptions and responses of UTC staff, and in particular UTC leaders, will be influences on how new technical education

providers emerge in local markets. As both Taylor (2001) and Bagley (2006) proposed, the influence of perceptions of competition and competitive practices between schools are highly significant as school providers seek to position themselves in existing lived markets. The specific challenges for technical education operating in a quasi-market are addressed in the next section.

## **Part 2 - Technical Education**

In this second section, I explore technical education in policy terms and within its recent history. I consider the sociology of technical education and highlight the tensions surrounding the socially constructed 'divide' between academic and technical study. I also consider why technical education can be perceived to hold lower status (and sometimes lower 'quality'), particularly within a highly unequal and classed society. Finally, I consider the possibility of a return to the tripartite system and attempts to "recover these [technical] schools or something like them" (Sanderson, 1994, p. 175) as part of supply side liberalisation.

### ***An Academic and Technical Divide?***

As well as local processes, for example of choice and competition, policy changes present apparent opportunities to open up debate about what education is for and its value in terms of social democracy (or elitism), social equity (or supremacy and inequity) and citizenship (society or individuals) (Hodgson & Spours, 2011; Pring, 2011). These debates often consider what education in schools should (or should not) teach in terms of types of knowledge (Muller & Young, 2014) across the curriculum (standardised or not); and how, where, when and by whom schooling takes place and to whom it is taught (Hayes et al., 2012). Technical education has its place within these debates, which has included the introduction of, among others, a range of programmes<sup>7</sup>, qualification reform<sup>8</sup> and initiatives to help young people transition from school and into the world of work.

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<sup>7</sup> Youth Opportunities Programmes (YOPs) for 16-18 year olds (1978 expanded 1980); Youth Training Scheme (YTS) introduced (1983) to support school leavers aged 16 or 17; and Technical and Vocational Education Initiative (TVEI) programme, funded by the Manpower Services Commission (1983 -97).

<sup>8</sup> Business and Technology Education Council (BTEC) qualifications introduced into FECs (1984) and schools (circa 2004).

In this context, national and international debates surrounding segmentation and the different types of ‘knowledge’ across academic and technical and vocational study have often focused on: the role of national stakeholders in defining knowledge and specifically in VET qualifications (Bathmaker, 2013); the curricula in terms of integration or differentiation across “distinct academic and vocational tracks” (Yates & Young, 2010, p. 7); whether [some] students should learn skills rather than subject knowledge or in doing so such curricula may further disadvantage some of the most disadvantaged children in our society; and the pedagogic nature and key challenges of providing socially disadvantaged students with access, through meaningful engagement, to “powerful [and empowering]<sup>9</sup> knowledge” (Whitty, 2010).

These debates are longstanding and centre primarily upon the divide between different study-tracks (academic, technical and vocational), the priorities each track is afforded and, importantly, who studies which ‘track’. The concept of “practical learning: learning through doing and experience, being shown rather than told” (Pring, 2010), proposes there is a theoretical understanding that occurs in contexts where the learning interface is through experience that in turn creates meaning. This concept is at one and the same time both ‘meaningful’ and ‘critical’, and was deemed radical when proposed in the mid-1970s (Gleeson & Whitty, 1976), being fundamentally different to deeply held assumptions and ideas formed by a ‘tripartite mentality’.

These tripartite ideas were based on the concept of ‘who studies what and where’, and of there being “three types of children, that warranted, ostensibly, three types of school” (Pring, 2010): the grammar, technical, and secondary modern. These notions have perpetuated and underpinned, in varying degrees, education policy in England from the mid-1940s onwards. The ‘tripartite mentality’ generated an assumption that certain groups of children were only able (or permitted) to access ideas and concepts in certain ways by attending different types of schools, with different curriculum offers and by children taking certain types of qualifications (Gleeson & Whitty, 1976; Pring, 2011). A range of policies<sup>10</sup>, including particularly

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<sup>9</sup> [ ] Author’s insertions

<sup>10</sup> “Tory Urban Blueprint” to increase the supply and diversity of education provision (McCulloch, 1989, p. 30).

the legacy of the Junior Technical Schools<sup>11</sup> of the early 20th Century, the Technical Schools post 1944 and the development of City Technical Colleges (CTCs) in the late 1980s can be seen as a series of attempts (including since the introduction of comprehensive education) to (re)create a tripartite system.

In this context, Winch (2014), argues that, while the acquisition of academic subject knowledge (theory) in formal learning environments is widely understood (as is its formal testing and validation in the form of qualifications) much less understood and accepted is the practical application of knowledge in more informal settings, and in particular contextual environments such as, for instance, the engineering workshop (Hanrahan, 2014). This problematising of the curriculum, in terms of its traditional separation of theory and practice and the types of knowledge employed, have also been linked to wider societal concerns such as ideology, power, and issues of gender, race and class (Raffo, 2011; Young, 1999). Grouped under the term “curricular politics” (Whitty, 1987, p. 110), a common critique asserts that, in fact, little has been done to change the accepted “curricular knowledge and teaching methods” assumed by the ‘tripartite mentality’ nor have there been robust challenges to the inevitability of “strong social class divisions that value knowledge differentially” (Whitty, 2010, p. 29). The implied assumption is “that the best way of producing working class success was to substitute an alternative curriculum that was closer to the experience of working class children” (what Whitty later termed as ‘naïve possibilitarianism’) (2010, p. 29).

These debates on curricular knowledge continue today, with arguments for re-conceptualising of the 14-19 phase (Raffe, 2002; Young, 2011). Young (2011), for example, identified two issues when considering the implications of the Coalition Government’s (2010-15) approach to the 14-19 curricula. The first was the emphasis on knowledge, and in particular the priority given to school subjects that prioritised certain types of knowledge and teaching and learning over others (reaffirmed by the terms of reference of the 2011 National Curriculum review), and the implications of this for the 14-19 phase. The second was the failure to consider the provision of ‘14-19 education’ and its curriculum as a whole including vocational education and training or ‘learning by doing’ in meaningful contexts.

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<sup>11</sup> See Glossary

Young argued that under Michael Gove's tenure as Secretary of State for Education (2010-14) "access to knowledge as the core purpose of the curriculum" and the range of subjects studied were assumed, and that the "boundaries that define that knowledge" were adopted as a 'given', thereby generating a "curriculum for compliance" (Young, 2011, p. 267).

### ***Qualification reforms***

Notwithstanding these critiques of intransience over the lower status of vocational and technical education, the education and political context from the late 1990s onwards has been peppered with governments' attempts to debate the relationship between technical and academic study (Fuller & Unwin, 2004; Keep, 2012), fuelled by an appetite to explore the nature of VET in terms of academic, liberal and professional teaching and learning (Tomlinson, 2004). One driver for this has been argued to be the UK's need for a world-class VET system (Leitch, 2006). Importantly, as noted earlier under neoliberal education reforms, a recurrent argument has been that a skilled workforce would enable England to site itself as a competitor in an increasingly fast-moving global economy (Pring, 2009).

Pressure mounted on the New Labour Government (after 1997) to place jobs, skills and employability high on the agenda as a means to raise levels of participation and attainment for 14-19 year olds (Hayward et al., 2005), and offer a "New Deal" for the unemployed (Jessop, 2003). To this end New Labour believed that whole scale system reform, including a clearer qualifications framework, were necessary. New Labour appointed Tomlinson to form and Chair a '14-19 Working Group' (2003) to undertake a consultation (involving many young people, practitioners, researchers and policy-makers) and develop proposals for systemic whole system reform (Higham & Yeomans, 2011). Tomlinson's report (2004) recommended bringing all 14-19 qualifications into a unified framework and replace GCSEs and A level qualifications with a series of Diplomas at different levels that would cover all types of learning delivered collaboratively by providers working across consortia. This was deemed far-reaching and even radical and significantly, the report's recommendation for the philosophical unification of the curriculum had the potential to disrupt the traditional 'order' (Baker, 2005) by giving equal weight and value to

academic and technical tracks and thereby, potentially, breaking free from past attitudes (Brown et al., 2006).

New Labour were unwilling to risk the challenge that these potential reforms presented, as well as voters' response to these proposals given that an election loomed, and rejected much of Tomlinson's report. This rejection was described as both a missed opportunity for whole scale reform, and a "disregard for the educational professional voice in the policy process" (Hodgson & Spours, 2006, p. 680). Tomlinson's plans were subsequently reduced to a series of vocational 'Diploma' qualifications perceived as "the latest set of 'middletrack' qualifications that have failed in the past", inferring that these were unlikely to meet the full range of learner's needs (Nuffield Review 2007, p. 1). Tomlinson's plan to legitimise students' participation in both academic and technical study tracks was further hampered when the Qualifications and Curriculum Authority (QCA) became aware of rumours that schools, in an effort to demonstrate improved performance and positioning on the government's 'league tables', had directed more students to study vocationally related courses believing students were more likely to achieve a pass grade or above in a vocational qualification that could then "count for up to four pass grades [GCSE C] for performance table purposes" (Isaacs, 2013, p. 175).

The subsequent Wolf review of 14-19 provision (2011) commissioned by the 2010 Coalition Government recognised these changes in secondary schooling and reported that while schools were encouraging students to take vocational courses these were not always in the learners' best interests nor enabling of the labour-market. Wolf's review called for a radical reduction in the number of vocational qualifications available, in particular for students aged 14-16 who were studying courses that held "little or no value because performance tables incentivise schools to offer these inadequate qualifications" (2011, p. 4). Wolf proposed that programmes of study, whether 'academic' or 'technical' should provide for labour market and educational progress, and provide accurate and useful information to enable informed decision-making within a simplified system, and recommended a change in the equivalence between academic and vocational qualifications<sup>12</sup>. Broadly accepting these recommendations, the Coalition Government further

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<sup>12</sup> Secretary of State for Education (2010-14), Michael Gove, believed Wolf's reforms would "free up resources for teaching and learning" and encourage innovation and efficiency (Wolf, 2011, p. 1).



limited the recognition of vocational qualifications to a single subject (irrespective of the qualification size) when reporting student achievement at the end of KS4, which may serve to significantly reduce the importance of vocational subjects in the curriculum and across school performance tables (Bassett, 2014):

Qualifications will only be included if they are the same size as a GCSE [General Certificate of Secondary Education] or larger and each qualification will count for one in the tables irrespective of its size (DfE, 2014a, p. 3).

In parallel to these qualification developments, it is important to note that VET and technical education has continued to consist of a complex series of systems and organisational structures, governance models, programmes of study, qualifications, and skills matrices (Keep, 2015). The complexity of 14-19 provision can be explained in part by the divisions between the allocation of responsibilities for the strategic direction, planning and funding of education and training to different government departments (see Higham & Yeomans, 2011). England does not have an educational system, Coffield argues, but instead three badly coordinated sectors (Schools, Post Compulsory Education and Higher Education), which he proposes reflects the sharp division across government departments:

The mental image suggested by these structural arrangements is of three well-intentioned but dyspraxic and myopic elephants, who are constantly bumping into each other and standing on each other's feet instead of interweaving smoothly in one elegant dance (Coffield, 2007, p. 3).

As well as this complexity, Coffield (2007) argues that a common trend within qualifications reforms has been the intention to more closely involve employers in defining skills and training. Keep (2012a, p. 374) suggests this reflects a government aim "to fashion policies that create incentives and obligations to encourage employers to invest in skills". This may be indicative of a wider neo-liberal approach that supports business involvement in the education system, with the aim that is responsive to 'market' needs, forces and trends (Gleeson and Keep, 2004), putting relationships between providers of education and employers increasingly centre stage (Carberry et al., 2015). Certainly, recent government funding has facilitated partnership work between employers and education

establishments<sup>13</sup> in the domain of Local Enterprise Partnerships (LEPs), Chambers of Commerce and employers, giving them direct influence over strategy, funding, delivery, and future developments (Carr, 2015).

There is also the on-going Government reforms to Tech level<sup>14</sup> ('T-level') qualifications to be phased in (2018-22), which the then Prime Minister Teresa May argued would underpin the creation of new technical pathways to aid students' progression into work and further study.<sup>15</sup> Tech levels are designed to have a 'common core' pathway of English, mathematics, digital skills, and links to a specialisation and skilled occupation or set of occupations, and will replace over 20,000 of existing courses and qualifications, that will help students, ostensibly, to more easily access the 'job market' (Department for Education (DfE), 2016). The Government also announced (2018) its aim to "achieve a network" of Institutes of Technology (IoTs) that would; "play a significant role in driving inclusive economic growth across the country" (DfE, 2017b, p. 11). While these very recent reforms are beyond the scope of this study, it is important to note that the plans for 'T-Levels' differed significantly from those Tomlinson's proposed for Diplomas. While 'T-Levels' offer a separate pathways to A Levels, Tomlinson's Diplomas were intended as a means to integrate different 'lines of learning' across academic and vocational teaching and learning, blurring the boundaries rather than separate out academic and technical pathways.

In this context, it is also important to note the gradual revival in modern parlance of the term 'technical education', seen in policy from the early 2000s and particularly from 2008. Fuller and Unwin (2011b) argue, for instance, that the refashioning of the language of technical education may serve to represent it as being separate from VET and, by association, establish links to STEM sectors of the economy that would imbue technical education with a higher status. Indeed, there was a perception that support for such segmentation could be the outcome of the government-

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<sup>13</sup> CollabGroup (2015) represents UK Colleges and College Groups to drive innovation and improvements through high quality technical and professional education (CollabGroup, 2018).

<sup>14</sup> See Glossary

<sup>15</sup> T-Levels - a recommendation of the Sainsbury Report (2016).

commissioned review of vocational qualifications (Wolf, 2011) whereby “the vocational track is likely to become split into ‘technical education’ and lower level ‘practical learning’” (Fuller & Unwin, 2011a, p. 191). Certainly, the demand for technician-level competency, particularly for roles requiring STEM skills, led to recommendations by Adonis (2014, p.6) that ‘young people’ (an unspecified group) should be “encouraged to study the maths and science subjects required for STEM careers”, with the stress that links between schools and employers ought to be “radically strengthened”. Yet, it is also questionable whether such reforms would help to change the status of technical education. Lucas et al (2010, p. 1) argue, for instance, that there still remains:

Deep cultural attitudes and assumptions that cannot be rectified through tinkering with frameworks of provision or qualification, nor even through well-choreographed exhortation.

People often make assumptions, Lucas et al argue, which guide their instinctive evaluations of who studies which subjects; and this informs why it is commonly perceived that physical learning in meaningful contexts and skills expertise are viewed as less intelligent:

If ‘clever people’ are to ‘fulfil their potential’, therefore, they need to opt for brainwork rather than handiwork, which means the latter becomes the domain of the ‘less intelligent’ (Lucas et al., 2010, pp. 1–2).

Technical study programmes could continue to be perceived, therefore, as being designed for those who want to learn a trade or craft within a programme designed to meet the needs of ‘less capable’ students (Pring, 2010; Lucas et al., 2012). These perceptions and assumptions have limited the possibilities open to the promotion of technical learning. Furthermore, with the prevailing contemporary emphasis on academic study, attempts to raise the esteem of technical education can result in “making it look more academic and serious” (Lucas et al., 2010, p. 1). To this end, qualifications can become either ‘applied general’ or ‘technical qualifications’, and assessment and coursework replaced with written or multiple-choice exams and ‘end point’ or summative assessments. As such, attempts to raise the esteem of technical education could, as Lucas et al (2010, p.1) argue, also serve “to alienate some young people [particularly boys] even further from domains where they thought they would have felt more at home”. As Kress (2008, p.256) argued, this could lead schools to operate outside of what some students

perceive as their “legitimizing purpose”, that is they no longer act as a direct stepping stone for future employment nor sufficiently prepare students to consider other transition ‘options’.

### **Supply side liberalisation and technical education**

These critiques notwithstanding, one particular manifestation of a potential split of ‘technical education’ from VET is the creation of new organisations as part of wider market supply side reforms. Indeed, informed by the prior aims of a tripartite system, City Technology Colleges (CTCs) in particular were a new form of provision that was branded as offering innovation in high status technical education through the involvement of a range of governing partners. Introduced within the Education Reform Act (between 1988 and 1993) as state-independent schools, CTCs were to pioneer technical education, champion technology and improve the education of inner-city learners. Under Kenneth Baker’s lead (the then Conservative Government’s Secretary of State for Education and Science [1986-89]), the initial plan was “to establish a network of twenty schools, each 750 to 1,000 pupils for students aged 11 to 18” (McCulloch, 1989, p. 30). CTCs were sited in urban areas (most often on brownfield land) with wide catchment areas, funded by central government and encouraged to but not required to follow the national curriculum. These schools were to focus on practical skills with additional time allocated to pursue technology, science, and mathematics and with a longer school day (Walford, 2014b). CTCs were also independent of Local Authorities and, therefore, seen as a mechanism to expand the number of self-governing schools funded directly by the state, and independent of local government (Ranson & Crouch, 2009).

CTCs were sponsored by local and national employers, some of whom were also governors, and this was intended to generate a “direct relation between local employers and their schools” (Whitty et al., 1993, p. 21). Employer sponsors most often owned, wholly or in part, the CTC buildings (McCulloch, 1989), and took lead roles in forging links between the CTC and local industry and employers. Baker’s role is significant for he was perceived as a politician who “had the relevant agenda and political capital” (Cookingham Bailey, 2016, p. 213) to drive through policy to liberalise provider supply and provide an element of innovation in education

through the involvement of a range of partners and modes of delivery and governance.

While CTCs may have been a means to test public response to the reform of secondary education, their “numbers never exceeded fifteen” (Cookingham Bailey, 2016). CTCs did however, create a different type of school that was “oriented explicitly towards an enterprise culture driven forward by high technology” (Edwards & Whitty, 1997, p. 7). The CTC concept was described for instance as a “modern alternative to traditionally academic secondary education” that served “to point the way towards a system of self-governing schools freed from the compromises, and supposedly mediocrity, associated [at that time] with Local Authority ‘control’” (Edwards & Whitty, 1997). Certainly, the CTC model provided the legal basis for the later creation of academies by New Labour and in 2010, the Coalition Government’s argument, at the time of allowing for and encouraging a system wide conversion to academies, was that:

CTCs are now [2010] among the best schools in the country, with great results and a record of continued improvement. CTCs not only have high standards, they also close the attainment gap (DfE, 2010c, p. 51).

### ***University Technical Colleges***

The history of CTCs is also particularly instructive to the contemporary development of University Technical Colleges (UTCs) as the new contemporary providers of technical education. Indeed, the CTC and UTC concepts were both championed by (now Lord) Kenneth Baker. Together Baker and the late Sir Ron Dearing (1930-2009) established the Baker Dearing Educational Trust (BDT) in 2009 to promote the establishment of UTCs<sup>16</sup>. Baker and Dearing had considerable collective expertise in their respective fields to develop BDT and its vision. Baker had expertise gained during his tenure as a Conservative Member of Parliament (1968-97) and as Conservative Government’s Secretary of State for Education and Science (1986-89), discussed above. Dearing’s field of expertise was secondary education and HE<sup>17</sup> and was therefore able to advise on the role of

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<sup>16</sup> The BDT’s trustees included Sir Mike Tomlinson. Baker became both Chair of “BDT, UK”, and Chair of the independent charity “Edge Foundation, UK” (2009 to 2019).

<sup>17</sup> Dearing’s ‘The National Curriculum and its Assessment: Final Report’ (1994) suggested three pathways; the academic, the vocational, and the occupational, and recommended that “14 should be seen as the beginning of a distinct phase” (Golby, 2006, p. 99).

HE in the development of UTCs (Watson, 2007). Both Baker and Dearing had also attended Grammar schools under the tripartite system (operating until the mid-1970s), and believed that, as Baker argued:

Technical Schools were the least developed arm of the tripartite education system introduced following the 1944 Education Act. But Dearing and I always regretted their passing. Between us, therefore we came up with the idea for a latter day and equivalent 'University Technical College' (Baker, 2013, p. 27).

Not dissimilar to the CTC model, the BDT's broad aims were to create a national network of UTCs (BDT, 2012), which Baker envisaged would respond to common perceptions that "vocational education for the last 150 years of our country has been an area of massive failure" (Baker, 2012, p. 40). Baker believed that UTCs would innovate, be regional hubs with a wider student admissions area that crossed historical LA boundaries, be demand-led, be 'business like' in their approach, and crucially that students would study both 'learning by doing' and a range of academic subjects at GCSE, with the development of students' social skills valued by employers. As the Trust's Chair, and in making the case for UTCs, Baker also justified the need in terms of meeting employer demand, and addressing industries' skills gap, which Baker predicted to be 'massive' by 2020. In Baker's view this skills gap could not "be met from the existing English education system", which he believed had "never considered [that] its main role [was] to try and match the economic needs of the country" (Baker, 2013, p. 7). Instead, Baker (2013, p. 11) argued, there was a need for a "series of specialist colleges [UTCs]" to meet the skills gap:

Whether in manufacturing, wind farms, rail links or hi-tech hospitals we need a workforce that can develop new products, stretch and reuse existing resources, and meet all the challenges of the future. This is what university technical colleges do (BDT, 2012, p. 4).

The role of BDT was to increase both public and government awareness of the UTC technical education model (and secure government funding), promote the model on the basis that it would enable employers to meet their skills shortages with a skilled workforce, and stimulate economic growth (see Appendices 25, 26a, 26b, 28a, 28b and 30). Notably, the BDT 'brand' and associated registered trademarks are owned by the Trust (see Appendices 27a, 27b and 27c), which "licences UTCs to use its brand and its trademarks", believing that this "will ensure that BDT's values are maintained for the long term" (BDT, 2014, p. 3). UTCs were

to provide students with insights into the “very wide range of careers open to people with high-level knowledge and skills in science and engineering” (Baker, 2013, p. 31). The BDT also argued that “UTCs [should] deliberately require a non-standard age of school transfer at 14, as BDT believes that the age of 11 is too early to specialise” (BDT, 2014, p. 2) (Appendices 18 and 19). It is also instructive to note in more detail two further aspects of the ‘ideal’ UTC model promoted by the BDT: the UTC curriculum; and UTC sponsors.

### ***UTC Curriculum***

Baker envisioned that the curriculum would be “actively shaped by employers” and teaching built round “exciting and challenge real-world projects”, which would develop innovative new products and processes that had the potential to “change the way we live in the future” (Baker, 2013, p. 31). Baker also claimed that sponsor universities willing to support BDT’s vision were enabling the transformation of the quality and quantity of school-based technical education where students would experience problem solving, group project work, develop their presentation skills, and foster an enterprising attitude (Baker, 2013). UTCs would appeal to specific students:

Many are uninspired and underachieving. They have a spark of self-knowledge, however, which means they have chosen a specialist technical context for their future education (BDT, 2012, p. 6).

The BDT Curriculum Committee’s aims were to provide the central co-ordination of UTC curriculum development, qualifications and initiatives with engineering and professional bodies. BDT’s brochures (2011-13) presented a vision of technical education that it anticipated would attract students interested in learning through practical and meaningful industry and university standard projects. Baker described the UTC curriculum model whereby students aged 14-16 years would have two days per week “when they are working with their hands or designing things” and three days a week when they are “doing academic subjects, GCSEs in English, maths, science, a foreign language and history or geography. So, they’re trying to do the EBacc as well” (Baker, 2013, p. 8). In 2011 BDT’s vision for UTCs’ KS4 curriculum (Appendix 26a, 26b) was divided (as it had been for CTCs) between Core Academic (60%) and Technical Specialism (40%)<sup>18</sup> and, in some UTCs, each student was to have an Individualised-learning plan (ILP) (Central Bedfordshire

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<sup>18</sup> Reversed at KS5 to Core Academic (40%) and Technical Specialism (60%)

UTC, 2012, p. 11). BDT initially advised UTCs to consider; those qualifications “employers and universities value” (Appendices 32a, 32b, 32c, 32d, 33a and 33b) even “though their knowledge of its content may be out of date”, whether a qualification was “part of the school performance tables” and its equivalency to academic subjects (BDT, 2012a, p. 16). However, BDT added a caveat stating that “it is undesirable to chase every indicator in the table”, because “these [qualifications] are in a state of permanent flux” (BDT, 2012b, p. 16).

### ***Sponsor Engagement***

The BDT also believed that UTC independence was critical, that “the [UTC] governing body [ought to be] controlled by a committed group of local [sponsor] employers and a university” (BDT, 2014, p. 2). The inclusion of universities in the UTC governance model (Appendix 18), alongside businesses, was also notable. Baker (2013) argued that the benefits of university participation related to the curriculum, university master classes, mentoring students or teaching, and providing student access to specialist knowledge and the universities’ facilities (Baker, 2013). Baker anticipated these ‘cemented’ relationships between sponsors and UTCs would result in more students opting to study technical subjects at university - including those students who had formerly been reluctant to consider going to university. University approval, through sponsorship, was also intended to promote the value of technical tracks as equally valid routes to university (Appendix 30), and served to help legitimise UTCs within education. The Vice Chancellor and CEO of the University of Northampton, supported the UTC concept believing:

England needs to transform the quality and quantity of its school-based technical education. UTCs are critical to achieving this. They are forging new partnerships with employers and higher education, creating the excellent technical schools, which the country has lacked for generations (BDT, 2012, p. 4).

BDT also stressed the distinctive ways that they believed universities and employers would develop the demand-led model in order to meet a perceived skills gap:

First, we get a university to sponsor each one, not with money at all but with commitment. We want staff from universities and post graduates to come in and do pupil teaching, and pupil mentoring to students of 14, 15 16 and 17...and [second] the critical thing is we ask employers to become really engaged...We ask them to actually get involved with



shaping the curriculum...We expect employers to actually produce projects (Baker, 2013, p. 8).

Sponsor input into the formation of UTCs' teaching modules, projects and problem-based 'industrial challenges' were therefore central to Baker's vision for UTC students to engage in "the kinds of authentic problems individuals are likely to face on the job" (Duke, 2014, p. 83). Employers supporting the formation of 'industrial challenges' [projects] included, amongst others, the major engineering manufacturer Rolls Royce<sup>19</sup>, who believed that if the UTC curriculum was shaped well, it would give students an "advantage of being further advanced in their technical education when starting an apprenticeship" (BDT, 2012, p. 4). It is important to note that during the early phase of UTC expansion (2010-14) seventeen FECs were also identified as initial UTC sponsors (Appendix 10). There is, however, very little literature on the role FECs played in developing UTCs. The first UTC (2010) was the JCB Academy (Appendix 21), followed by the Black Country UTC (2011) and three more in 2012, a further thirteen in 2013, and thirteen more in 2014. Eleven UTCs opened in 2015, eight more in 2016-17, and one in 2018 resulting in 50 open UTCs (a total of 60 UTCs have been established since 2010, but 10 have since closed and/or failed to progress from the planning stage).

The literature on UTCs, since 2010, has focused on: UTCs' inception, current position and performance (Long & Bolton, 2016); the vocational and academic robustness of UTCs to meet their key aim to support vocationally inclined learners (Hayes et al., 2012); students' views and employer engagement (Kettlewell, et al., 2017); and the UTC curriculum, project based learning, and employer engagement (McCrone et al., 2019). Dominguez-Reig and Robinson (2018) have also considered UTCs as a controversial and flawed model with considerable cost to the public purse. It is notable that there has been no research to date on how and in what ways UTCs have tried to establish themselves as new providers in existing quasi-markets, or how UTCs' leaders have perceived and responded to the competitive pressures of the market. Certainly UTCs were branded by the BDT as occupying a new 'niche' in the educational market (BDT, 2014). Furthermore, and fascinating, in 2013, at an intense stage of BDT's promotion of UTCs, Baker had

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<sup>19</sup> Rolls Royce's Head of Development Services pledged to share educational material, and employee expertise, including elements of delivery by their own trainees (BDT, 2012a, p. 4).

noted how there was a real potential for failure among new niche providers of technical education, based on historic events:

The whole history of technical education in our country is - you start with high hopes, you establish an institution - and over the years it slowly goes downhill (Lord Baker, 2013, p. 8).

### **Summary and Conceptual Framing**

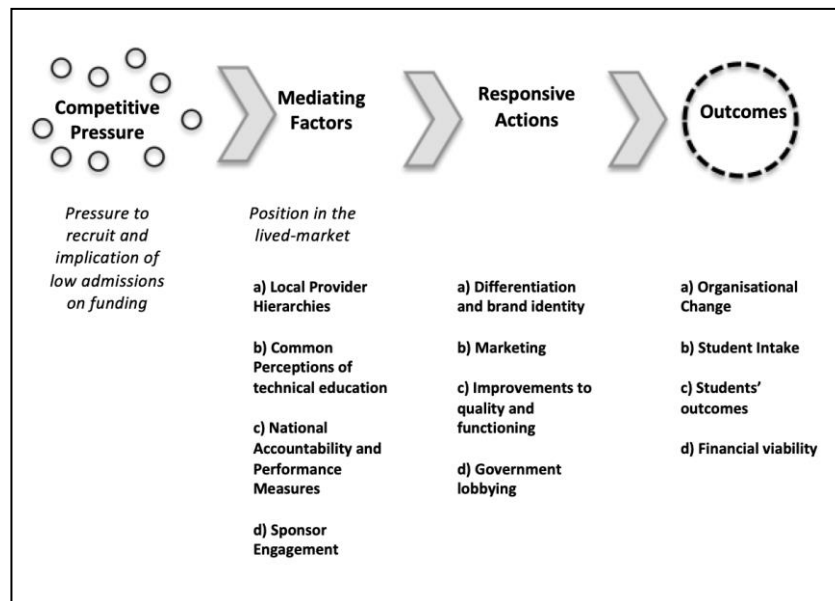
While the BDT have, therefore, attempted to define (and indeed trademark) the creation of UTCs, we have little understanding of the actual emergence of UTCs in practice. Given they are seeking to establish themselves in existing markets of education, they are likely to face competition for students and status – and as Lord Baker implies above they could face pressures over their viability. In this context, as the discussion of local markets identified, UTC leaders' perceptions of competitive pressure, how these pressures may be mediated in different contexts and the responsive competitive actions of UTCs, may well be influential in terms of the outcomes – both for UTCs as organisations, and for their students and the kinds of education offer they gain access to.

For these reasons, an appropriate approach to beginning to conceptualise the emergence of UTCs is offered by Jabbar (2015). As discussed earlier, Jabbar researched the (re)opening of schools in New Orleans as Charter Schools and sought to conceptualise the processes and channels through which competitive pressures influence outcomes for schools and students in this context of supply side reform. Jabbar also drew on Woods et al's (1998) earlier research of the processes of competition emergent in England following the 1988 Education Reform Act.

However, as the discussion of technical education has highlighted, it is clear that Jabbar's conceptualisation of competition needs adaptation and tailoring to inform research in the English context – and particularly research of supply side reforms focused on new providers of technical education. This highlighted the importance of perceptions of technical education, and the deeply entrenched notions regarding the perceived differences between academic, technical and vocational education. There is also the specific nature of UTCs and their recruitment and transfer of students at age 14 years, which might make UTCs more reliant on existing schools for student admissions. In addition, there is also

the importance of Ofsted and the wider accountability framework in England, in terms of their influence of school practices and competition.

For these reasons, in developing an initial conceptual framing for the research of UTCs, Jabbar's conceptualisation of competition (as set out in *Figure 2.1*) was adapted and tailored to reflect the public education system in England and the uniqueness of UTCs.



*Figure 2.2* Conceptualisation of Competition and Competitive Practices in UTCs (adapted from Jabbar (2015d, p. 34) with the author's permission [2019])

This adapted conceptualisation is set out in *Figure 2.2*. It is important to highlight how, under:

- 'mediating factors': as well as Jabbar's interest in the positioning of schools in the local market places; the adapted conceptualisation includes an interest in whether and if so how local perceptions of technical education, national external accountabilities and the role of UTC sponsors act as factors that mediate competitive pressure.
- 'responsive actions': as well as Jabbar's interest in marketing; differentiation and selection; the adapted conceptualisation includes an interest in whether and if so how UTCs make changes to their 'quality' and

'improvement' strategies as part of responding to competition; and whether, with BDT, this includes government lobbying

- 'outcomes': while Jabbar was also interested in 'city wide outcomes' (e.g. segregation and allocative efficiency) the scope of this project points to a tighter focus on 'organisation outcomes', which include an interest in organisational level student outcomes; and the financial viability and on-going governance of the UTC.

In setting out this adapted conceptualisation, it is important to stress that this remains an emergent framing of the processes of competition as UTCs open and seek to establish themselves in their local contexts. As such, it is developed as a starting point and subject to further refinement during engagement with the data, as it is collected and analysed in the research. In the following Chapter, I introduce the research methodology and ethical considerations.

## **Chapter 3: Methodology**

### **Introduction**

In this chapter I reiterate the rationale for undertaking this study, restate the research aims and revisit the research questions. I confirm my epistemological positioning, theoretical perspective and theoretical influences and present the research design that will answer the research questions. I introduce the research sample, discuss ethical considerations and then draw this chapter to a close by reflecting on the research design and methodological choices made and steps taken to acknowledge my positionality.

The rationale for undertaking this study is rooted in understanding UTC leaders' perceptions of competition and competitive pressure and the resulting outcomes for those leaders, their institutions and students. Three research aims were identified: to draw out the competitive pressures and practices of the lived market; to remedy the current paucity of knowledge regarding UTCs; and to open up debate and stimulate researcher enquiry into the contemporary expansion of the tenets of the quasi-market into mainstream schooling, and identify the potential implications of competition for UTCs and the young people they serve. In conjunction with the research aims, and informed by the literature review, the overarching research question was confirmed as: *'How do UTC leaders perceive local competition and respond to any competitive pressures'*? This main question was informed by three sub-questions:

- i) What local competitive pressures and competitive practices do UTC leaders perceive?
- ii) What strategies have UTC leaders adopted in response to perceived local competitive pressures?
- iii) What have been the outcomes of perceived local competition and competitive practices, to date, for UTC leaders, their institutions and their students?

### **Methodology**

I approached this study with an open mind and made no presumptions about the outcomes. My philosophical position as set out below is also explicit for, according

to Denscombe, all research methods “are based on assumptions about the nature of social reality (ontology) and the ways in which it is possible to gain knowledge (epistemology)” (2010, p. 135). My social standing as a researcher, Oakley (2010) suggests, is connected to the credibility of the research findings, which would suggest that declaring my work with UTCs, my former role of Strategic Partnership Manager and my interest in the 14-19 curriculum are important factors. As a democratic and ‘active’ professional I seek to demystify professional work and forge alliances with a view to building a more democratic education system and ultimately a more open society (Whitty, 2008).

Since 2013 my social research philosophy has been on a journey to find “its comfort between critical realism, constructivism and pragmatism” (Gomery, 2013a, p. 13). My research philosophy has therefore evolved and is now sited within pragmatism, which “attempts to find the middle ground between philosophical dualisms” (Briggs, Coleman, & Morrison, 2012, p. 125). I am interested in “the subjective experience of individuals as they construct their own worlds” (Gomery, 2013a, p. 14) for I believe that these interactions within society are shaped “by the those inherent forces” (Crotty, 1998, p. 62). To this end I recognise that knowledge is constructed both by human construction and is also a product of the reality of the world we live and engage in, that this knowledge is continually adapting and that our understanding of it is “neither static nor certain” (Plowright, 2011, p. 184). My aim was to generate “constructive knowledge that is appreciated for being useful in action” (Goldkhul, 2012, p. 1). A research approach rooted in pragmatism provided not only an opportunity to investigate the ‘present’ to improve our understandings of it, it also allowed for and endorsed “methodological eclecticism and pluralism to gain knowledge” (Briggs et al., 2012, p. 125). As such I valued the importance of multiple measures and differing forms of data - including the multiple theories participants used as they perceived of and constructed meaning in their social worlds and made sense of that meaning (Denscombe, 2010). My aim was to provide a better understanding of and to illuminate the research problem and, importantly, to meet the research aims and answer the research questions. As a researcher I was acutely aware of the impact of the study, not only on my own professionalism and experiences, but also “in relation to others [the cases and participants as key informants]” (Creswell, 2003, p. 9) and my professional and

ethical obligations. Adopting a pragmatist research philosophy allowed me to adopt a value-oriented approach to this research in particular the values of democracy, equality and progress. At the same time I appreciated the weaknesses and challenges of adopting the pragmatist research approach that involved gathering, analysing, balancing and assessing the outcomes of expansive and different forms of data (Briggs et al., 2012).

## **Research Design**

In light of my research philosophy, the research aims and questions, the research design was informed by the need to obtain data for analysis that was in different forms gathered from across a number of UTC organisations as ‘units of analysis’. These ‘units of analysis’ included leaders’ perceptions of competitive pressure as constructed in their own world, and other data relating to each organisation and its students. The research design therefore needed to allow for the capture and analysis of participants’ perceptions and unique behaviours as evidence of a particular condition (Stake, 1995) and the “complex and situatedness” (Cohen et al., 2011, p. 289) of themselves within the UTC as an organisation. Importantly, I wanted to generate a holistic view of each UTC (Verschuren, 2003) by penetrating and analysing evidence of “real people in real [and dynamic]<sup>20</sup> situations” (Cohen et al., 2011, p. 289) operating in a number of similar contexts – that is across multiple ‘units of analysis. The boundary of each case study was therefore defined as a single UTC and its leader as the key participant and informant. A common set of research methods was followed in each case to support comparative cross-case analysis across the multiple cases.

There were three factors that helped determine that multiple case studies offered a distinct and most appropriate research methodology over others such as a survey or by analysing specific data (Rowley, 2002). Firstly, and importantly, the type of research questions (how or why questions) to be answered. Secondly, the level of control I had over behavioural events (none), and thirdly, that UTCs were a contemporary phenomenon (as opposed to historical) (Yin, 2013). Significantly, I wanted to investigate UTCs, as multiple units of analysis, within their real life contexts where “the boundaries between phenomenon and context are not clearly

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<sup>20</sup> [ ] Author’s insertion

evident” (Rowley, 2002, p. 18). Case studies as empirical enquiries therefore had a number of strengths that fitted well with the aims of this research, which were exploratory. Case studies are widely recognised to enable insights into events that have taken place, how these have been influenced by the local context and what meanings these events have had for participants (Yin 2013). Case studies supported the triangulation of data and analysis of the convergence or non-convergence of data across multiple methods. Adopting a common set of research methods across each case also supported comparative analysis across multiple cases or what Schwandt (2001) has termed cross-case analysis. Multiple case studies allowed for comparisons to be made between the cases and steered the emphasis away from the individual case and moved it towards what the comparison of these cases could collectively unveil (Thomas, 2011, p. 141). This also ensured a level of construct validity and reliability that involved devices such as pattern matching, building rival explanations and address rival explanations. Employing a conceptual framework (adapted from Jabbar *Figure 2.2*) helped to guide the case study data collection (from multiple sources of evidence) and analysis to reflect the context and the potential challenges the lived market presented in each case.

To ‘test’ the research design a pilot case study took place with a former UTC leader (prior to capturing data), who did not take part in the research and who therefore had little to no vested interest in the shape and form of the research, nor in the resulting findings. This helped to confirm that the proposed research design (and employing a tailored form of Jabbar’s conceptualisation of competition and competitive practices) was an approach that the pilot respondent indicated could be applied and built upon to help unveil what was happening in case study UTCs.

## **Methods**

As a researcher I was mindful that multiple sources of data and methods across case studies provide the opportunity to seek out where there may be convergence and divergence between data. As noted, multiple data sources were also able to corroborate evidence through triangulation, and collectively help to build confidence in the data sets and findings (Robson, 2011). By examining data from different sources my aim was to reduce potential biases that may result from solely



interpreting participants' perceptions of their social world. Through finding, organising, and selecting data my aim was to generate a 'closeness' (Gilbert, 2002) that enabled, through in depth analysis, the findings to be organised in themes and to answer the research questions. By adopting a mixed methods approach as a researcher I was able to gather and integrate "both quantitative (closed-ended) and qualitative (open-ended) data" (Creswell, 2015, p. 2) to thereby draw interpretations garnered from the combined strengths of the different data strands. Collectively these data provided opportunities for interpreting participants' 'meaning making', for comparative interpretation of documents and descriptive statistical data, and for triangulation across data.

A number of methods were initially considered including; document analysis, focus groups, interviews, observations and survey, and were each assessed on their varying strengths and weaknesses. Three methods were considered the most suited to the research aims and which would help to answer the research questions. This was based on an assessment that these methods' had the capacity to unearth participants' constructed 'multiple realities' that would allow for complex issues to be unveiled, and rich data to be captured and compared across the multiple UTC cases. The three methods were:

- document analysis: to provide official accounts and intended interpretations;
- descriptive statistical data: to provide a view on aspects of quantity, for example finance, admissions and indices of multiple deprivation;
- interviews: to develop qualitative data on participants' perceptions and their experiences (Cohen et al., 2011; Dowling & Brown, 2010).

### **Data Collection**

Document analysis (Bowen, 2009; Denzin & Lincoln, 2005), lent itself well to this study in seeking to "develop understanding, and uncover insights" (Merriam, 1988, p. 118). Documents were a means to undertake research that was stable, and unobtrusive that would provide relatively broad coverage gleaned from a range of sources selected on the basis of their relevance to the literature review and to the findings. A selection of documents, that were used to corroborate and augment data from other sources, is included in the Appendix.

These documents provide insight into or relate to: UTC governance (Appendices 18 and 19); DfES communication with UTCs (Appendices 20a, 20b and 20c); a JCB academy report (Appendix 21); a list of the industry and employer sponsor organisations (Appendices 22, 23a and 23b); anonymised UTC prospectus (Appendix 24); BDT's 'Top Tips' event (Appendix 25) and 'Kit Seminar' with a proposed curriculum at KS4 and KS5 (Appendices 26a and 26b); BDT branding (Appendices 27a, 27b and 27c); the marketing of engineering to girls (Appendices 28a, 28b and 29); BDT progression routes (Appendix 30); a Draft Curriculum (Appendices 32a, 32b, 32c and 32d); typical UTC curriculum models (2010-12) for KS4 and KS5 (Appendix 33a, and 33b); products and services (Appendix 36); and BDT's positioning on students studying the Technical Baccalaureate (Appendix 37) and as a model to be celebrated (Appendix 38). Thus, publicly available documents and research across websites were employed to provide evidence and summaries of the research that became "text that provides context" (Bowen, 2009, p. 29) or "vignettes" (Briggs et al., 2012, p. 345).

Descriptive statistical data were brought together from numerous sources as data in their own right that would also allow for triangulation across the methods (Table 3.1). It was important to create a form of logic that linked the data collected to the research aims, questions and conceptual frame, which had a logical connection when reported in the findings. I wanted to demonstrate that the operations of the study, such as data collection and its organisation and presentation could be repeated across the cases and potentially replicated in future studies (Yin, 2013).

The third method selected was semi-structured interviews. The potential of semi-structured interviews was the openness and flexibility this method afforded, coupled with its capacity as a method to capture insightful comments and reflexivity. At the same time I was aware that employing a conceptual frame to generate interview themes could be open to bias by the researcher and the respondent. I accepted that in order to capture, analyse and learn from participants' experiences that my prior knowledge and professional relationship would influence the "capturing and describing [of] the lived experience of the participants" (Ponterotto, 2005, p. 131).

Table 3.1 *Descriptive Statistical Data Sources*

UTC	Regional Context Technical Specialisms Sponsors Predicted Student Capacity (KS4 and KS5) Pupil Admission Numbers (PAN) Number of Students on Roll Pupil Number Adjustment (PNA) Pupil Teacher Ratio Number in Leadership Group
Student Composition	Gender FSM SEND (% eligible for support) Absenteeism & Persistent Absenteeism
National Accountability	Ofsted Grades of cases and 3 closest secondary schools KS4 Middle Low High Prior Attainment KS4 (Attainment 8, Progress 8, EBacc, English and Maths Level 5 and 4) KS5 Performance (A Level, Tech Bacc, Tech Level Core Aim, Progress Score and Grade)
Participants	Role Years in Role SLT Experience (years) In-post Gender

While a survey method was initially considered as a means of gaining data from participants it was rejected on the grounds that it was unlikely to unveil the complexities of participants' perceptions. As such, in-depth, semi-structured interviews were adopted as the method that would allow both the time and the opportunity to access the detail of participants' stories that were a fusion of the personal and the public (Clough & Nutbrown, 2012) or what Bartels terms a "level of concreteness" to emerge (2012, p. 73). An information sheet capturing participants' professional work history was undertaken prior to the interview with all participants (Appendix 4), and this was used as supplementary data to help the interview process and to inform the analysis. These work histories were intentionally not reported in the findings of this research, as to do so would compromise participants' anonymity. During the process of collecting data I was mindful that an interview was a "form of human interaction in which knowledge evolves through the importance of close listening to participants 'voices' to capture

new insights” (Kvale, 1996, p. 125), and that it was based, in part, on elements of trust between researcher and participant. Prior to the interviews taking place interview questions and probes (Appendix 6) were pre-prepared that broadly aligned to the tailored conceptual framework (*Figure 2.2*). During the interview process prompts were generated by the interview schedule that operated as a guide to stimulate or to help unfold participants’ responses.

In total ten in-depth, semi-structured interviews were undertaken (8 one-to-one and face-to-face, and 2 by Skype), each lasting between 50 and 75 minutes in either the participants’ natural, or a neutral setting. All the interviews were audio recorded. The ‘semi-structured’ interview process was guided to a degree by what participants wanted to say and by gently taking the opportunity where possible to probe responses more deeply without leading participants in a particular direction or reinforcing a particular stance. I therefore wore ‘two hats’. The first ‘hat’ allowed me to follow the line of inquiry as outlined in the interview schedule (Appendix 5), whilst the second ‘hat’ allowed the process to be more “fluid rather than rigid” (Yin, 2013, p. 110). At all times the process was cordial, and questions were posed in an unbiased manner. While it was not anticipated that embarrassment or discomfort would result from the interview process I was mindful to listen attentively and respectfully (Clough & Nutbrown, 2012) in order to further unveil the constructed world that participants were revealing to me. I responded to participants’ ‘voices’ with sensitivity, and took care to moderate the pace and respond to participants’ preferences to take a break during the interview.

### **Sampling**

Participants were selected on the basis of the detailed insights they could offer that included, among other aspects, the UTC’s; teaching and learning environment, the curriculum, sponsors, student recruitment, marketing activities, and the financial operations. Crucially, participants were selected on the basis of their understanding and experience of the interdependencies between all of the above since the UTC opened and their perceptions and responses, if any, to competition and competitive pressure. In the context of these requirements the UTC Principal was identified as the key individual able to offer such rich insights.

In 2017 UTCs were increasingly in the education news (notably the FE Week magazine) and much of this was negative reporting in terms of: UTCs' remit in relation to FE (Robertson, 2015); UTCs' mounting debt and closures (Burke, 2018); low student admission numbers (Camden, 2014); and the DfE's recommendation that UTCs were stronger in MATs (Burke et al., 2016). Principals were therefore increasingly aware of how and in what ways their UTC could be presented, were conscious of the time they had available to participate in any research, and the potential risk of negative reporting following participation.

It was amidst this prevailing mood that an email inviting fifteen participants (UTC Principals) to consider taking part in this research was sent to those Principals who, in my professional judgement, may be willing to take part. Five invited participants declined citing a number of reasons for non-participation (changing roles [2], no longer offering services to the UTC [1] undertaking MAT negotiations [1], and in the process of becoming an Executive Principal) [1]). It is noted that in asking Principals to participate in research there were benefits and limitations. There were significant benefits in terms of the detailed knowledge Principals are privileged with and the range of experiences that could be called upon for comment. There were also some limitations in that the Principal may wish to project a picture of the UTC that potentially masks or hides the micro-politics of what may be happening in his/her 'real life' context. However, given that there were three different forms of data collection: document, descriptive statistical and qualitative, there would be opportunities to corroborate data through triangulation. It is noted that other staff could have been invited to take part in the research, there was, however, insufficient time and resources to warrant their inclusion as staff would not have been privy to this range of specialist knowledge and experience (identified in the conceptual framework).

The UTC cases were therefore sampled purposively from across England to provide a representative regional spread (where possible) but selection was primarily predicated on the Principal's willingness to participate in the research, and their availability during the research period. The achieved sample was nine cases, constituting approximately a fifth of all UTCs that were open in spring 2017. Four interview participants were former Principals who had been in post for at least one year between 2010 and 2017, but had subsequently left their post. Careful

consideration was given to the inclusion of ex-Principals given the potential for memory bias, however, given that the national turnover of UTC Principals has been very high and given challenges in securing participation it was decided that ex-Principals would be included. A further noteworthy and significant insight is that of the six Principals who were in post when the research took place (summer 2017) only two remained in post April 2018.

### **Data Analysis**

Documents (hard copy and digital format) were accepted or rejected as evidence on the basis of their relevance to the research aims, whether they would help answer the research question or provided evidence of alternative ideas. These were ordered firstly by historical timeline and subsequently grouped according to subject, for example the BDT proposed governance model (2011). Documents were analysed in a variety of ways for example prospectuses (hard copy and electronic format) were analysed in terms of what each case presented as their ethos and vision the curriculum, the facilities, teaching and learning environment, and sponsor engagement (Appendix 24).

Descriptive statistical data (Table 3.1) were gathered from multiple sources (hard copy and digital format) into a series of databases (Excel spread sheets) that provided filtering opportunities for data comparison purposes. Data of each case, across cases, and in some instances across three of each case's closest neighbourhoods were analysed. These provided summaries of each case in relation to finance, student numbers and student outcomes. Tables of frequency distributions were generated for presentation in the findings. I am careful in the analysis not to over-claim from descriptive statistics and rather to treat them as simple summaries of distribution.

Interview participants' audio data were fully transcribed, and, importantly, on the first iteration all transcripts included hesitations, repetitions and incoherent sentences as evidence of possible doubt or confusion. Individual transcripts were printed and read through twice without engaging in coding or data analysis followed by annotation by hand to begin to make sense of what each participant's printed transcript (data) could reveal (Appendix 7) and initial coding applied (Appendix 8).

The data were examined and interpreted in “order to elicit meaning, gain understanding, and develop empirical knowledge” (Bowen, 2009, p. 27). I was mindful of the concept of trust when evaluating and coding data, and of the need to represent participants’ voices and their “fluid nature of integrity especially in leadership discussions” (Bauman, 2004, p. 417), and the fluidity of my own identity as an academic researcher (Thomson & Gunter, 2011) as I engaged with participants, their actual experiences, and the process by which their interpretations were captured. I was also aware that participants’ data were on a ‘journey’ moving from the ‘raw’ phase when audio captured during interviews towards the ‘data analysis’ phase with a measure of analytical distance and interpretation, and then back into meaningful knowledge for interrogation. It was therefore important in this study to have a high degree of “closeness to the data” (Gilbert, 2002, p. 215), that allowed me to interrogate and reflect on what the data were ‘revealing’ and interpret that data in meaningful ways. Furthermore, I was mindful of engaging with the data across the multiple methods and how the transcripts could be further analysed when used in conjunction with NVivo11 software to aid conceptual thinking and data coding. Simultaneously, I was conscious of the move away from the ‘tactile’ handling of the transcripts to the digital ‘distance’ of employing software, as well as the typical coding traps that such software can encourage - such as generating a proliferation of codes that can create too much ‘closeness’, resulting in insufficient clarity and, potentially, errors.

The data (document, descriptive statistical and qualitative) were engaged with in order of; first qualitative, and then document and descriptive statistical. The first stage of employing software for qualitative data analysis was the removal of my questions from the transcripts to create a series of word cloud (over 9 letters) of all participants’ data (Appendix 9a) followed by individual participants (Appendices 9b, 9c, 9d, 9e and 9f) to provide a sense of words and terms employed, and their variance. Transcripts were analysed using NVivo11 software as a tool to code specific text to the conceptual frame and where there was no alignment new codes added. Gradually, the commonality of text segments began to emerge, as did variance within participants’ data. Upon completion the data were axial or cross-coded across categories within the conceptual framework. By employing the method of axial coding it was possible to build a pattern of relationships between

the different categories of the coded data. Internal validity of the data included pattern matching to explore and generate the themes, to interpret what participants perceived was happening, and to address rival and assumed explanations. Throughout this process elements of inductive analysis and the coding process were adopted from both Creswell (2002, p. 266 *Figure 9.4*) and Thomas's (2006, p. 242) adaptation of Creswell's visualisation of the coding process, whereby segments of the text were coded to align with the adopted conceptual framework.

Secondly, the document and descriptive statistical data were researched and analysed to generate two additional strands of separate data that could support, challenge or refute the qualitative data. In this way a picture of each UTC was built, common challenges identified and, importantly, the data collectively provided evidence of 'particular condition/s' (Stake, 1995). The document, descriptive statistics and qualitative data were gradually corroborated and validated or rejected through a process of constantly comparing data across the three separate data sources or as Thomas would describe the overarching "body of knowledge" (Thomas, 2013, p. 273). The descriptive statistical data was brought together in a series of tables (Tables 4.1 to 4.14); the document data was gathered (where available) from web sources and collated; and the qualitative data in the form of transcripts were subsequently analysed using NVivo11 and axial coded matching one participant's data with others allowing new codes to emerge.

Cross case analysis of data was undertaken across all three methods – for example the emphasis U6 placed upon employer engagement (qualitative data) was also evident across the cases with the exception of U5 and U8. A further example of cross case analysis employing descriptive statistical data indicated that the core curriculum was similar across the cases (a minimum of English, mathematics and two sciences). A third example of cross case analysis (descriptive statistical data) was students' (post 16) performance in technical education and A Levels that varied across cases. A final example of cross case analysis (document analysis) was the similarity and variance between the ways in which each case presented its ethos and vision.

These findings were gradually suffused into the analysis and discussion, and eventually synthesised (Bowen, 2009; Gilbert, 2002; Merriam, 2002). Data included in the findings were intentionally gathered from across the cases, and across



participants to avoid some participants' 'voices' dominating those of their peers, (except where to do so would have distorted the data findings), and to help answer the research questions and fulfil the research aims. Where data conflicted this was highlighted in the findings, for example a case professed to prioritise work with sponsors that was not supported by the participant's data.

## **Ethics**

The research operated within the British Educational Research Associations (BERA) guidelines (see Ethics UCL Approval, Appendix 1) and anonymity and confidentiality were prioritised and exercised at all times. All information was used in accordance with the Data Protection Act 2018 and within the BERA guidelines, which the UCL Institute of Education operates under. Please see Appendix 15 BERA's General Data Protection Regulation GDPR update (2018).

All participants received an information letter (Appendix 2) outlining in broad terms the focus of the research and an invitation to participate in that research. The information letter either included or was followed by a consent form (Appendix 3), this was dependent upon the initial conversations that had taken place with participants. The consent form outlined that participants had the right to withdraw at any time during the research process and asked participants to sign and return the consent form, which all participants completed. Participants were reminded of their right to withdraw prior to conducting the research, at the time of the interview, and once again at the closure of the interview. Participants were also informed of their right to view, upon request, the fully transcribed audio data. I was respectful of the spaces and the people I met during the interviews and visits to UTCs that most often included a tour of the building.

Confidentiality was key, and when introduced to research participants' colleagues or staff, including the receptionist, I did not disclose the purpose of the visit. I was mindful that some invited participants may be reticent to share information or be anxious about information that could be unearthed during fieldwork and which they believed could reflect badly on their institution and/or themselves. I therefore ensured participants that any risks that may arise from the research process and its outputs, and/or its dissemination, would be communicated to participants in a sensitive manner. In making these assurances I

was conscious of the need to constantly reflect upon the research process and the potential for bias, the interpretative analysis of the findings, and communication of these to a wider audience.

### **Summary**

Providing participants with reasonable assurances of anonymity, while the norm within qualitative research, was a significant consideration given the scale of the research sample in relation to the national number of UTCs. The main ethical considerations when undertaking this research related to my previous role as an education consultant, and I was acutely aware of my potential position as (partially) an insider researcher, and that research participants may know of me in a different capacity. There was therefore an acknowledgment of my being both a researcher and also someone who may be part of the research (Farrall, Sparks, Hough, & Maruna, 2011; Mercer, 2007). During the interview period and throughout the coding process I wrote brief 'Memos to Self' (Appendix 17) that operated to remind me of early observations during analysis of the transcription data and how these perceptions were either changed or adapted as the analysis developed.

In the next Chapter the findings are set out and provide an overall synthesis of what the cases' data indicate is broadly happening to the UTC, their leader, their students and to the UTC model of technical education.

## Chapter 4: Findings

### Introduction

This chapter brings together the qualitative, document and descriptive statistical data and reports the findings to answer the research question “*How do UTC leaders perceive local competition and respond to any competitive pressures?*” It opens with an introduction to the achieved research sample, followed by an analysis of BDT’s ‘ideal’ ethos and vision for UTCs, and individualised versions of this within each case study. The common challenges participants experienced in opening their UTC are considered, before then exploring the competitive pressures they perceived. The factors that mediated these competitive pressures are analysed and then the strategies each case study UTC was reported to adopt in response to competitive pressure are detailed. The chapter ends by considering the emerging outcomes for the interview participants, their institutions and students.

### The Achieved Research Sample

The achieved sample UTCs, that form the basis of this research, are referred to as U1 to U9. All cases opened between 2010 and 2017, while two (U4 and U9) had closed during that period citing low student admissions as a contributing reason for closure. Each case UTC had two sector specialisms and all offered engineering (except U4), which was most often combined with computer science or technology as a second specialist sector (U1, U2, U3, U6, and U7). There was a varying number and mix of employer sponsors that ranged from small and medium size enterprise companies (SMEs) to large local, national or international employers, and each case had at least one university sponsor, and four (U3, U4, U5 and U8) had a FEC sponsor (Table 4.1).

It is notable that of the four FEC sponsors, three cases had discontinued the sponsoring relationship (closure [U4], after one year [U5], after three years [U8]) and while U3 retains a relationship with the FEC sponsor on paper, it is largely severed in practice. Three of the cases were in Multi-Academy Trusts (MATs): one from inception that emerged from and was sponsored by a MAT (U6); one that federated into a MAT after one year (U5); and one that was in a Trust of two UTCs

that came into effect after one year operating as a standalone academy (U7). One further case (U8) was in the process of joining a MAT.

Table 4.1  
*UTC Case Studies: Specialisms and Sponsors*

UTC n=9	Specialism 1	Specialism 2	Sponsors			
U1	Engineering	Computer Science	Employer	University		
U2	Engineering	Technology	Employer	University		
U3	Science	Computer Science & Engineering	Employer	University	FEC	
U4	Health & Social Care	Digital Technologies	Employer	University	FEC	
U5	Science	Technology	Employer	University	FEC	MAT
U6	Engineering	Computer Sciences	Employer	University		MAT
U7	Engineering	Science & Technology	Employer	University		MAT
U8	Engineering	Sciences	Employer	University	FEC	
U9	Engineering	Construction	Employer	University		

Table 4.2  
*UTC Case Studies: Participants' Profiles*

UTC n=9	Participant n=10	Gender	Role	In Role Post Research	Years in Role	Prior SLT Experience (Years)	Number in Leadership Group
U1	P1	Female	Principal	No	2	34	12
U2	P2	Male	Principal	No	2	12	12
U3	P3a	Male	Principal	No	3	6	15
	P3b	Male	Former Principal	NA	2	9	15
U4	P4	Male	Former Principal	NA	2	6	13
U5	P5	Male	Former Principal	NA	2	20	25
U6	P6	Female	Executive Principal	Yes	4	15	23
U7	P7	Male	Executive Principal	Yes	4	13	34
U8	P8	Female	Deputy Principal	No	3	3	17
U9	P9	Female	Former Principal	NA	3	12	12

Note: NA=Not applicable

Across the nine UTC cases, there were ten interview participants (nine Principals and one Deputy Principal). One interview participant was drawn from each UTC, apart from U3 in which two leaders participated (the existing Principal and a former Principal).

Table 4.2 sets out the interview participants, who are referred to in this chapter with the letter P and a number from one to ten. The Table also sets out the number of staff in each case's leadership group. The high number of leadership staff across U5, U6 and U7 may be explained, in part, by the challenges participants reported in recruiting staff. It is possible that, in an attempt to attract and keep staff (particularly those teaching STEM subjects), a number of roles were designated as 'leadership', irrespective of the size of the organisation and/or the number of students on roll.

### **Ethos and Vision**

Having introduced the UTC cases and interview participants, the original ethos and visions that informed the establishment of these UTCs are examined to provide an insight into how these were imagined and planned for, and hence what the agreed institutional aims were prior to the experience of operating as organisations in an existing lived market.

The research participants' commitment to the UTC 'blueprint' for technical education, as established by BDT with data from the JCB Academy, was evident throughout the data: *"You keep going because of your belief in it"* (P5). This commitment was sometimes ignited during the reading of the 'Education Brief' (drafted prior to the principal's appointment) where the UTC's sponsors first articulated the intended concept of technical education and its educational offer. As P1 reported: *"It's not often you read a document and think 'Do you know what? I think that. Actually, yes, I completely agree with that'. That alignment of ideas I think was really useful"*. Indeed, all the interview participants supported the original UTC concept model as developed by the BDT:

This idea that you could have a very strong vocational pathway, which wasn't 'second class', which could lead on to university, and would have as much value as any other pathway. That was the strength (P4).

By 'second class', P4 refers to the common perception among the participants that many local parents, students, school providers and some teaching staff viewed technical education as having a lower status than academic study. By contrast, the participants' commitment to, and confidence in, the 'ideal' UTC model was influenced, in part, by their prior experience of technical or vocational education, and working with employers in education or industry. All the participants believed

initially that the ideal UTC model would have a positive effect on students' learning, particularly the intended 'adult' teaching and learning environment, with employer engagement and employer-led projects, and a 'business-like' approach and dress (that mirrored the workplace). One participant described these intended plans as: *"Just brilliant, and it was not led or enforced by me, it was just the inspiration, and the staff really wanted to keep that"* (P5). Therefore, participants' initial commitment to the ideal UTC model featured strongly:

Yes. It's all about creating that professionalism [business environment] that the students feel, once they walk through the door, that they're not students, they're not pupils, they're young adults. And to create that, it comes not from the building, but comes from the people who work in the building (P6).

To convince government, the public and parents and students of the benefits of UTCs, Lord Baker and the BDT had also previously presented the UTC concept and its curriculum model in brochures, websites, at conferences and in the media. The 'ideal' UTC would be, the BDT argued, innovative, stimulating and relevant, informed by employers and supported by universities. The Trust's ambition was that UTCs would be distinctive 'niche' providers of technical education, which would help to change the English education system. As noted in the literature review, this 'ideal' UTC model placed great emphasis upon 'learning by doing' through industry projects and a governance model that included employers and universities as sponsors. Baker argued that UTCs had the potential to remedy governments' past failures to provide a technical education that could, in turn, help meet the skills gap that industry needed to compete successfully in global markets. BDT also promoted UTCs as being more 'business-like' in their approach, aligned to the global and national economy, the workplace and its practices, and in particular nurturing students' social skills that were valued by employers. Baker placed a great deal of confidence in UTCs as technical providers that would generate a demand from employers for a future pipeline of employees and a demand from 'consumers' (as parents and students were conceived), who would "accept nothing less" (Baker, 1989 [par. 10]). Baker claimed that UTCs would attract the "disinterested and disengaged" who "would become interested and involved" (Baker, 2013, p. 29-30) and that students would 'self-select' to attend.

Influenced by the BDT and this ideal UTC model, the case study UTCs employed a range of styles of communication on their websites and in

prospectuses (Appendix 24) to present their own ethos and vision to the public and to attract potential student applicants. Four broad themes emerged from analysis of these communications in terms of how UTCs originally sought to portray and promote themselves. These were: employer engagement; a learning opportunity; academic and practical skills; and the student experience.

The primary and dominant theme was that the relationship between a UTC and its employer sponsors could offer: *“strong career opportunities in the future, locally, nationally and internationally”* (U3). Phrases in UTC public documents included: *“the close working relationship with employers that was forged through the workplace, higher education and the Baker Dearing Trust”* (U1), and *“world-class partnerships with employers”* (U6), *“Our ‘business-led’ ethos”* (U5), and the *“very strong input from our Sponsors and the Projects they offer”* (U6).

The second theme was that of presenting the UTC as ‘niche’ provision. Typically, the language repeated across the data described a UTC as a *“unique opportunity”* (U3), with *“outstanding educational opportunities”* (U3), that created *“a visionary and ground-breaking place of learning”* (U8). Presenting the UTC as a ‘learning opportunity’ was coupled, in general, with an offer that pledged to help and be with students *“every step of the way”* (U1).

The third theme presented was the concept of promoting the UTC curriculum as a fusion of academic and practical skills, which would provide students with the *“experiences, skills and values that will prepare them not only for their examinations but also for career pathways and global competition in the 21<sup>st</sup> century”* (U7). The curriculum was a *“rigorous, specialised learning programme”* (U7) that would *“transform the education and aspirations of all its students”* (U5). These communications were intentionally constructed to appeal to students with a preference for *“learning through doing”* and a desire to *“benefit from the latest technology, in an environment that feels more like being at work than school”* (U8). The value and importance of students gaining qualifications that would *“open a doorway to an interview”* was also stressed (U3).

The fourth theme focused on the emphasis UTCs placed upon students’ personal qualities. It was widely argued that UTCs would help students to be *“recognised as young people with a strong ambition to succeed”* (U2). The

overarching mission was to “develop curious, academically-skilled young people who aspire to be principled, compassionate learners” (U7) who would work alongside “like-minded individuals who are passionate about learning” (U8). Students would be creative problem-solvers with “the social and technical skills that employers look for in today’s competitive market” (U2). To this end UTCs would “develop our students holistically” (U2) and send students into the world “with a professional attitude” (U8), which would enable students to “make a valuable contribution to society” (U2).

While the cases commonly drew upon BDT’s pool of phrases to present themselves individually to the public as different from mainstream schooling, there were also differences. For example, U6 placed special emphasis on “bridging the gap between education and employers” and asserted that by developing close working relationships it would create world-class partnerships. By contrast, U7 emphasised the considerable and significant support students would receive from both its university and local and national employers, opening up pathways for students through higher education.

### **Common Challenges in the Start-Up Period**

In moving from planning for the UTC, informed by the ideals of the BDT, to establishing and running a UTC in practice, a common set of key challenges were reported. The first challenge was that of managing the strategic direction of the UTC and balancing the needs of employer sponsors. This often required participants to “collaborate on how we [leaders] can deliver what they want as employers - but to the level of students’ abilities, and our capacity to deliver that” whilst still focusing on “work-ready skills” (U4). P7 perceived for instance that while employer sponsors were broadly sympathetic and appreciative of the importance of students’ academic success, they also wanted to assert their position regarding the importance of work-ready skills that they perceived as being of equal value to academic qualifications. The employers were:

[...] more interested in the work readiness of the young people that come here to the UTC. Those two things are equal – we can’t even call them A or B – they both have to be number one/ number one (P7).



In this context, when shaping the UTC curriculum, participants often prioritised discussions with and took into account, their trustees' and sponsors' preferences, believing it important to find out what employers wanted:

We discussed with the trustees things like English literature, which they weren't keen on putting on because they were aware of the time pressures, but we explained about the implications on Progress 8, and the double weighting (P1).

Taking note of and reflecting employer sponsors' opinions and preferences was articulated by the majority of participants (8 out of 10), as they deliberated 'what may be in' and 'what may be out' of the curriculum. Participants, in general, were also aware of employers' influence and were conscious of the time *"needed to put into the specialisms, including the product work and the employability skills"* (P1). For one UTC it was *"far more important that young people are able to 'programme' [computer programme]"* and *"so this year nobody's following an EBacc at all"* (P2).

However, despite these attempts to incorporate the employer sponsors' views, several participants (P5, P8 and P9) noted how their employer sponsors (who were on the 'governing board') suspected that the UTC was not delivering *"what the vision was"* (P5). P8 perceived that the UTC's employer sponsors felt the UTC was *"selling them out"* and P9 reported that the employer sponsors felt that the UTC's senior leadership team *"weren't doing what we set out to do. That was coming over quite strongly"* and this *"created tension"*. For P6, these governance difficulties arose as communication had been unclear and so *"governors and the 'business side' were sold something [by the BDT] that probably wasn't achievable"*. P6 argued that it had been his own secondary school experience that had helped to reduce these tensions, to *"allow for flexibility – [as] we know what happens around the curriculum, around the changes, around exams"*.

As well as employers, sponsors included universities and participants reported a range of differing relationships, describing them as being: *"irregularly very good"* (P6). However, while sponsor universities were supportive and *"very good at hosting"* meetings (P1), sponsorship, advice and support were seen as something that did not always continue after the UTC's opening. For example, summarising the university's involvement after opening, P1 reported that:

They've helped us with one project, and...they're keen to talk to our learners about progression routes.

There was one exception, whereby U7 had successfully built a close relationship with its university sponsor, which was further cemented through U7's governance structure and an extensive range of activities it supported. These included; student visits to the university, student access to the university library as associate members, access to specialist knowledge and expertise and sports facilities. P7 commented:

Well, the university is our main sponsor of course, in terms of what it is. Their role is significant.

In other cases, offers of university support were not always realised in terms of promised links to their specialisms and departments. According to P4 for instance there were *"a lot of discussions, but not much happened"*. This in part reflected another tension with the UTC 'ideal design'. Communicating the concept that a UTC technical qualification could lead to studying at a university might have been seen as mutually beneficial for both the student and the university, and *"a natural progression all the way through ... something we can sell as being unique to us"* (P3b). However, several UTCs, in particular those that opened in the early phase (2010-14), were less focused on championing the option to progress to university for, as P4 argued: *"it [the UTC model] wasn't really envisioned to send people to university, and even the university partner didn't support that really"*. There were also different rationales for universities to act as sponsors; in the case of U5, the university was reported to have wanted U5 to train technicians for their aging technician population, and this *"wasn't what we were doing at all, so it didn't quite match, but the actual vision was there, the core vision [students working with employers and on employer projects]"* (P5).

As noted earlier, four of the cases had a FEC sponsor. The governing board of U5 for instance included the Principal of the local FEC (U5's Chair of Governors), the Principal of the local Sixth Form College (U5's Chair of the Teaching and Learning Committee), and another governor who was the Chair of the local MAT into which U5 later federated. P5 reported how the FEC had done the preparatory work to open U5 (*"they did it all"*), but *"as soon as we opened they just dropped us...it was a complete shock. It was quite hard, because the FEC was supposed to be doing finance, and procurement, and a bunch of things"* and their withdrawal *"caused a lot of conflict"*.

In summary then, while the concept of sponsor engagement is embedded in BDT's UTC model, there was concern among participants about the nature of sponsor involvement in practice and about the consequences of sponsors wearing 'multiple hats'. Employers and universities held a privileged position in the BDT's ideal UTC model, as both the determinants of the UTC's ethos and vision, the curriculum and qualifications, the range of skills and behaviours they recommend students develop, and as potential recipients of the 'finished product' they had helped to create. While the relationships between UTCs' stakeholder sponsors were in general positive, participants regularly commented that there were also instances when sponsors' needs – and what some participants' perceived as employers' vested interests – conflicted with those of the participants' and their judgements about students' needs. This created 'tension'. For instance, when an employer sponsor prioritised the development of student behaviours within the curriculum, over qualifications, this was reported to result in a more restricted curriculum (U2). For P7, particularly in the early phase of the UTC there was an overarching lack of clarity regarding the *“segregation or understanding of where the role of members, trustees, governors' start; and their vision, I think, was too close and crossed over, so I think that was the difficulty”*.

In addition to the pressure of managing sponsor expectations and changes to the curriculum, participants unanimously agreed that a second common challenge in the start-up period was the *“incredible competition for staffing”* (P6). There were a number of insights into why this was the case. Staff recruitment was a common problem: *“all the schools are struggling, and that's why they end up paying over the odds for their staff, putting them on to responsibility allowances, but not actually giving them responsibility”* (P3a). The importance of specific local contexts was also deemed a factor, with P1 arguing that: *“If I advertised an equivalent job in XXX, I'd have had a lot more applicants than I get here”* (P1). However, participants also believed that negative perceptions about UTCs in general as places of teaching and learning had impacted upon the appointment of staff and their desire to teach at a UTC (P8 and P9). P3a reported that staff had been hired when they *“had the right ethos”* and *“believed in what we're doing”* but also *“perhaps because there were redundancies happening where they were currently employed”*. This was echoed by P9 who believed that while a proportion of staff had applied to the UTC

because they were *“buying into what we’ve got”*, there were others who were *“running away from where [schools or other providers] they were before”* and were less than committed to the UTC model.

Offering competitive salaries was one way to attract and retain staff and U2 decided to *“put the money into getting outstanding STEM teachers, so science, maths, engineering, computing. That’s where our focus is”* (P2). Yet recruiting staff to teach specialist STEM subjects was also challenging, and participants had struggled to hold onto their staff: *“so in the first term we lost a maths teacher and an engineer”* (P1).

Despite the drawbacks of the perceived high levels of competition for staff and what participants perceived to be less competitive salaries at their UTC, several participants argued that there were an *“awful lot of opportunities”* to progress at their UTC (P7), and that their teaching and learning environment offered staff different opportunities to teach, and for students to learn. However, the emphasis of teaching and learning when working on employer led projects had also resulted in STEM staff being: *“unable to cope with group sizes, even though our group sizes are small”* (P1). Participants were, in general, critical of the government’s planning and believed that the policy planning to support the opening of a UTC, including staffing, had been insufficiently robust.

### **Competitive Pressures**

In the context of the initial ‘ideal’ vision for UTCs and the initial challenges participants faced during the UTC’s establishment, I now analyse the operation of UTCs within their existing lived markets. Drawing on the conceptual framing of competition and competitive responses I begin by analysing the competitive pressures participants perceived.

Without exception, student recruitment was very high on the agendas of all the participants who perceived significant levels of competition and competitive pressure. Participants were cognisant of, and highly sensitised to, the complex working relationships between their UTC and local providers. This reflected the significant pressures created by the common variance between a UTC’s student capacity (which planned for full occupancy over 4-years), the predicted pupil admission numbers (PAN) for the academic year ahead, and the common short-fall

in the actual number of students on roll (see Table 4.3, which is discussed later). A shortfall in PAN had impacted on staffing, and generated a high degree of financial insecurity that had resulted from unsustainably small class sizes and pupil-teacher ratios. This mismatch between predicted and the actual number of students on roll had also resulted in a pupil number adjustment (PNA) whereby the government in light of lower actual numbers claws back funding received. Funding ‘claw-backs’ had placed additional pressure on UTCs’ financial viability for the following academic year. DfE statistics indicate that the national PNA for all UTCs owed to government had risen from a negative of £2,984,289 in 2013-14 to a negative of £11,142,694 in 2016-17.

Participants had employed a range of factors to determine their regional PAN that included, among others; a 25 mile straight line radius from the UTC (U5), a series of sub-catchment areas (usually 3 to 6) with a percentage of student admissions allocated to each sub-catchment (U2), a specific travel time allowance (U3) that restricted daily travel to 140 minutes; by post code from a student’s home to the UTC, and a maximum number of students per defined grouping. This was complex and partly reflected the initial ‘ideal’ aims for UTCs to serve sub-regional rather than local areas. For example, U7 allocated 40% of its admission places (up to a maximum of 60) to students within a five miles radius, and 40% from a five to ten miles radius. UTCs with geographically large regional admission areas (U1, U3, U5, U7, U8 and U9) had also restricted daily travel time and distances. In the context of these complexities, a majority of participants argued that the government had not looked “*strategically at areas, at catchments*” and even “*the types of students, how they can be best served*” and that it was “*a bit potluck really, where you live and what schools end up being opened*” (P2).

Recruiting students into Year 10 (at age 14) – as had been Baker’s central idea of who UTCs should cater for – and thus from an existing secondary school where they had studied for 3 years (since the age of 11) had created numerous additional challenges and tensions between a UTC and other schools. All the participants reported high levels of frustration and pressure regarding the transition of students age 14 to UTCs, and the hurdles they had to surmount as a result in order to try to ‘access’ students studying in local schools. They all reported first-hand experience of schools closely monitoring and restricting access to ‘their’

students (in particular those aged 13) and found that neighbouring schools: *“obviously don’t want to host us”* (P3b).

Participants’ perceived that local headteachers’ common response to the need for the UTC to attract students, particularly into KS4 at age 14, was the *manning of ‘defence systems’* to deter students from applying to the UTC, unless it was in their institutions’ interests to do so. P5 reported for instance that local schools’ reactions to their students applying to attend a UTC were as follows: *“If the schools found out that a 13, 14-year-old was applying to us, they would call the parents in and say, ‘This is a terrible idea, this is a bad school’, and they would attempt to persuade the student to stay with them. Parents would either ignore the school’s comments or would more regularly ‘phone up and say, ‘Oh well, I think it’s best that Johnny stays with his friends, and gets a broader education.’ It happened probably to nearly every KS4 student”* (P5).

This general restriction of access to potential students was also reported to have a notable sociology. A recurring perspective, expressed here by P6, was that other local providers’ perceptions were that the UTC would take students *“who are dissatisfied with the education from their current school”*. Similarly P8 argued that other local schools *“would happily part with kids that were hassle, but they wouldn’t part with the kids that were going to add to their results”*. P2 argued that willingness of other providers to recommend the UTC to higher prior attaining students with an interest in the UTC’s subject specialisms was *“highly improbable”*. Rather, other schools: *“are necessarily protective over their more keen, more enthusiastic, harder-working students, and therefore advised them not to come”* (P2).

Participants were not unsympathetic to the plight of their local competitor schools, as age 14 was *“not a natural transition point”* (P7). P2 also noted the tensions competitors faced and how their own attempts to secure competitive advantage could override the potential moral purpose of advising students to move if it was in their best interests:

It’s not in the best interest of any secondary school to let their students come here [UTC], apart from that moral imperative for the student to be where it’s more appropriate for them to be.

In this context, participants regularly perceived the DfE’s support for student recruitment to be wanting. By comparison the perceived pressure the DfE applied to UTCs for them to achieve predicted student numbers was described as

somewhat 'singular' in its approach. P1 commented on the *"immense pressure from DfE over recruitment"* to meet predicted PAN, and the viability pressures that were subsequently placed on the UTC (including PNA claw-back) for the following academic year. P2 believed that the transition process at age 14:

Wasn't sufficiently considered, because it was a question mark in my mind about the whole issue of recruiting pupils at 14 into a system that's predicated at transfer at 11. So obviously it would have an impact, and that was something I raised [in 2013].

While KS5 student admissions into Year 12 were also low across the sample, access to the 'supply' was seen to be less problematic, given that a formal transition process exists at age 16. In response to the common challenge of student recruitment at 14, however, participants had considered alternative transition points to align within 11-18 secondary schooling:

If we had that formal transition point [KS3], I don't think it'd be at [Year] 9 [age 13] or entering the UTC in Year 10 [age 14]. I think possibly Year 8 [at age 12] entering into the UTC in Year 9 [aged 13]...but that's old middle school transition (P2).

Collectively, participants welcomed the "Baker Clause" (in force from January 2018) as a legal duty on schools to allow training organisations, including UTCs, the opportunity to speak to pupils about technical qualifications and apprenticeships. While participants viewed the clause as a positive step, they were less confident that it would be effective in practice, and questioned if, and how, it would be 'policed'. Nevertheless, they welcomed the news that the Baker Clause meant: *"all local authorities are required to write to all schools with Year Nine students who are within a reasonable travel distance of a UTC"* (P2). P2 also commented that, *"there were spikes in recruitment around the times that those letters go out"*.

In the wider context of significant recruitment challenges, the participants as a whole were highly sensitised to the need to compete for students and, importantly, the funding each attracted. P9 likened a UTC to a *'start-up business'* that required *'seed'* funding, and a staggered growth model calculated to reach capacity and become viable over 3 to 4 years. During this *'start-up'* period, P9 asserted, overhead costs were generated that could only be addressed by specific start-up grants and additional funding. Low student admission numbers had therefore cumulatively impacted on the funding received. Participants' perceptions of the importance of student recruitment and funding were summarised by P3a's

assertion that *“schools don’t want to lose money, and they don’t want to be seen that their kids went to the UTC, because we’re a competitor”*. P2 echoed these sentiments, and believed that certain headteachers during staff meetings had warned their staff that the *“number of students that went to the UTC last year, they are worth £5,000 each”* and that this sum equated to *“whatever number of people’s jobs”*. Participants also unanimously questioned the level of central government funding a new UTC received, the competition that a student’s ‘unit value’ generated between providers, and whether the uniqueness of UTC provision had been adequately recognised in policy.

P9 for example described the UTC model as a *“school plus scenario”* whereby UTCs were funded in the same way as other providers and were judged by the same national average in terms of academic performance, but were also meant to be providing additional curriculum time and staffing to deliver a technical education curriculum, along with its associated costs. It was therefore unsurprising that the majority of participants had asked for greater security in funding, given that the market ‘supply and demand-led’ approach had meant that they did not know how much ‘transitional funding’ they would receive. The government had recognised that the UTC funding model was complex and had made some provision during the period when student numbers were low and when fixed and staffing costs may be high (in years 1 and 2 after opening). However, participants were unconvinced that this would alleviate the pressure going forward for *“no matter how much you bring your staffing levels down, your percentage of staffing to GAG [General Annual Grant] is low”*, and they believed that this problem was *“not getting easier after almost three years in the role”* (P1).

It is important and instructive to briefly clarify the Government’s official position on funding UTCs here. The DfE advised UTCs to provide evidence of pupil number assumptions that were *“realistic and achievable”*, and reflected UTC income based on the *“best estimates of available grants, the school’s outgoings and the likely number of pupils”* (DfE, 2014, p. 4). In 2017 the Local Funding Formula for pre-16 students was:

based on the local funding formula applied to all schools in the relevant local authority, including maintained schools and academies (DfE, 2017a, p. 6).

The government’s 2017 funding formula calculations protected new UTCs under



Clause 17, which stipulated:

New UTCs receive a similar level of protection against the per-pupil funding amount they would have attracted had they been open the previous year (2017, p. 6).

All post-16 places are funded based on the National 16 to 19 years funding formula, including maintained schools and academies, and providers submit “supporting evidence to support their assumptions about the characteristics to be reflected in the formula” (DfE, 2017a, p. 7), which in turn informs the final funding level. Post 16 funding figures for new providers, such as UTCs, is calculated upon the first two years based on a business case, and in year 3 is based on school census data. Business cases are subject to review by the Education and Skills Funding Agency (ESFA) and are typically undertaken in the February or March before the UTC opened (September). Should a UTC not submit a business case or its case not be approved by the ESFA “the factors will be based on averages appropriate to the institution at either national or local authority level” (DfE, 2017a, p. 7) . The government refers to the need to ensure that:

UTCs will need sound financial procedures – the capacity to handle public money, and good governance arrangements. On opening, UTCs will need to have a robust framework to manage their funding and ensure proper accountability and procedures are maintained (2017, p. 6).

In addition to funding calculated on pupil numbers, UTCs received ESFA “Transitional funding” (available 2017) to the value of £200,000 per year for three years. Importantly, UTC transitional funding from year 2 is net of any debts owed to the ESFA, thus UTCs that built up debt in the first year must clear this debt to receive subsequent income (DfE, 2017, p. 10).

In the context of these funding policies low PAN was the reason most often cited by government and the BDT as the predominant reason for a UTC’s closure. Across all UTCs in England, to date (June 2019), 10 UTCs will have closed by the end of the academic year 2018-19. The problem of low student admission numbers continues to remain:

The overall increase in student numbers at the UTCs that opened between 2010 and 2013 was just 5 per cent for 2015-16. Together, these 15 UTCs have reached just 50.4 per cent of their combined capacity (4,598 students for a total capacity of 9,126) (Burke et al., 2016, p. 1).

Reflecting these general patterns, Table 4.3 sets out the recruitment and financial status of the nine case study UTCs as of January 2017 (the most recent publicly available statistics at the time of the analysis). This presents all the case studies open at that point as operating at a deficit. Pupil number adjustments (PNA) had also begun to accrue even within U1 and U2's early years of operation. Rising PNAs suggest that without a substantial change in admission numbers the negative PNA becomes a 'vicious circle' overtime.

It is noteworthy that the highest number of students on roll (U7) was just above 60% of U7's capacity (600), and among UTCs open for three years or more (U3, U5, U6, U7 and U8) all had considerable negative PNAs. A further implication of low student admission numbers is that all open UTCs have pupil teacher ratios either below the national average (U1, U2, U3, U5 and U7) or well below (U6 and U8).

Table 4.3

*Overall Capacity, Predicted Pupil Numbers (PAN) for Year 10 and 12, Students on Roll and Pupil Number Adjustment (PNA) Across Cases*

National Average		15.3					
UTC n=9	UTC Capacity	PAN for Year 10 (2017)	PAN for Year 12 (2017)	Students on Roll (Jan 17)	Pupil Teacher Ratio	PNA (£k) Adjustment 2016 to 17	
U1	600	150	150	112	10.4	-43	
U2	500	120	150	154	12.8	-87	
U3	600	160	160	216	14.4	-442	
U4	400	75	-	115	9.6	-	
U5	670	125	210	231	10.3	-603	
U6	600	150	150	191	8.6	-350	
U7	640	160	160	364	11.8	-283	
U8	500	150	-	143	9.4	-409	
U9	800	180	180	34	6.2	-	

Note: U4 and U9 closed - residual number of students on roll

Low student admissions and small class sizes place additional financial burdens particularly on those UTCs managing a reduced budget following a PNA claw-back of government funding.

### **Mediating Factors**

Across these common experiences of competition, UTCs also experienced factors that could mediate – and therefore heighten or soften – the competition they experienced. These factors were often perceived to make competition more

intense for UTCs vis-à-vis local providers, but could also lead to varying perceptions of the intensity of competition among the different participating UTC leaders.

The location of a UTC could influence student choice given the availability and potential cost of transport. This could be a particular issue for UTCs with admissions areas that encompassed rural areas and whose admission numbers were low (U1, U3, U5, U7, U8 and U9). These UTCs were typically less well served with a range of affordable transport options most often found in a city or urban context (U2, U4 and U6). Transport costs had resource implications for all UTCs and costs incurred in year one of operation were invariably a factor in subsequent years when the funding of transport (either by the UTC or by the LA) had been withdrawn or reduced due to financial pressures (U3 and U8). The cost of transport was difficult for a LA to justify particularly when students lived outside of the LA catchment area.

The withdrawal of free transport was reported to have further impacted on student recruitment figures, in particular students from low-income families. In this context, U1 was *“looking to make it [travel] free next year for those living outside of [the Authority]”* believing that this would *“make a big difference”* and ensure those students who may be from a deprived background, and third or fourth generation unemployed who were *“perfectly able”* were not excluded (P1). Yet P1 understood that this could conversely add further financial pressure to the UTC. Transport as a mediating factor could also therefore be influenced by other imperatives such as students’ desire to engage more in technical education, a change of school due to bullying, or students just wanting a ‘fresh start’. P5 commented for instance, *“if you don’t want your child to go to your local school, you’ve got to either have the money to transport them there, or send them there somehow, or be inconvenienced”*.

A second set of factors, that mediated the competition UTCs reported experiencing, concerned local perceptions of technical education. Participants believed that there was an urgent and pressing need to communicate what UTC provision could offer parents and students. P3a argued for instance that there was not *“a clear understanding amongst parents of what technical education actually involves”*, and that parents saw the terms ‘technical’ and ‘vocational’ education as being

equivalent to each other, suggesting that there was *“still an awful lot of work to do there”*.

Interview participants were also highly sensitised to historical trends regarding perceptions of technical education. P3b for example noted how *“when my sister was at school 30-40 years ago, she went to the technical college, and that was seen as less academic than the local Grammar school, which was seen as less academic than the local private school”*. These historical trends were also seen to inform contemporary perceptions of technical education, and P2 argued for instance that this positioned the UTC as: *“somewhere students will go if they’re not academically gifted”*. One consequence of these stereotypical perceptions, P3a proposed, was that the *potential of a “proper technical education, which is related to a specific career path”* was downplayed locally in patterns of choice. Rather, as P4 argued, potential UTC students and possibly their parents were: *“looking for a change because they’re currently...maybe perceived to be being bullied at their current school...or the current school is large, and they’re looking to go somewhere, which is a smaller-sized school”*. Similarly, P5 argued that a disproportionate number of the UTC’s students *“had their own issues”* as to why they weren’t fitting into mainstream schools, including students that *“had dyslexia, a lot were autistic and some had mental health issues”*.

These perceived local perceptions of technical education were argued to intensify the competitive pressure on UTCs, and participants claimed that this enabled other local school providers to be ‘unaccommodating’. P5 for instance argued of other local school leaders, that UTCs *“will always be seen as a potential dumping ground for students that can’t cope”* (P5). P1 reported that, *“we’re well aware that a lot of other UTCs have been dumped on with schools trying to offload disaffected learners”*. P8 reported that local schools had used U8: *“as a pupil referral unit”* and that some of those students presented *“some significantly entrenched behavioural issues that hadn’t been dealt with in Years 7, 8, and 9, that were then being kicked down the road, effectively”*. P8 also argued that a number of other local schools had made it clear to specific students that they must *“find themselves another school, otherwise things would be very difficult for them in Year 10”*, and this had created *“bigger clusters”* of high-needs students in U8 that had *“made teaching and learning much more challenging”*.

In this context, differentiating UTCs as sites of technical excellence was seen as a potential risk that could unintentionally position UTCs as a lower status provider. One response to these dilemmas was to try to celebrate both the 'sameness' (academic curriculum) and to emphasise the 'differences' (technical education) of UTCs – with the differences (as noted earlier) cast as including industry standard, state-of-the-art facilities, a more 'adult' environment and the potential to work with employers on projects. P4 believed that the UTC's new *"facilities were important, and a lot of money [was] invested in very good facilities and equipment and a very nicely designed building"*. However, P4 found the process of informing parents and students about the facilities *"quite dispiriting, after lots of publicity, lots of good staff activities, just a trickle of people would come along. When people did see the facilities, they were wowed by them"*. The facilities at U5 were also *"a major thing. If we could get them [students] into the building...we didn't have many people walk away who actually came. They signed up if they came seriously to look"*. While P6 recognised the importance of U6's facilities for all students, and reported highlighting these in particular to *"lower-ability students"*, that they would have access to the *"fantastic facilities here, and you'll be able to go into computing and do coding and programming, you'll be able to go into the workshops and use all this fantastic kit"*. At the same time P6 reported making it clear to those students that this provision and its facilities came with a caveat - *"only if you're at the required level for English and maths"*. P6 commented *"We're not selling it [U6] as a centre of excellence around the facilities. You've got to buy into our philosophy, the quality of teaching, the quality of education. It doesn't matter if we're doing it here or we're doing it in a shed. It shouldn't matter"*.

P7 also recognised the importance of the facilities asserting that, *"We've got state of the art workshops. They [students] see great things, and they come, and employers are here doing lots of activities with them, so yes, they come and see something very different to what they see in school"*. P9 believed that the impact of U9's refurbished building and facilities was *"massive"* and noted that, *"virtually every single person I spoke to was bowled over by the facilities we had. I never got tired of showing people round the UTC, because every time I showed them round, you could see the look on their face, going, 'This is fantastic.' We'd show them round the classrooms, and then we'd take them down to the engineering workshop"*

*and they were, like, 'Wow, this is just incredible'.* Investment in industry-standard equipment and new build facilities was, however, a concern for P8 *"I think it's disappointing, when actually so much public money has been invested in the facilities [U8] that actually there was not a more cooperative approach to education in the local area, and I must admit, this is where I get quite emotive"*. P3b also reported for example running events to try to change local perceptions:

That profiling is through our unique education, working with employers and businesses, and hosting events to which people get invited and wish to come that aren't necessarily related to recruitment but are related to the profile of the UTC, and what it delivers.

In these attempts to work on the status of the UTC, regular and sustained sponsor input was perceived to be vital to evidence how employer and/or university sponsors would contribute to the education offer, to provide progression opportunities, and to introduce students to the world of work. As described above, however, the range and level of support offered by sponsors, in particular from universities, varied substantially across the cases. This variation, importantly, was also a further factor in mediating competitive pressure – including how local perceptions of UTCs were reported to be influenced by the perceived quality of sponsors (university and employer), and what the resulting status of sponsor engagement could bring to the technical education on offer. In this regard, two cases (U6 and U7) were notable for the support their sponsors brought and how this was perceived to enable these two UTCs to compete more effectively in their local lived market.

U6's emphasis upon and commitment to employer engagement was recognised by employer sponsors and the sponsor MAT, and it was these relationships P6 believed that worked to strengthen U6's position in the local provider status hierarchy. P6 stressed the value of being in a Multi-Academy Trust from U6's inception and in particular the MAT's ability to support the UTC in terms of staffing, and to help U6 build on the MAT's existing work and professional relationships that were already well developed between the MAT and local employers, other local providers and headteachers. A significant advantage, P6 argued, was that *"being part of a MAT has enabled me to dip into shared services and get better rates. Have good quality support, because it's high quality, but what you've [also] got is the economies of scale working in a MAT, a large MAT, so you're dipping in. That's been helpful"*.

U6 had built into its curriculum the role of “*business mentors*” and spent “*an awful lot of time, whether it’s through assemblies, through visits, through work experience programmes, through exposure to companies*” maintaining the bridges P6 had built with local employers. P6 believed that “*It’s all about creating that professionalism, that the student’s feel, once they walk through the door, that they’re not students, they’re not pupils, they’re young adults, and to create that, it comes not from the building, but from the people who work in the building*”. P6 had “*come from the engineering sector*”, had worked with and been in business and argued that they knew “*what mattered in terms of the skills*”. P6 wanted “*students to be team-workers, collaborative, resilient, all of those skills which we have here, and then on top of that I want them to have really good foundation qualifications, and understanding in those STEM subjects. There’s no point in watering it down*”.

U7 had also received significant support from its main sponsor, which in this case was recognised and valued locally as a high performing university which, according to P7, generated confidence in U7’s technical education and, importantly, worked to change local perceptions. P7 reported consistently referring back to “*the fact that we’re working with University XXX, and students obviously went across to XXX. We do quite a lot of work with XXX. They [students] get access into the library if they wish, as an associate student. We do sports with them [university], so yes, we do exploit our university partner in that respect*”. P7 also commented on U7’s “*steering group who set it [U7] up that was all about business-led, and that’s what we’ve gone to do, and what we’re desperate to be. Yes, it’s about that business-like, business-led approach. That’s where we are really about trying to differentiate ourselves*”. P7, like P6, had worked previously in the private sector and was familiar with building marketing strategies and working to create a ‘Unique Selling Point’ (USP). P7, when making reference to “*business-like*” and to “*business-led approach*”, refers to the importance U7 placed on the role of sponsors as the lead decision makers. There was an inference that sponsors were closely consulted on U7’s approach to teaching and learning, and on U7’s fostering of the kind of student behaviours that sponsors valued.

## Provider Hierarchies

As well as sponsor engagement to support the UTC and promote more positive local perceptions of technical education, the emerging status of UTCs and how competition was mediated locally was also influenced by the existing local provider status hierarchy. This often included a mix of maintained schools, academies, grammar schools, sixth form colleges and other provision locally. While the composition of each lived market and the competitive relations that existed between other schools and providers is beyond the scope of this research (as it is focussed on nine case study UTCs), without exception the interview participants were sensitive to the local status hierarchy schools and were often clear in their own minds about the positioning of other providers.

Participants reported that a provider's status was commonly influenced by a series of factors that included academic performance, parental demand, perceptions of the educational offer and the 'types' and composition of students each organisation admitted. The pressure for UTC students to perform academically well was therefore significant, as was the importance of a 'Good' Ofsted inspection, which was always a target to work towards or sustain. The extent to which an Ofsted judgment could secure the UTC a higher status in the local provider hierarchy was, however, in part dependent upon the Ofsted judgments of neighbouring providers. For example three schools close to U3 were 'outstanding', and viewed locally as *"the crème de la crème"* (P3b). One school was 'selective' even though *"it's not allowed to be"* and the other two were 'outstanding' schools [Ofsted grade] *"that parents would want to send their children to if they could"* (P3a). As a result, P3a argued, competition was particularly intense for U3 at KS4.

On the specific issue of academic performance and school quality as a contribution to local status, it is clear (from an analysis undertaken as part of this study comparing the nine UTC cases to their own three closest neighbouring schools) that the UTCs were often positioned as being of lower 'quality' than neighbouring schools in data published by the DfE (see Tables). The Ofsted grade of UTCs was lower than at least two neighbouring schools (apart from U7). The GCSE data (including A\*-C grades, Progress 8 and Attainment 8) also showed that UTCs were generally lower performing than their immediate neighbours. U7 stands



out not only because it had the same Ofsted inspection Grade as its three neighbours ('Good'), but also because U7's Attainment 8 score was above two of the three neighbours, suggesting U7 was on a relatively equal footing in terms of published data on 'quality'.

More broadly, Ofsted inspections were a source of irritation for several participants who argued that inspectors, particularly in the early years of operations (2010-15), were broadly unsympathetic of the uniqueness of UTCs and that grades had "*become increasingly inconsistent*" (P3a). P5 argued for instance that Ofsted "*had not understood the UTC ethos and vision*". A common perception of the Ofsted process of inspection and indeed the government's wider national accountability framework was that they were viewed as 'working at odds' with the vision upon which UTCs were established and therefore making it hard for UTCs to compete for students and achieve status within local provision.

These concerns related particularly to the way in which UTCs were, on the one hand, 'ideally' modelled differently from other schools, and this was meant to be presented as a strength and differentiating factor, yet on the other hand, were being measured in the same way as mainstream schools. All the participants reported there was a tension between the responsibilities they held for students to perform academically well and, in concert, meet employers' preference for students' skills and the development of what employers termed "work ready behaviours". These behaviours most often included students demonstrating: good time keeping; being civil and participating in discussions when required; demonstrating a 'can do' attitude to problem solving in the workplace; and working well in a team.

An additional specific concern with external accountability was that students were transitioning to a UTC in September of Year 10, which left a limited period of schooling until the end of KS4, "*which is then effectively your time with those students*" (P4) prior to students taking national examinations in May of Year 11 (under 2 academic years). Yet UTCs were accountable for those students' progress from KS2 to end of KS4 (5 academic years). These concerns, and the effects of the introduction of the EBacc and Progress 8, are discussed further in the next section. However, a widespread resulting dilemma for UTCs was articulated by P2:

You've got to be careful how you measure people, because they

behave in peculiar ways, and are forced into the way they behave because of the way that they're measured.

Table 4.4 summarises the main mediating factors of competition the participants' perceived, which have been set out in this section, including the overarching trends in terms of high levels of competition across the local hierarchy of provision, and of UTCs being often perceived as being of lower status within that hierarchy. Within this landscape, as indicated in this section, it is important to note there were also clusters within the research sample that reflected the processes participants had highlighted and how they had experienced different mediating factors of competition within their UTC. These emerging 'clusters' in the sample reflected a UTC's 'status' at a point in time, and so were fluid and open to change either through external interventions or internal actions. We return to this notion of emergent clusters of UTCs in the section below on 'outcomes'.

Table 4.4  
*UTC Case Studies: Summary of Mediating Factors*

Mediating Factor	Consideration	Mediating Forces
Local Provider Hierarchies	Competition across providers to gain, retain or transfer (lose) students	Local providers perception of the UTC model and student transition at 14  Local providers as gatekeepers of student 'supply' and restricting access to students Providers' actions - general hostility towards and a reluctance to recognise UTC provision Providers actions - dissuading some students whilst encouraging others (for example those with behavioural problems, KS3 low attainment, disengaged) to attend Need to work collaboratively with and across providers to facilitate recruitment at KS4
	Varying levels and types of competitive actions	
	Collaborative working	Desire to become recognised and accepted as a form of provision within the local education community
Common Perceptions of Technical Education	Perceptions of UTC model as low status	National, local and parental knowledge of technical education in general and supply side liberalisation that now include 'niche, 'innovative' educational offers  Perceived lack of local providers' and parental knowledge of and support for the UTC technical education offer
	Status of technical education	Attitudes to technical education of 'learning by doing' as 'second class' and as an alternative and unequal pathway to academic study and subjects
National Accountability	External judgements (Ofsted) on quality of provision and performance in national examinations	A 'Good' Ofsted grade contributes to a UTC's status and potentially its position across the local hierarchy
		A 'Good' Ofsted rating acknowledges the UTC and suggests a technical education can be combined with high academic standards
		Information presented on main school comparison website prioritises academic performance across prescribed subjects that generates a form of information asymmetry
Sponsor Engagement	Importance of maintaining employer engagement in developing and presenting UTC model as 'innovative' and/or 'niche' educational offer	Sponsor status - level perceived quality of sponsor input across the region  Status of sponsors across local provider hierarchy and their existing relationships can work to confer UTC status Sponsor input into Governance, strategic direction and curriculum offer Sponsor's regard for national qualifications versus value of student behaviours versus value of student behaviours
	Facilities	Embody sponsor engagement and reflect workplace environment that present a 'cemented relationship' between UTC and sponsors and presentation of UTC as 'niche' and/or innovative provision. Transport issues and costs

## Competitive Responses

In the context of participants' perceptions of the competitive pressures and the factors that could mediate competition for a UTC, in this section the findings are clustered around the UTCs' responses to competition and their own competitive practices. This informs an analysis of how competition could lead UTCs to emphasise or de-emphasise aspects of their intended technical education offer, whilst attempting to address common local perceptions of technical education.

As evidenced above, all the participants experienced competition and competitive practices that they perceived generated significant pressures on the UTC and which, they believed, justified a response. The range and extent of those responses were dependent, in part, on the UTC and its emergent status within the lived local market context. The most common strategic response, particularly in the early phase of a UTC's opening, was to engage in intensive marketing activities. All the participants had engaged in what other local providers could view as 'aggressive' marketing campaigns. These campaigns most often involved a combination of all or most of the following activities: adverts on local radio (U1, U2, U3, U5, U6, U7, U8 and U9); requesting the LA send a letter to all Year 9 students (U8); adverts in newspapers (U3), on the side of buses and bus shelters (U7), at sports events (U6), and through leaflet drops at various venues including supermarket car parks (U3). This was in addition to regular, sometimes weekly, open evenings and Saturday events. Sponsor organisations often supported these marketing activities, including to showcase their specialist sector, and many were also willing to help finance initial marketing activities. The university sponsor of U7, for instance, was extremely active and supported all of the UTC's marketing "*in the start-up [phase], the university was just phenomenal, absolutely phenomenal*" (P7).

The aims of these marketing efforts were often focused on presenting the UTC as a new provider, reaching out to and engaging with parents and trying to ignite students' interest in that offer. UTCs were often mindful, however, of their lower potential status within the local provider hierarchy and so the messages the marketing tried to communicate were rarely targeted specifically at higher-prior attaining students or middle-class parents (i.e. as in marketing intended for cream-skimming). UTCs were therefore often balancing the desire to inform parents and students that the UTC was doing "*something different*" (P8), while also trying to

not unintentionally position themselves as 'lower status' providers. One common response was to present the UTC as being open to all students and particularly those with an aptitude for and interest in STEM subjects. As P8 explained, this translated into a marketing campaign that presented the UTC as an institution focusing on STEM subjects that could deliver a curriculum similar to that of other local high-performing providers. The consequence, P8 reported, was that: *"the opportunity to emphasise the technical pathways [of the UTC] was less evident"* in the marketing.

Similarly, both P1 and P2 reported marketing strategies that communicated and emphasised their UTC as a centre of academic excellence and not a *"soft option"* (P1). U1 was presented, for example, as a place where students must *"work harder than they've ever worked before"*, and *"we make it clear that they've got to get the best GCSE results alongside their engineering qualifications"* (P1). The marketing emphasised the UTC's ethos and vision and its employer engagement strategy on engineering, but the 'technical' focus was again downplayed. In these ways, while marketing did highlight the 'unique' aspects of UTCs that most often related to employer sponsorship and engagement to try to differentiate the UTC and its 'niche' provision, the language of STEM provision rather than technical education was most often privileged. One exception to these messages was U7, which had sought in marketing to explicitly present the UTC as providing an innovative technical educational offer. Noting that U7 had had success in promoting itself as a quality technical education provider, P7 argued:

Where we try to USP [unique selling point] is with employer engagement, and that's our real USP, the employers we work with, the destinations the students go to, how successful our students have been, where they go and work, and what they do. That really is the bit that sings out, and the parents, we've found, that have come here have looked for that.

Across these marketing aims, it was notable that marketing activities could serve to further stimulate competitive practices between the UTC and other local providers, although only one leader (P1) explicitly acknowledged that UTCs' marketing campaigns could be understood as a series of competitive actions, and a means to apply competitive pressure in their market. It was more widely noted, however, that the cycle of increased marketing activity increased financial outlay and did not

necessarily support UTC operations, student activities or help to meet high staffing costs.

The efficacy of marketing, in particular its impact on improving student recruitment, was difficult for participants to evaluate. The budget UTCs allocated to marketing varied and was predominantly *“a much bigger percentage”* than had been anticipated (P4). As P7 reported, *“we still continually spend a lot of money on it [marketing], but now the letters that have gone out from the local authority it has helped us”*. The majority of leaders also perceived that their marketing was only *“scratching the surface”*, in that even when parents arrived at the UTC they would say, *“We never knew you existed”* (P6). The UTC as a variant and hybrid model within the educational system was often reported to require explaining to parents, including the similarities and differences between UTC progression routes into industry and the A-level progression route to university. P9 reported, for instance, that: *“we had relatively small numbers [students] come and see what we actually did, the vast majority said, even after 18 months, ‘I didn’t know you [the UTC] existed.’ I’m thinking, ‘we’ve done this, we’ve done this, how did you not know?’”*

P3a argued that despite widespread marketing there still *“wasn’t a clear understanding amongst parents of what technical education actually involves”*, and that often parents saw the terms ‘technical’ and ‘vocational’ education as being equivalent to each other, suggesting that there was *“still an awful lot of work to do there”*. P3a also argued that the UTC’s marketing activity had done little to shift local perceptions of UTCs as a place *“where students will go if they’re not academically gifted”*. The majority of participants also questioned whose role it was to educate the public about the purpose of UTCs, so as to counter a lack of knowledge. It was widely believed, as P8 argued, that communication would be more effective if led by government:

That’s not just the job of UTCs to do that, that’s the job of the DfE, to actually make sure that there is a clear distinction, and that the wider educational community is well educated about the different types of education.

Marketing, of course, may not always *“represent a substantive change of school programming or operations”* (Jabbar, 2015 p. 30). In the case of UTCs, however, there was a clear alignment between marketing messages (and how these had changed from the initial technical education vision to an emphasis on the academic

and STEM subjects) and a parallel movement in the substantive foci of the UTC and in particular the curriculum. There had, according to P4, been a substantive turn towards a more 'academic' curriculum (from 2014 onwards) and away from the initial vision ostensibly for 'technical colleges'

This has some parallels to the 'privileging of the academic' curriculum that Woods et al (1998) identified as part of schools' responses to the introduction of quasi-market mechanisms after the 1988 Education Reform Act. In that context, the privileging of the academic was a common school response to patterns of parental choice and competition, because higher status was found to be afforded to those schools with a more traditional ethos and a focus on academic subjects. In the context of UTCs, these broad influences on competitive status were also present, but the rationale for an 'academic turn' developed from a combination of highly intensive pressures, which resulted in a surprisingly rapid set of changes to the planned practices of UTCs.

The intensity of competitive pressures as detailed above included both under-recruitment of students and widespread concerns for the financial viability of the UTC as an organization. These pressures, crucially, had combined with changes to high stakes external accountabilities and to national policies on KS4 qualifications. In this context, all the participants were conscious of the need for students to perform academically well: *"Your results must be great. There's no wiggle room. They've got to be great"* (P3a).

The introduction of the EBacc from 2010 and then the Progress 8 measure from 2016 had, according to participants, applied pressure on all schools' curricula, but this was seen to have had a disproportionate effect on, and to be particularly "limiting" for UTCs. As P3a commented: *"you feel obliged to do Progress 8 because the government's measuring it"*, and so *"we made the decision that we should because I didn't know what would happen if we didn't"*. After careful consideration of the threats to the viability of the UTC, the decision was that: *"I didn't want to run the risk of us being closed down, the funding being removed if we didn't do it, and I wasn't sure which way the DfE would go"*. Similarly, P8 argued that the move to present UTCs as an academic alternative to mainstream schools, with STEM specialisms, was broadly adopted by all UTC leaders from 2014 onwards when it *"became fairly clear right from the start, reading all the*

*documents that actually the school [UTC] was going down the EBacc route”.*

As part of the introduction of the EBacc, UTCs were also keenly aware of the Wolf Review and the critical evaluation of many vocational qualifications that it had developed. As P6 reported, understanding the UTC curriculum, and how it may work for staff and students, was *“very different to maybe what parents perceive it to be; vocational education’s changed dramatically since the Wolf Review and the reporting of vocational qualifications”*. As a result of the subsequent removal of a range of qualification and limits on which qualification would be measured by the EBacc and Progress 8 there was, P2 argued, *“more of an emphasis on final examinations”*, and therefore UTCs were also examining students: *“every five or six weeks, you’re prepping them for exams, because there are so many exams”*.

P7 had recognised that the introduction of Progress 8 (2016) as an accountability measure would have an impact, but also expressed more confidence in responding to the UTC’s student needs. On that basis U7’s *“curriculum had changed over time for two reasons. One, it’s a little bit around accountability, because obviously we always knew we were going to go to Progress 8. We were set up for Progress 8 from the beginning. As we started we knew Progress 8 was coming in and so we put our curriculum there. More [second] it has been the fact of actually what makes sense for learners. Our curriculum is always based around our learner needs”*.

The pressures to respond to national accountabilities were also accentuated by the nature of the intake of students that UTCs had admitted. While this is discussed in more detail below, it is important to note here that the majority of UTCs had needed to *“adapt the [planned] curriculum to fit the cohort of learners”* (P1). The students entering UTCs had had broadly middle prior attainment at the end of KS2 (see Table 4.6), however, leaders’ believed that students had rote learnt and were unable to apply their KS2 knowledge in new and different contexts, and had therefore failed to progress at KS3. There was a widely held belief (U1, U2, U6, U8 and U9) that without an additional focus on functional competency in English and maths some students would struggle. P6 reported for instance that they had chosen to *“spend a lot time with students prior to entry or on entry, testing them...I need to know everyone’s reading age, I need to know where they are with*



*their literacy skills, reading skills and writing skills. When it comes to numeracy skills they're exactly the same".*

Within the context of this combination of pressures, resulting from choice, competition and accountability, a common response among the case UTCs was to give greater emphasis to core academic subjects as UTCs sought to drive up students' academic performance. A common consequence was that this "*narrowed the curriculum*" (P5). UTCs had commonly restricted students to studying specific subjects, which had a tendency to reduce the breadth of the curriculum including by dropping subjects (U1, U3, U5 and U8), while allocating extra hours to core subjects (U1, U2 and U6), such as English and mathematics (that were 'double-weighted' national examinations). UTCs commonly sought to drive up students' academic performance with more: "*time on maths, and English, and science*" (P6).

U1 for example had originally emphasised their technical education offer when marketing the UTC, but had experienced degrees of hostility when attempting to forge links and working relationships with other local providers. Admission numbers were low and P1 reported making changes to and reducing the curriculum in both year one and in year two of operations, believing a more academic curriculum would also make the UTC more attractive to parents and students. The following year, P1 reported, further reductions were to occur: "*we'll drop the graphics [course] because we need to give that extra time to the mathematics, English and sciences*".

Similarly, U3 had inherited what P3a believed to be an 'unrealistic' curriculum offer prepared by the sponsor group that had envisaged "*doing foundation degrees in about the second year of opening, and apprenticeships*". P3a had adapted the curriculum in order to bring "*a sense of absolute reality*" because "*there's no way we could do these things [Apprenticeships, Foundation Degrees or Higher National Diplomas]*". In addition, U3 had also "*scrapped the really long day [from 08:30am] until five o'clock*" that was envisaged for UTCs and "*we went 8:45 until 4:30, because of the travel*", and "*we didn't [timetable] 40 weeks. We did 38*". P3a was also mindful of staff's work-life balance and "*if you were to get teachers to do a longer day and a greater teaching contact time, and longer weeks, and you pay them less money, the brain tells you that they're not going to come and take your jobs*".

A further response to the perceived competitive and financial pressures on

UTCs was the ‘cutting’ of sponsor projects from the curriculum, which had been a core feature of the ‘ideal’ UTC model. As P8 explained, sponsor projects devised in conjunction with a local hospital and the university: *“didn’t happen in years two and three, because there just simply wasn’t the time [within the curriculum] to actually make them happen. That’s probably my only real true regret about the whole three years”* as *“many of the projects that were deemed “best” were those “set up beforehand”* and included in the education brief at a time when UTC leaders could have *“regular meetings with the delivery teams and the people there, and that was great”*. P8 identifies the pressure some participants were then under to deliver the curriculum whilst maintaining relationships with sponsors, and working with sponsors to co-plan and co-deliver the projects. In the context of these substantive changes, UTC leaders were also under pressure to achieve a good Ofsted inspection grade, which might eventually mediate how, and in what ways, other providers, parents, and students perceived them.

In this context, there was also an argument that the 2010 accountability measures of EBacc, and Attainment 8 and Progress 8 (2016) needed to be *“actually torn up for UTCs”* (P3). P8 believed for instance that UTCs ought to be more assertive and say to the government the *“we are different”* and that *“if you think that we are ‘inadequate’ because we don’t do X, Y and Z then fine, fair enough, but actually we’re going to get our young people into jobs, and give them life chances”*. Removing these accountability measure would, ostensibly, allow UTCs to focus on *“industry-specific qualifications that help students get into employment”*, but such changes were viewed as being highly unlikely, and that the possibility of government creating exceptions for UTCs was thus also slim. Instead, leaders suggested that there were subtle messages emanating from the BDT and in the DfE’s communications (from 2014 onwards) that recommended the UTC curriculum become more GCSE-focused in light of government’s reform of qualifications and the introduction of new national accountability measures (2016). P4 perceived for instance that BDT’s ‘ideal’ concept of UTCs had changed over time, so that: *“the UTC is a very academic pathway, so although it was mooted as a ‘technical academic’, the emphasis on the academic and the university route was really strong”*. At the same time, the BDT was also seen to be lobbying the government to recognise that UTCs: i) had a reduced time with students at KS4

(two as opposed to three years) and that students' performance may have slipped during KS3 which may have contributed to students' KS4 performance; and that ii) a truer picture of students' performance at the end of KS4 was best viewed in terms of destination data with BDT recommendations for the government's website reflect this (compare school performance.gov.uk)<sup>21</sup>.

This focus on GCSE entry in academic subjects was also emergent in the cases where UTCs had been subject to government intervention and had been sponsored by a MAT. This had occurred in both U5 and U8, following Ofsted judgements of Special Measures for U5 and Requires Improvement for U8. In both cases admission numbers had been very low, and this had generated significant financial pressure for U8. Since entering a MAT, U5 had been aligned much more closely to a mainstream school curriculum, with above the national average for EBacc entries (50%). The impact of U8's entry into a MAT was too early to comment upon.

Within these broad trends, two of the cases (U6 and U7) had been notably more successful in sustaining their technical education provision. This did not mean that academic and core subjects (as measured externally) were not now central within the educational offer. P7 commented for instance that *"we think we have a very academic curriculum"*; and P6 reported how the U6 had developed since opening an additional *"top-up"* of five or six hours per week of English and maths as core subjects: *"If a student comes here, they'll get more English and maths than they've ever had before"*. However, alongside these academic subjects, both UTCs had sustained a stronger focus on technical provision than the other case study UTCs.

P6's vision and ethos was to provide *"work-related study"* and give students *"the opportunity to think about their careers"*. The vision at U6 was *"around the destinations, around working with companies, and that hasn't altered. That's still my primary aim and target, and I would never shy away from that"*. At the same time P6 recognised that the MAT, from which the UTC had been developed, was

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<sup>21</sup>Government recommends schools and colleges (UTCs) not covering the full progress 8 period (5years) consider "other headline measures, particularly pupil destinations" that "are more important for these establishments" <https://www.compare-school-performance.service.gov.uk>

*“more traditional in its approach”* with a focus on students’ and whole school performance across its member schools. This focus involved EBacc subjects and qualifications that utilised *“data drops every six weeks, estimated grades, Progress 8, and all of that. So you’ve always got that mindfulness about where they [students] are, and wherever they succeed”*. P6 acknowledged that there had been *“a little bit of pressure to begin with [to follow a similar curriculum to the MAT], but I stuck to my guns”*. P6 recognised and welcomed the support U6 had received from those *“governors from the business world”* who had backed P6’s decision to limit the curriculum, emphasise technical education and offer work experience. Governors had lent support for the *“direction of travel we were going in from fourteen to nineteen”*.

Striving to recruit students in a competitive market U6 had modified its curriculum in order *“to buck perceptions of UTCs as schools for less able students”* (P6). However, P6 believed that her prior experience of working in a CTC had afforded confidence to reject the pressure to deliver the EBacc range of subjects. *“We’re 0% EBacc”* and *“we’re not here to deliver a range of qualifications. It’s about pathways. To get the jobs, to get to a university, there are basically a set number of qualifications, and pathways, and skills, and attributes we want the students to have that don’t necessarily mean they’ve got to [study] languages, history, geography, RE [religious education]”*. The emphasis at U6 was on *“cutting the curriculum down”* and on *“getting the core of subjects right for this UTC, that provides the students with a springboard to success, not just giving them ten or twelve GCSEs and [students] failing in half of them”*. P6 had therefore aimed for a curriculum that was clear in its focus, while slimmed down for the initial idealized plans: *“I’d much rather have a small number [qualifications] and say, ‘That’s what you’re doing. There’s the curriculum, you’re all doing that regardless,’ and that’s what we’re aiming for”*.

Similarly, when U7 initially designed its curriculum, P7 report that *“we did actually set it out that students came out with nearly twelve GCSEs equivalent, which they don’t need”* (P7). As such, U7 redesigned and reduced the curriculum in a way that P7 believed had made more sense for learners’ based around their needs. However, P7 was also conscious of how this might affect the UTC’s reporting against key performance indicators. Given awareness of accountability

and the reporting of results, P7 reported that U7 students *“now do English Literature, because we’ve had to bring English Literature in [for double counting in the Progress 8 measures]. We didn’t do it to start with, but we’ve had to bring that in. We offer quite a broad curriculum, so students are doing English, maths, the double science, and one Tech Award, which is in manufacturing. Then they can choose triple science, computer science, art and design, business, geography, a language, and more engineering. That’s up to the student really. They’ve got breadth”*.

P7 recognised that students at age 14 may enjoy engineering but may not necessarily know the scope of the specialist subject and where it may take them and that *“we know that fourteen to sixteen-year-olds do change their mind”*. P7 believed that it was important for U7 to be *“actually giving breadth, to make sure that when they go into Key Stage Five that they’ve got places to go”*. However, at the same time a second reason for *“changing our curriculum has been around financial need really, in terms of it being too broad, particularly at A Level”*. U7’s relative success, P7 believed, in differentiating the UTC from local provision, was its sustained *“employer engagement, and that’s our real USP - the employers we work with, the destinations the students go to, how successful our students have been, where they go and work, and what they do. That really is the bit that sings out, and the parents, we’ve found, that have come here have looked for that, actively”*.

There were a number of reasons then for why P6 and P7 had felt able to sustain aspects of their technical education to the extent that they had. Both UTCs had achieved a ‘Good’ Ofsted grade and this had supported the recruitment of students and an emergent reputation as centres of good ‘technical education’. They both had also worked to build collaborative local arrangements and partnerships to sustain themselves. Collectively, these actions and strategic responses differentiated U6 and U7 within the research sample, which suggested that (in at least the short term) these UTCs were more likely to continue to operate without government intervention. Indeed, as part of plans to secure their future viability U6 had a new-build feeder school (KS3), and U7 had already created a MAT to try to generate economies of scale (including in staffing) and had reduced its PAN for the following academic year. Before moving on to discuss the outcomes

of these processes of competition, Table 4.5 provides a summary of the strategic responses across the research sample.

Table 4.5 draws together the range of responsive actions. The most common response was to increase the emphasis upon the UTC as a centre of technical excellence, through marketing, branding and championing the role of sponsors in delivering the UTC's vision. Reaffirming what P7 had described as UTCs' 'USPs'. Changes to the curriculum had occurred predominantly in response to the Wolf Review (2011) and in light of the accountability measures Attainment 8 and Progress 8, introduced in 2016. Recruitment concerns were addressed in varying degrees through: marketing and branding; by changing the PAN; attracting a range of students; by securing a pipeline of students from KS3; or by a change in the age of entry from 14 to either 13 or 11 years. All cases responded to the shortfall in student numbers by keeping a close watch on their finances and the potential for DfE 'claw-back' of funds received on predicted PAN. All cases were mindful of achieving or maintaining a 'Good' Ofsted grade. In the following Chapter 5 I discuss the Outcomes and BDT's 'ideal' UTC model, explore supply side liberalisation and offer a new conceptual framework.

Table 4.5  
*UTC Case Studies: Summary of Strategic Responses to Perceived Competitive Pressure*

Type of Strategy	Types of Competitive Responses	Examples Responses
Differentiation and Brand Identity	Further emphasis on branding and UTC model filling market niche	Further emphasis upon niche technical education offer that also helps to grow the economy and meets skills gaps (progression into employment) Increased emphasis upon employer engagement and the significance of this for students' progression Leaders' presenting a sustained confidence in the niche offer
	Increased extra-curricular activities	Extracurricular activities with a focus upon employer engagement Emphasis upon progression routes including apprenticeships and university
Increased Marketing	Employer sponsorship as a Unique Selling Proposition (USP)	Increased emphasis on marketing activities to inform parents and students and increase student admission numbers Building on the presentation of UTC model as unique and 'niche' offering students opportunities to work alongside employers not available in mainstream education To present a convincing and confident offer
Improvements to Quality and Functioning	Academic changes	Attempt to improve student performance in national examinations  Amend or limit the curriculum
	Operational Changes Viability Issues	Tighten budgets / make cuts (including staffing) Discuss funding shortfall as an outcome of low student recruitment with DfE and agree action plan Change year of entry at KS4 Consider widening collaborative work with providers to increase / secure student numbers Consider future viability: determine other ways to secure 'pipeline' of students e.g. create a feeder school, join a MAT, change admissions to align with national Key Stages Work to secure a 'Good' Ofsted rating to ensure continuance as a standalone provider
	Viability Issues (continued)	Change year of entry at KS4  Consider widening collaborative work with providers to increase / secure student numbers Consider future viability: determine other ways to secure 'pipeline' of students e.g. create a feeder school, join a MAT, change admissions to align with national Key Stages Work to secure a 'Good' Ofsted rating to ensure continuance as a standalone provider
	Emphasis on recruitment	Change admission numbers Attract a wider range of students with varying levels of prior attainment in order to continue to resource the offer
Government Lobbying	BDET lobbying Government on UTCs behalf for the technical education offer	Additional or improved funding  Support for student transition at age 14 years Access to providers to inform students of the offer Solicit support for UTC model on the basis that it helps meet national skills shortage

## Chapter 5: Outcomes

### Introduction

Having set out the findings in terms of the common challenges, perceived competitive pressure, the mediating factors and responses, this chapter now turns to the key outcomes for these case studies. It is acknowledged that there is a limit to the range of 'outcomes' that can be analysed given that UTCs are new organisations and model of technical education are still in their infancy. These outcomes centre upon: i) students (in terms of admissions, performance outcomes prior to entering the UTC, and at the end of KS4 and KS5); and ii) the organisational future for the cases. The data are combined to generate a portrait of each case UTC, and across the cluster of cases (Table 4.14), which reflects their organisational status during the study as: closed (U4 and U9), standalone Academy (U1, U2, U3 and U8), and MAT members (U5, U6 and U7).

### ***Student composition across the cases***

As discussed above, all the UTCs had worked to increase student admissions and had increased their marketing to try to become attractive to students interested in STEM subjects. The marketing had tailored aspects designed to attract girls (Appendices 28a, 28b and 29), however, despite these attempts the student composition (Table 4.6a) across the cases was well above the national average for the intake of boys. Leaders' believed the intake was skewed towards those students who "*liked engineering and science*" (P6), and saw the UTC as an opportunity "*because they actually don't like language-based, art-based subjects*" (P4). Across the cases the number of Special Educational Needs and Disability (SEND) students and those students eligible for Free School Meals (FSM) were broadly below the national average (14.40% and 14% respectively). There were also notable differences between the cases, as discussed in the case below. Student absence rates overall were just above the national average, but persistent absence rates presented an additional dimension and significant challenges for the UTCs (with over half of the cases well above national averages). Participants were of the opinion that both students' attendance and progress may have slipped at KS3 prior to joining the UTC and that students were not entering the UTC with "*an understanding of the subject, they had just learned parrot fashion*" (P1).



Table 4.6a

*Student Intake Profile Across the Cases*

UTC n=9	Students on Roll (Jan 17)	50.80% % Boys	14.00% % FSM	14.40% % Eligible Students SEN support	5.40% % Overall Absence	13.50% % Persistent Absence
U1	112	79.5	11.6	8.9	6.8	23.1
U2	154	89	16.1	16.2	9.3	37.2
U3	216	79.2	7.4	7.9	4.2	8.9
U4	115*	42.6	46.5	8.7	0	0
U5	231	65.4	2.6	16.9	5.9	14.2
U6	191	81.7	12	9.9	4.8	7.6
U7	364	83.2	6.3	13.7	7	20.4
U8	143	76.2	11.2	16.8	23.6	57.3
U9	34*	97.1	8.8	35.3	7.4	28.1

Note: FSM= Free School Meals, SEND=Special Educational and Disability Support. \*U4 2015 data prior to closure, U9 planned closure

Table 4.6b

*KS2 Average Points Score (APS), and Percentage of Pupils at end of KS4 with Low, Middle or High Prior Attainment at the end of KS2 Across Cases*

UTC n=9	KS2 Average Points Score (APS) of the cohort at the end of KS4	% of pupils at the end of KS4 with <u>low</u> prior attainment at the end of KS2	% of pupils at the end of KS4 with <u>middle</u> prior attainment at the end of KS2	% of pupils at the end of KS4 with <u>high</u> prior attainment at the end of KS2
U1	No Data*	No Data	No Data	No Data
U2	No Data	No Data	No Data	No Data
U3	29.7	3%	38%	59%
U4*	26.8	19%	63%	18%
U5	30.3	6%	37%	57%
U6	27.7	12%	58%	31%
U7	28.9	10%	45%	45%
U8	27	17%	63%	20%
U9*	26.8	25%	44%	31%

Note: U4 and U9 based on final data prior to closure

Table 4.6b presents students' primary school Key Stage 2 Average Points Score (APS) across each case, which on average was 28.17, broadly correlating to national curriculum levels 4a and 4b. This is in line with levels typical of students

with middle prior attainment.

This composition data, when assessed as a whole, supports leaders' perceptions that student intake had broadly middle prior attainment at the end of KS2 that was not then 'realised' at the end of KS4 when measured against anticipated progress that was based on KS2 performance. Leaders' perceptions for this lack of progress were discussed earlier. (There was no available APS data on the profile of students on entry to U1 and U2).

### ***The Educational Offer Students Now Receive (2019-20)***

The ideal curriculum BDT presented to support its vision for 'learning by doing' at KS4 was through a split of "general education/bridging core studies and technical studies being 60:40 respectively" (Appendix 26a). However, these were not viewed as discrete entities, indeed, BDT argued that "these are not taught separately, however, but are integrated into each other" (Appendix 26a). The vision for teaching and learning was that maths and English (whilst aimed at GCSE and examined therein) would be supplemented to ensure that the "basic numeracy and literacy expected by employers" was achieved (Appendix 26a).

The ideal technical study time was to be composed of engineering, a work experience (10% of total time), projects that were devised by employers, and there was an expectation that sponsors would mentor students. There was also an expectation that the UTC's technical education would include content determined by employers and sponsors, including higher education sponsors (universities) that would enable students achieve a technical qualification.

The ideal general education component, following the introduction of the EBacc measure in 2010, began to reflect the profile of academic subjects reported that is: English (including oral, written and specifically report writing skills), maths, sciences, a modern language and humanities (plus sport/PE and PSHE, personal and employability skills, RE and enrichment activities) (Appendix 26a). Much of the bridging studies would be taught as part of the technical studies and not separately, which composed of; "financial literacy, understanding and setting up a business, IT, careers education and guidance" (Appendix 26a).

The ideal BDT curriculum for 16 to 19 year olds, should students not wish to progress to an Apprenticeship at the end of KS4, was to be split between general

education/bridging core studies and technical studies with a split of 40:60 respectively. The technical study at KS5 was to be “more specialised and job-related and the content should not only lead to a technical qualification but also to a professional qualification such as Tech Eng or Tech Sc both of which are being developed and recognised by the professional bodies” (Appendix 26b). There was also an expectation that students would gain work experience one day per week “Employers and university offer students high quality work experience related to the curriculum” (Appendix 22). It was therefore anticipated that students would be learning in the work environment, and that other study “may lead to A Levels or other Level 3 qualifications” (Appendix 26b).

In comparison to these ideal BDT curriculum designs, among the case study UTCs in this research the general concept for academic and technical study are still embedded in the curriculum for 2019-20, but it is the increased focus on academic subjects at KS4 that stands out. The KS4 curriculum offer for each UTC in the academic year 2019-20 is set out in Table 4.12. The table was developed from public freely available document data from across the cases into a standardised format for analysis. This presents across all the UTC cases a revised curriculum of core GCSEs, optional GCSEs and Technical Awards (equivalent to a single GCSE in reporting terms), plus extra-curricular activities. All the cases include English Language and English Literature GCSEs as a requirement (with the ‘double weighting’ in national reporting) and either Double Science or Triple Science (Biology, Chemistry and Physics). The emphasis upon examinable subjects and smaller technical qualifications does not align with BDT’s ideal vision for industrial challenges to act as bridges between practical and academic study and for theoretical understanding to emerge from, and be understood through, ‘learning by doing’. Whilst the BDT’s ideal vision was for a curriculum with 60% core and 40% technical split, this has moved in practice to an approximate 80/20 split for U1, U2, U3, U5 and U8) and an approximate 70/30 split for U6 and U7. I argue that this reflects the broad processes of ‘privileging the academic’ that were set out in detail earlier.

At KS5 (Table 4.13) a similar picture emerges across the cases for A Level and technical qualifications, with STEM subjects dominating the curriculum offer. One case in particular (U3), has changed its curriculum in 2019 to a predominantly

A Level offer. The cases with the widest offer of technical qualifications are U6 and U7, which provide a range of options for students to study a mix of A Levels and technical qualifications in varying sizes. This again reflects the processes of 'privileging the academic', while also demonstrating the differentiation among the UTC cases, that was discussed earlier. Indeed, the most adventurous curriculum at post 16 is U6 where three different pathways are offered that include; a Technical Baccalaureate, an International Baccalaureate and an A Level route that can each be combined with a technical qualification available in a range of sizes, and a number of industry standard qualifications.

What is important to note is that at both KS4 and KS5 there is a general shift away from the perception that sponsors' challenge projects or industrial challenges would be mapped to academic study, thereby de-emphasising the importance of projects and of technical study. One of the key values of BDT was that "technical and academic education are integrated" (Appendix 27b). By comparison, among the case UTCs, the curriculum for 2019-20 is not being presented as integrated and reference is not made to this bridging element between academic and technical education. At KS4 the size of a technical qualification is limited to an equivalence of a single GCSE. This limitation does not allow those students who learn in meaningful teaching and learning environments that have 'learning by doing' at their centre to have a study pathway that may be best suited to their potential needs – that is, a larger technical qualification. At the centre of both KS4 and KS5, across the core and many optional subjects, is evidence therefore of a move towards a more academically focused curriculum. The perceived role of 'bridging studies' is not evident or may have been subsumed within the technical study and optional studies.

### ***Student Outcomes (in externally measured examinations)***

In the context of UTCs' student recruitment and changing curriculum provision – as well as the competitive pressures detailed earlier, it is instructive to note the outcomes students had achieved in externally measured exams. It is important, however, as noted in the Methodology chapter not to over claim from this data, as it is presented here as descriptive statistics and thus subject to the usual caution over such data. As such this section is intended to paint a brief broad-brush picture.

At KS4, student outcomes in the case UTCs were broadly below national average. This reflects the earlier discussion of the perceived local status of the case UTCs. Table 4.7 presents KS4 performance across the cases. The notable outlier is U5, which since being intervened in and sponsored by a MAT had secured measure outcomes broadly in line with national averages. A similar overall picture is set out in Table 4.8, which presents disadvantaged pupils' student outcomes at KS4. Table 4.9 presents KS4 destination data across cases. It is notable that only U6 and U8's students, across the cases, progressed to an Apprenticeship as BDT had originally envisioned students would. U6 and U8 were also the only UTCs to have students staying in employment for at least 2 terms after KS4.

For KS5, Table 4.10 presents students' performance, and it is again notable that performance at A Level across the cases is higher at U3, U6, and U7 with the highest number of entries for U7. U6, perhaps reflecting its emphasis upon Apprenticeships and the Tech Bacc, has fewer entries (13). Table 4.11 presents the cases' performance across KS5 technical qualifications. Here a slightly different picture emerges. First, we must note that U5 has no technical education entries. Following a DfE intervention in year one of U5's operations would suggest it has subsequently become more aligned to a school A Level curriculum rather than a centre of technical education. Second, however, across the open cases at the end of KS5 (with the exception of U5), all achieved a Distinction Grade (which is above the national average of Merit) and U7 achieved a Distinction+. This profile of technical education achievement at the end KS5 infers that students were performing at or even above the level achieved by students attending other provision. There is caution needed here, especially because the student sample size for each UTC is very small. However, it does note a potential irony that while the UTCs were moving towards a more academic curriculum, the students achieving at least at the national average and above were studying technical qualifications.

## Tables

Table 4.7  
*KS4 Performance Across Cases (2018)*

England Average:		46.5	-0.02	38.40%	4.04	43.30%
Providers n=36	Ofsted Grade	Attainment 8	Progress 8	% Entering EBacc	EBacc Average	Grade 5 or above English and maths
U1 Academy	3	30.5	-1.24	5%	2.56	13%
U2 Academy	No Data	32.9	-1.4	0%	2.86	23%
U3 Academy	3	43.3	-0.35	2%	3.17	27%
U4 Academy	-	-	-	-	-	-
Closed						
U5 Academy	2	49	0.03	50%	4.69	52%
U6 Academy	2	33.2	-0.82	17%	3.59	17%
U7 Academy	2	46.5	-0.46	0%	3.56	46%
U8 Academy	3	36	-0.74	0.00%	3	19%
U9 Academy	-	-	-	-	-	-
Closed						

Note: U1 No comparative data available for 2 schools (within 10 mile radius) that had converted to Academy status. U2 no Ofsted inspection. U4 and U9 were closed.

Table 4.8  
*Disadvantaged Pupils' Overall Performance at end of KS4 (2018)*  
*Across Cases*

National Average		0.13	42.80%	96%	50.10%	50.1	4.4
UTC n=9	Number of Pupils at the end of KS4	Progress 8 Score and Description	Entering EBacc	Staying in Education or entering employment (2016 leavers)	Grade 5 or above in English and maths	Attainment 8 Score	EBacc Average point score
U1	20	-1.64	0%	NA	0%	24.6	2.09
U2	30	-1.7	0%	NA	17%	30	2.68
U3	17	-0.36	0%	SUPP	24.00%	45	3.4
U4	Closed	-	-	-	-	-	-
U5	6	SUPP	50%	SUPP	33%	44	4.39
U6	16	-0.61	0%	84% (16/19)	19%	32.3	2.13
U7	18	-1.28	0%	100% (11/11)	28%	36.9	3.07
U8	10	-1.31	0%	96% (24/25)	30%	35.1	2.9
U9	Closed	-	-	-	-	-	-

Table 4.9

*KS4 Destination Data Across Cases*

National Average England state- funded schools		-0.02	94%	86%	34%	38%	49%	5%	3%
UTCs n=9	Total No. of pupils included in destination data	P8	Staying in Education or Employment 2 Terms after KS4	Staying in Education for at least 2 terms after KS4	FEC or other FE provider	Schoo l Sixth Form	Sixth Form College	Pupils in Apprenticeship for at least 6 months after KS4	Pupils staying in employment for at least 2 terms after KS4
U1*	NA	-1.24	NA	NA	NA	NA	NA	NA	NA
U2*	NA	-1.4	NA	NA	NA	NA	NA	NA	NA
U3	79	0.35	97%	84%	33%	13%	SUPP	SUPP	SUPP
U4	Closed	-	-	-	-	-	-	-	-
U5	56	0.03	91%	88%	SUPP	38%	25%	SUPP	SUPP
U6	53	-0.82	87%	68%	28%	34%	6%	13%	6%
U7	103	-0.46	98%	76%	37%	38%	SUPP	SUPP	SUPP
U8	91	-0.74	93%	84%	55%	29%	0%	5%	4%
U9	Closed	-	-	-	-	-	-	-	-

Note: \* UTC open 2016 no leavers Data

Table 4.10  
*KS5 Performance Across Cases (2018)*

Average Result	Ofsted Grade	0	C+	32.12	92.50%	13.70%	C+	32.5	
UTC n=9	No. of students with A level Exam Entry	Progress Score and Description	Grade	Point Score	Students completing main study programme	Achieving AAB or higher in at least 2 facilitating subjects	Grade for student's best 3 A levels	Points Score for student's best 3 A level	
U1 Academy	3	9	-0.95 WBAv	E	9.05	50.00%	NE	NE	
U2 Academy*	3	35	-0.43 BA	D	21.2	100.00%	SUPP (5 students)	-	SUPP (5 students)
U3 Academy	3	32	0.19 Av	C-	26.03	100.00%	23.1% (13 students)	C+	32.56 (13 students)
U4 Academy	Closed	-	-	-	-	-	-	-	-
U5 Academy MAT	2	42	-0.07 Av	D+	24.97	94.40%	13.6% (22 students)	C	29.24 (22 students)
U6 Academy MAT	2	13	0.35 Av	C-	28	SUPP	SUPP (2 students)	SUPP	SUPP (2 students)
U7 Academy MAT	2	44	0.38 WAAv	C	28.79	82.40%	23.1% (13 students)	C+	34.10 (13 students)
U8 Academy MAT	3	14	0.01 Av	D+	22.1	SUPP	0.0% (8 students)	C-	25 (8 students)
U9 Academy	Closed	-	-	-	-	-	-	-	-

Note: U1 - no other 16-18 provider within 10 miles. U2 yet to be inspected.



Table 4.11  
*KS5 Students' Technical Education Performance Across Cases*

	National Average	0	Merit +	28.12	90.60%	184
UTC n=9	No of students with a Tech level exam entry	Completion and Attainment	Grade	Point Score	Students Completing their main study programme	Number of students achieving a Technical Baccalaureate
U1	5	-0.32	SUPP	SUPP	50%	SUPP
U2	36	0.8	Distinction	31.72	75%	6
U3	22	0.71	Distinction	30.69	95.20%	0
U4	Closed	-	-	-	-	-
U5	No data	No data	No data	No data	No data	No data
U6	22	0.71	Distinction	32.75	NE	9
U7	48	0.75	Distinction	35.43	94.20%	0
U8	7	NE	Distinction+	37.14	NE	0
U9	Closed	-	-	-	-	-

Table 4.12  
*KS4 Curriculum 2019-20 Across Cases*

Examined Formal Learning (Core GCSE Subjects)						Other Core GCSEs	Examined Technical Learning	Non-Examined Informal Learning		
UTC n=9	Double Weighted: English Language English Literature Mathematics	Science GCSE	Computer Science	Humanities	Modern Foreign Language		Technical Awards	Optional Subjects	Additional Curricula	Employability Skills
U1	English Language/ English Literature/ Mathematics	Triple Science (Biology, Physics, Chemistry)/ Double Science	Computer Science or Geography	Geography or Computer Science			Choose 3 from 4 - Engineering Design/ Engineering Manufacturing/ Principles in Engineering/ Engineering Business		Core: RE/ PE/ PHSE/ Citizenship Plus optional choices from: Arts/ Dance/ Robotics/ Combined Cadet Force/ DoE/ Sport	Technical and personal skills development/ problem solving skills/ Project Skills/ Project Based Learning
U2	English Language/ English Literature/ Mathematics	Double or Triple Science	Computer Science	Geography			Engineering Design Engineering Manufacturing	GCSE Product Design	Core: RE/ PE/ PHSE/ Citizenship	Enquiry and Analysis/ Self- Management and Organisation/ Teamwork and Collaboration/ Problem Solving and Resilience/ Technical Confidence and Skills/ Creativity and Ingenuity/ Leadership and Management

Note: DoE (Duke of Edinburgh Award)

Table 4.12 - continued

Examined Formal Learning (Core GCSE Subjects)						Other Core GCSEs	Examined Technical Learning	Non-Examined Informal Learning		
UTC n=9	Double Weighted: English Language English Literature Mathematics	Science GCSE	Computer Science	Humanities	Modern Foreign Language		Technical Awards	Optional Subjects	Additional Curricula	Employability Skills
U3	English Language/ English Literature/ Mathematics	Triple Science				Statistics/ Additional Maths (Higher ability only)	Engineering Systems Control & Manufacturing (2 Technical Awards)	Choose one or two from: GCSE Computer Science/ Business/ engineering Systems Control	Core: Career/ PSHE/ Citizenship/ Sport	
U4	Closed	-	-	-	-	-	-	-	-	-
U5	English Language/ English Literature/ Mathematics	Triple Science (Biology, Physics, Chemistry)		Choose one from: Geography or Psychology (as one of the options)	Computer Science (as one of the options)		Design Engineering (as one of the options)	Choose one from: IT or Health & Social Care (as one of the options)	Core: PE	

Table 4.12 – continued

	Examined Formal Learning (Core GCSE Subjects)					Other Core GCSEs	Examined Technical Learning		Non-Examined Informal Learning	
							Technical Awards	Optional Subjects	Additional Curricula	Employability Skills
UTC n=9	Double Weighted: English Language English Literature Mathematics	Science GCSE	Computer Science	Humanities	Modern Foreign Language					
U6	English Language/ English Literature/ Mathematics	Science (Double or Triple award	Computer Science			Choose one from: Art & Design/ Design Technology/ Health & Fitness	Choose one from: Digital IT/ Engineering		Core: PE	
U7	English Language/ English Literature (studied in Year 10)/ Mathematics	Core and Additional Science (Triple GCSE available)	Computer Science (as one of two or three choices)	History (as one of two or three choices)/ Geography (as one of two or three choices)	French (one of two or three choices)	Product Design/ Art/ Business Studies/ Electronics (as one of two or three choices)	Engineering Design or Engineering Manufacturing		Core: PE/ PSHE / RE	
U8	English Language/ English Literature/ Mathematics	Core and Additional Science/ Triple Science (Biology, Physics, Chemistry)	Computer Science (core)		Option to study one or two languages	Choose two options from: Engineering/ 3D Design/ Astronomy/ Languages/ Statistics				
U9	Closed	-		-	-	-	-	-	-	-

Table 4.13  
*KS5 Curriculum 2019-20 Across Cases*

UTC n=9	A Levels English and Maths	A Levels Sciences	A Levels Other	Technical Qualifications	Specialist Qualifications	Other Considerations
U1	English Literature/ Maths/ Further Maths	Biology/ Chemistry/ Physics/ Computer Science	Environmental Studies/ Geography	Technical Extended Certificate Engineering/ Technical Diploma in Engineering/ Technical Extended Diploma in Engineering	Foundation IT and Technical Level 1 IT	Up to 4 A Levels
U2	Maths (AS and A Level) Further Maths/ Core Maths	Biology/ Chemistry/ Physics/ Computer Science	Product Design	Tech Level Engineering (equiv. 1 A Level)/ Tech Level Engineering (equiv. 2 A Levels)	Extended Project (EPQ)	
U3	English (subject to number of applicants)/ Maths/ Further Maths	Biology/ Chemistry/ Physics/ Computer Science	Product Design	BTEC Business Studies (equiv. 1 A level)	Extended Project (EPQ)	
U4	Closed	-	-	-	-	-
U5	Maths/ Further Maths	Biology/ Chemistry/ Physics/ Computing/	Psychology/ Geography	BTEC Applied Science/ Health and Social Care	Extended Project (EPQ)/ Core mathematics (if not taking A Level)	Choice of 3 A Levels or a BTEC Extended Diploma Qualification equiv. to 3 A levels

Table 4.13 -continued

UTC n=9	A Levels English and Maths	A Levels Sciences	A Levels Other	Technical Qualifications	Specialist Qualifications	Other Considerations
U6	Maths	Biology/ Chemistry/ Physics		BTEC Engineering (equiv. 3 A Levels) or BTEC Computer Science (equiv. 2 A Levels) plus EPQ	Extended Project (EPQ)	Choose 2 A Levels/ Choice of Professional Qualifications (Adobe, Autodesk, Oracle, Microsoft Academy)
IB	English Literature and Language/ Maths Studies			BTEC Engineering (equiv. 3 A Levels) or BTEC Computer Science (equiv. 2 A Levels)	Design Technology/ IT in a Global Society/ Visual Art/ Environmental Systems and Societies	Reflective Project and core programme to enhance professional skills/ Choice of Professional Qualifications (Adobe, Autodesk, Oracle, Microsoft Academy)
Tech Bacc	Core Maths			BTEC Diploma in Engineering (equiv. 2 A Levels) or BTEC Diploma in Computer Science (equiv. 2 A Levels)	Extended Project (EPQ)	Choice of Professional Qualifications (Adobe, Autodesk, Oracle, Microsoft Academy)
U7	Maths/ Further Maths	Biology/ Chemistry/ Physics/ Computer Science	Product Design/ Economics/ Geography	Choice of: Technical in Business (Extended Certificate equiv. 2 A Levels) Technical Engineering (Extended Certificate equiv. 2 A Levels) BTEC Qualifications equiv. to either 2 or 3 A Levels: BTEC Engineering (Diploma or Extended Diploma) BTEC Information Technology (Extended Certificate) BTEC Applied Science (Extended Certificate/ Diploma)	BTEC Art & Design (Extended Certificate equiv. 2 A Levels)	Entry to BTEC Sixth Form 5 GCSEs at Grade 4 above including English and maths/ A Level students Grade 6 GCSE in subject choice/ Maths - a minimum Grade 7 and Grade 8 for Further maths (Physics students recommended to take Maths)
U8	Maths/ Further Maths	Biology/ Chemistry/ Physics/ Computer Science	Economics	BTEC Engineering/ BTEC Applied Science		
U9	Closed	-	-	-	-	-

Note: IB=International Baccalaureate. Tech Bacc=Technical Baccalaureate

### ***Organisational Outcomes***

In the context of the composition and outcomes of students, and the curriculum provision offered to students, it is instructive finally to consider the organisational outcomes for each UTC.

As noted through this chapter, there were both common trends in how competition was experienced and mediated and how UTCs had responded to competition. There were also, however, nuances and differences within these overarching trends. To conclude this chapter, the differences between the case UTCs, in terms of their organisational viability and sponsorship, are analysed. This analysis places the case UTCs into clusters that were alluded to earlier. It is important to stress that the clusters presented are not firmly bounded and that an open standalone UTC, for example U3, could quickly be subject to government intervention or may itself seek to join a MAT - particularly when under pressure and facing potential closure. The clusters represent therefore the dominant patterns when the data was collected and analysed.

The clusters are first summarised in Table 4.14 as UTCs that are closed; standalone; and within MATs. The individual cases are then discussed individually, so that the commonalities and nuances within each cluster can be clarified.

#### ***Cluster 1 – Closed UTCs***

**Case U4** - P4 had 9 years of senior leadership experience prior to becoming a UTC Principal, had a good reputation, and knew many of the headteachers across the local area. U4 was sited in a very urban area close to its sponsor FEC. Sponsors included a national employer, a university, a large local employer, and FEC. U4's specialisms may explain, in part, the lowest percentage of boys across the cases. Data reporting (Table 4.3) indicates that an extremely high percentage of students on roll were FSM eligible. Students on entry to U4 (63%) had predominantly middle prior attainment at the end of KS2. U4's Ofsted grade had been RI but there was no KS4 disadvantaged data or destination data available due to U4's closure.

Table 4.14

*Clusters Across Cases (Closed, Intervention or Sustainability Action)*

Clusters	UTC n=9	Status		Ofsted Grade
Cluster 1	U4	Closed	Low Admission Numbers Ofsted Grade - Inadequate Inspected in second term of Year 1	4
	U9	Closed	Low Admission Numbers Ofsted Grade Financial viability	3
Cluster 2	U1	Standalone	Remains standalone Ofsted Grade potential signifier	3
	U2	Standalone	Remains standalone Ofsted Grade	3
	U3	Standalone	Remains standalone Ofsted Grade potential signifier	3
	U8	Standalone Intervention pending	Standalone 2- 3years Ofsted Grade  Financial viability Entered into an existing MAT during Year 3.	3
Cluster 3	U5	Intervention	Standalone 1 year Ofsted Grade - Inadequate (4) / entered MAT	2
	U6	Sustainability Action	Originally in a MAT Ofsted Grade Secured future viability by creating KS3 feeder school through site expansion. Vision for technical education supported by sponsors including employers and MAT.	2
	U7	Sustainability Action	Standalone 1 year Ofsted Grade MAT created at end of Year 1 to include second UTC. Secured future viability Vision for technical education supported by sponsors including university and employers	2



At both KS4 and KS5 local provider competition was deemed to be high (for instance, with all three local schools having outcomes that were above average). P4 asserted that the lower status local headteachers' attributed to U4 was a determining factor as to who among their students were encouraged to apply to the UTC.

P4 had been unable to persuade the DfE that student numbers were viable, and believed that U4's Ofsted grade had contributed to the external decision (prior to U4's first set of examination results) to close within 2 years of opening. This was, in P4's view, a professional disaster for his career, and that insufficient time and support was provided to enable U4's ethos and vision to unfold as originally planned. During the interview P4 expressed their despair of the government's approach to technical and vocational education.

**Case U9** - was sited in a town with a wide rural area in one of the 10% most deprived areas in the country. Admission numbers were residual (due to the planned closure of U9), while the pupil teacher ratio of 6:2 was clearly unsustainable. U9 had the highest percentage of FSM students among the cases, a strikingly high percentage of SEND students, and a well above the national average persistent absence rate. Forty-four per cent of students entered U9 with middle prior attainment at the end of KS2, with 25% with low prior attainment and 31% with high prior attainment. U9 had no 'end of KS4' performance data or destination data due to closure.

U9's specialisms were argued to reflect the need for skills across the region, and its sponsors were reported to be active in their support for generating a pipeline of apprenticeships and 'work ready' students. P9 was an experienced former secondary school headteacher with twelve years of successful leadership. U9 received a notice (RI) to improve its finances and was under pressure to 'manage' its resources. Small class sizes, reduced staffing, and students' complex needs (social and behavioural) and the pupil teacher ratio were unviable.

U9's competitive response had been to increase marketing in an attempt to recruit students. According to P9, local providers had been unwilling to allow access to year 9 students. It was, in the end, therefore a collection of factors that placed enormous pressure on U9 and eventually resulted in the DfE's intervention and

closure. P9, like P4, despaired at what they perceived were government's mixed messages that on the one hand treated UTCs as a business, clawing back funds on the basis of per pupil funding, and on the other, expecting UTCs to perform as secondary schools. P9 referred to this as "a school plus scenario".

### ***Cluster 2 – Standalone UTCs***

**Case U1-** P1 by contrast was relatively optimistic about U1's future and about the input and range of sponsor support. P1 was working to build relationships that could sustain U1's future and secure its viability. Sited at the edge of a town with a wide rural admissions area with multiple levels of deprivation, U1 had received a Grade 3 Ofsted. It was notable, however, that several neighbouring schools had received similar grades and/or be subject to processes of forced academisation following recent examination results.

Principal P1 had many years of senior leadership and management of vocational programmes in FE. P1 knew several of the local headteachers, however, opportunities to engage with and build partnership working across provision were rejected. Transport was a factor that P1 believed influenced admissions negatively given the levels of local deprivation. The number of students on roll was substantially below predicted PAN, and U1 had a £43k PNA. Students were predominantly male, below the national average for FSM, and well below the average for SEND. Absences were slightly above the national average, and almost double the national average for persistent absenteeism. Student performance at the end of KS4 was also lower. This was despite U1's reduced curriculum offer and recent emphasis on core subjects. Despite P1 relative optimism, the viability of the UTC, as judged by the DfE, most likely remained in the balance.

**Case U2 –** was sited in an urban area of relatively low deprivation. P2, like P1, was relatively optimistic about the part U2 could play in the local economy and the lives of young people. P2 was an experienced former Deputy Head Teacher, who was passionate about technical education. However, P2 presented U2 as a centre of academic excellence that would attract 'geeks' interested in STEM subjects and technology. To this end P2 had reduced the curriculum to focus on academic subjects English, mathematics and computer science. U2 had received a Grade 3 Ofsted, and admission numbers were below PAN. U2 had a large PNA and had the

highest percentage of boys across the (open) cases, and had one of the highest percentages of SEND students.

U2's student outcomes at the end of KS4 did not reflect the image U2 presented. Attainment 8 was the lowest across its adjacent three providers and students achieving a Grade 5 or above in English and maths was the second lowest. At KS5 U2's performance was below average for students taking A Levels, 36 students achieved a Distinction grade for technical qualifications, of which 6 achieved a large Technical Baccalaureate.

**Case U3** - sited in a small city within a very wide rural area, U3 was originally sponsored by a FEC, sponsor employers, and university. U3's Ofsted inspection was Grade 3. Students entering U3 at KS4 were 79.2% boys, the percentage of FSM and SEND students and absence and persistent absences were the lowest across the sample and below the national average. U3 had the highest percentage of KS4 students entering with high APS (59%). There were 216 students on roll and the pupil teacher ratio was just below the national average.

U3's KS4 Attainment 8 score was amongst the three highest across the sample (Table 4.7), and U3 had the highest percentage of students progressing to a FEC (33%), had SUPP for students progressing to an Apprenticeship and entering employment. Data at KS5 indicate 95.2% of students completed their main programme of study, performed above the national average for completion and attainment, and performed at Distinction level (above the national average Merit+).

The outcome of U3's responses to competitive practices had "*narrowed the curriculum*" (P3b) and marketing undertaken in response to hostile competition had been costly. P3a and P3b each had between 5 and 10 years SLT experience and a leadership team of 15. Both were uncertain as to what U3's future would be given the strength of local provision. Destination data indicate U3 is slightly above the national average for students staying in education or employment, and very small numbers of students attended a Sixth Form College, entered an Apprenticeship or stayed in employment for more than two terms.

**Case U8** - nestled in a town within a surrounding rural area U8's three adjacent secondary providers had 'Good' Ofsted grades (two academies Grade 2, and a MAT Grade 1) compared with U8's Grade 3. U8's specialisms were supported by

national employers based within the local area, and was sponsored by a FEC (at the time of interview). P8 was a Deputy Principal and a member of the SLT (17 in the leadership group) with three years SLT experience, and a background in secondary technical and vocational education.

U8's competitive response to competition and hostility from local providers, despite high levels of sponsor support, was to increase marketing and present the UTC as a niche technical offer. However, in practice, P8 advised that the projects that had excited students in year one were 'shelved' in year two, ostensibly, to allow time for core subjects. U8 was also under a great deal of financial pressure, reflected in the low admission numbers, an unviable pupil teacher ratio, and a PNA of -£283k. U8's absence and persistent absences data were four times above the national average. Students entering U8 at KS4 were predominantly middle prior attainment and yet students' performance at the end of KS4 was the lowest for Attainment 8, Progress 8, percentage entering EBacc and EBacc average, and GCSE Grade 5 English and maths, when compared with its three adjacent providers – despite an increased emphasis in year 2 on core subjects.

U8 was subject to government intervention in year 2 of operations following a Grade 3 Ofsted. This recommended that to secure its future U8 become a member of a MAT. U8's planned move into a MAT after almost 3 academic years as a 'standalone Academy' has yet to present itself, but this could see the UTC follow a similar pattern to U5.

### ***Cluster 3 – UTCs within MATs***

**Case U5** - was originally a standalone Academy that was supported by its FEC and sponsor employers. U5 federated however into a MAT following an Ofsted inspection that had placed it into Special Measures and a very high PNA. The former Principal, P5, had extensive national and international senior leadership experience (twenty years) and had ambitious plans for U5 and its students. Notably, U5 had a high percentage of students on entry that had high prior attainment at the end of KS2 (57%). KS4 Attainment 8 scores for these students were now among the three highest across the sample (Table 4.7) and above the national average.

As noted earlier, U5 now entered 50% of its KS4 cohort for the EBacc and since becoming a MAT member U5's Ofsted was rated 'Good', although it is difficult to make any correlation between the inspection grade and MAT membership. U5's prospectus and website claimed that it would "*transform the education and aspirations of all its students*", and have a "business-led ethos". However, as P5 argued, "the increased emphasis on EBacc subjects and Progress 8 "*didn't match the curriculum U5 was originally offering students*", and that it couldn't because "*it just wasn't a choice*" (P5). No students were now being enter for KS5 technical qualifications (Table 4.11) with the majority of students progressing to a School Sixth Form or Sixth Form College.

**Case U6** - from its inception was a member of a large MAT of 23 secondary and primary schools, sited in an urban mix of residential and industrial areas. The number of students on roll was 191 and low admission numbers against predicted numbers contributed to U6's PNA of -£350k. Small class sizes had placed pressure on U6's finances. The percentage of FSM and SEND students was below the national average, and absence and persistent absences were well below the national average (similar to U3).

To address the pipeline of students and provision across the area, U6 was in the process of a new build adjacent to U6 that would create a school for students age 11 to 14years. U6 also continued to receive significant support from its MAT sponsor, and its employer sponsors with whom it worked closely. U6's curriculum had been reduced to provide additional time on core subjects, in particular English and maths. However, this additional time was not reflected in U6's student outcomes (Table 4.7). Attainment 8 was the lowest score across U6's three adjacent providers and the percentage of students achieving Grade 5 or above GCSE in English and maths (17%) was significantly below that of U6's three adjacent providers. Destination data at the end of KS4 indicated that students had progressed to School Sixth Form (34%), Sixth Form College (6%), to an Apprenticeship (13%), and into employment (6%).

At KS5 13 students were entered for A Level exam in comparison with 22 entered for a Tech-level of which the overall Grade was Distinction with the highest number of students (9) achieving the large Technical Baccalaureate. U6's future and sustainability, with the support of the sponsor MAT and employers, and the

'pipeline' of students that the new KS3 provision will provide created an optimistic set of signifiers for U6's continued operation. Destination data at the end of KS4 were below the national average for the percentage of students staying in education and employment for at least two terms. At the same time, and exceptionally across the cases, U6 had two and a half times the national percentage of students entering an apprenticeship and twice the national average for pupils staying in employment for at least two terms.

**Case U7** - is sited close to a city with a surrounding rural area, and has received exceptional support from its sponsors. U7 moved into a MAT (two UTCs) after 1 year of operations as a standalone Academy. U7's Ofsted Grade and its three adjacent providers was Grade 2. The number of students on roll (364) was the highest across the sample, the percentage of boys was over 80%, and the percentage of FSM and SEND students were below the national average, however, both absence (7%) and persistent absence (20.4%) were above the national average. U7's students on entry at KS4 were equally distributed between students with middle (45%) and high (45%) prior attainment.

At the end of KS4 students' Attainment 8 score was the second highest when compared with U7's three adjacent providers, 46% of students achieved a Grade 5 or above in English and maths. U7 did not enter students for EBacc. KS4 destination data was the highest (98%) for students staying in education or employment. Students progressed to a FEC (37%), School Sixth Form and Sixth form College, and fewer entered an Apprenticeship or employment (SUPP). U7 had the second lowest number of A Level exam entries (44) with students performing well above average, and 48 Tech-level entries achieving Distinction Grade, of whom 94.20% completed their main programme of study. No students were entered for the Technical Baccalaureate.

P7 was an Executive Principal who had worked in the private sector and secondary education, had 13 years SLT experience, and a SLT team of 34. The pupil teacher ratio 11.8 may indicate small class sizes and high staffing costs. U7's competitive response had been to reduce the curriculum, increase targeted marketing to communicate U7's 'USPs', and planned to lower its PAN (2018). In doing so U7 would reduce the variance between PAN and PNA (-£283k). Destination data indicates that U7 had slightly above the national average percentage of K4

students staying in education or employment for at least two terms (98%), with the majority equally progressing to a FEC or to a School Sixth Form.

### **Summary**

Cases U6 and U7 have appeared to benefit from the attempted refashioning of the term 'technical education' that was discussed in Chapter 2. The proposal for dual and separate study tracks, as recommended by the Sainsbury Report (2016), is however a reflection of deeply held views regarding vocational education and an attempt to give technical education a separate status from vocational study.

Despite these attempts, UTCs more generally have been unable to overcome the difficulties in England of deeply entrenched attitudes to the academic and vocational divide – and who studies what and where and how that attributes status and competitive advantage.

In this context, the 2019-20 curriculum offered across the cases suggests that there is a move within UTCs towards a 'curriculum of compliance'. It may be fair to ask, therefore, whether UTCs are 'niche' providers and what is the element of 'innovation' in the market they offer in their current guise? In the next Chapter, I discuss the findings presented in the chapter in light of the literature review and consider these critical questions that concern the limits and implications of seeking to develop technical education in UTCs through supply side reforms of the quasi-market

## Chapter 6 Discussion

### Introduction

In this chapter I consider the BDT's ideal UTC model, its entry into mainstream education as part of Governments' wider attempts to open up the market through competition. This is followed by an exploration of technical education and its relationship with competition, professionalism and to supply side liberalisation. I conclude this chapter with a further iteration of the conceptual framework (*Figure 5.1*) and present Table 4.15 '*The Competition Continuum*'.

### BDT's Aims for the 'Ideal' UTC

The BDT's vision for UTCs was of an employer responsive, demand-led, university sponsored technical school that would "innovate", "challenge" and "pioneer" new ways of working. The UTC model would emphasise both a 'Core Academic' curriculum (60%) and a 'Technical Specialism' (40%), which would incorporate 'learning by doing' through industry projects. UTCs would occupy new high spec buildings, with industry standard equipment, and be supported by the BDT. Students would self-select at the age of 14 to attend based on their interest in STEM subjects. Ultimately, these ideals would create a 'UTC movement' with the potential of remedying a historic problem that Baker argued existed, that: "practical education, vocational education for the last 150 years of our country has been an area of massive failure" (Lord Baker, 2012, p. 40).

In having campaigned over many years for these new technical colleges, Lords Baker and Dearing realised that they could harness their aims to the intended supply-side reforms of the new 2010 Conservative-led Coalition Government. That Government, building on prior market reforms, sought to liberalise the supply of schools in England, by allowing new providers to enter the market and to open Free Schools and to sponsor Multi-Academy Trusts. Baker and Dearing persuaded the Coalition Government to support their initiative to create UTCs as part of those market reforms.

This located UTCs as part of wider attempts to shake up local markets through competition – rather than as part of a national state planning initiative for technical education. This is important, because UTCs were positioned as new



'competitors'. They would operate with sophisticated marketing strategies and carve out a 'niche' offer in the market. They would contribute to a diversity of provision that would purportedly motivate students to apply and be better matched to provision "schools of choice" (Belfield & Levin, 2002, p. 7). They would also, as part of wider neoliberal ideology, be part of and, crucially, be exposed to competition that would, allegedly, 'eliminate ineffectual programs' and 'cut wasteful costs', allowing 'good' schools to survive while 'poor' schools struggle and close (Sahlgren, 2013a).

As a longer term advocate of market reforms and the value of competition, Baker (2013, p.7) had argued that "water will find its own level" (Lord Baker, 2013, p. 7) (Baker, 2013:7). However, it is perhaps this belief in markets and competition that did not serve to prepare the BDT (particularly in the period 2010-15) to anticipate the level of resistance, competition and competitive practices of the lived market, and how this would impact on UTCs. Certainly, after eight years since the first UTC opened (2010-18), UTCs are broadly underperforming when compared to national averages, and as the closures to date and low student admission numbers indicate, 'consumers' (or parents and students) are broadly 'unwilling' participants and have not, in the numbers Baker had anticipated, self-selected to attend a UTC based on their motivation and interest in STEM specialisms.

In seeking to summarise why this has happened, the next section considers three important themes within the data. The subsequent section then considers the empirical and conceptual insights developed through this research.

### **Professionalism, Competition and Technical Education**

As noted above, in this section I summarise three themes emerging from the data that respond to the main research question of this study: How do UTC leaders perceive local competition, do they respond to these competitive pressures, and if so, how?

#### ***1. Leaders' belief in and support for the UTC concept***

The first theme concerns how the interviewed UTC leaders in the research sample presented themselves as highly committed professionals who had supported the initial 'ideal' UTC concept and its intended technical education offer. All the

participants believed that: students could benefit greatly from the opportunities and experiences of engagement with sponsors, including working with employers on 'hands-on' projects; as well as learning and developing in environments that could be more similar to adult workplaces than schools. Certainly, this commitment to the ideal UTC model of technical education was evident throughout the data and provided motivation, as P6 reported: *"You keep going because of your belief in it"*. This theme is important for it may explain, in part, the UTC leaders' willingness to continue to work within what was often perceived as a very competitive, highly pressurised context, which often challenged their organisation's financial viability and their own capacities and capabilities. The leaders also reported considerable concern for their students and a strong desire to do the very best for them. However, there was also manifest professional tensions, expressed by P3 as follows: *"if you care, and you want to do a good job, and you care about the kids and the results they get, you're completely torn"*

These tensions included what participants described as being required to professionally align to the BDT's ideal vision for UTCs, while also responding to the aims of their own organisation's sponsors. This required careful and sensitive handling, but also could create a form of dissonance as the participants attempted to reconcile their pedagogical knowledge and leadership skills whilst simultaneously building relations with sponsor stakeholders, who were often from different cultural and professional backgrounds. At one and the same time, Principals felt they were expected to commit to central government's drive for student performance in key national performance indicators. For the majority of participants these professional tensions brought significant pressure and stress, in particular for those participants of lower performing UTCs.

The possibility of high levels of leadership autonomy and empowerment theoretically afforded to a UTC principal leading innovative, niche provision were therefore rarely realised, as participants worked to meet both the requirements of central government and its agencies, and those of sponsors. Further, the pressure of being accountable both to government and to the local markets is a reflection of what Cranston (2013, p. 129) has described as the "shackles of accountability".

## ***2. Perceptions of competition and lived market relations***

In the context of these tensions, UTC leaders participating in this study also perceived their lived market to be highly competitive. Neighbouring headteachers were likely to be seen to view UTCs as ‘poachers’ of students and resources, rather than as potential collaborators with whom they could form partnerships. This was compounded by the 14 year-old entry age for UTCs created by the BDT. This was reported to strength the hand of neighbouring schools in restricting access to potential students; access than had not been substantially improved by the subsequent ‘Baker clause’.

Further, UTC leaders found their local lived markets to be generally hierarchical, in the way published quality measures, an organisation’s curriculum and ethos, and historical patterns of choice assigned schools differential status. This concurs with Taylor’s (2001) depiction of school quasi-markets operating as hierarchies, which inform both choice and competition. Further, local perceptions of status proved critical to UTCs, as they were reported by UTC leaders to often incorporate wider stereotypes of ‘technical education’ being of lower status to academic education. This was compounded by below average performance of UTC students in national examinations at KS4. As a result, competitive pressure for the majority of UTCs in the sample had increased over time, particularly in the second and third year of operations, and this was most often linked to low pupil admissions and the claw-back of government funding.

There were potential mediations of these competitive pressures, with notably the involvement and status of UTC sponsors being important. Indeed, sponsors could provide a community of support and/or generate a sense of greater financial security and in some cases could ease staffing arrangements. However, while the relationship between the UTC and the governing body and stakeholder sponsors was in general positive, it was only in two cases where sponsors helped to position UTCs more favourably in local markets (as in the cases of U6 and U7).

## ***3. Impoverished ideals?***

Notwithstanding the different experiences of individual UTCs, the optimism often portrayed to the public at marketing events, websites and in prospectuses – both by UTCs and BDT – was often a different image to what was happening in practice.

Clearly, the initial hierarchical position of UTCs as often 'lower status' organisations had led to – and sometimes forced – changes to the ideal model of UTCs. The 'privileging of the academic', as documented in this study, reflected attempts by UTCs to demonstrate their quality, attract students and respond to the challenges students could present in terms of numeracy and literacy. Whether this allowed UTCs to respond to the disengagement a proportion of students were argued to have felt in mainstream schooling was also questionable. Certainly, as measured by national external targets, students were on average making lower than expected progress and attainment. The precariousness of UTCs could also mean students were attending a struggling organisation, which needed to prioritise their survival rather than strive for the 'ideal' model. This was particularly true for standalone UTCs (as reported by P1, P2, and P3) whose future was questionable, and highly dependent upon their future performance in national examinations and Ofsted inspections. Continued low performance would lead to a UTC being either strongly encouraged to become a member of a MAT or lead to closure. UTC leaders in MATs (P5, P6 and P7) did have more confidence (specifically P6 and P7 and their technical education) in their future viability, and their ability to plan the UTC's future.

Funding, however, was widely viewed as being inadequate to deliver "a *school plus scenario*" technical education offer (P9). For at least half the participants their UTC's financial situation and viability became a stumbling block, and this was particularly indicative of those leaders who were in their first headship, and for whom the option to be assertive with government agencies was not deemed an option at that time:

It was completely impossible. It was an impossible situation to be in, and in hindsight I might have been better to say, at the end of year one, 'We haven't got enough money so we can't do it,' and see what the DfE said, and see if the DfE gave us any more money (P3).

It is notable, but perhaps not surprising, that among six of the leaders in post at the time of the research, only two remain in post, suggesting that P3's comment may be indicative of a wider problem among UTCs. In particular, in the context of policy and its priorities for school autonomy and leadership, it is notable that at the same time, as Ball (2001: p. 52) argued, "business failure and the locus of risk" have been increasingly sited at the level of institutional effectiveness.

## Summary

This final section reviews what this study tells us about markets generally and about the provision of technical schools through market reforms specifically. Here, it is instructive to return to Jabbar's research that informed this study, as well as the wider literature reviewed, to consider this study's contributions both empirically and conceptually.

Empirically, there are clear parallels between Jabbar's findings on competition between Charter Schools in New Orleans, USA, and this study's findings on UTCs. There also differences. Jabbar's findings highlighted how the Charter Schools in her sample responded to competition predominantly to try to reposition themselves higher up within the local status hierarchy. In this, gaining per-capita funding was a central competitive strategy. The Charter Schools' principals reported equating students to a source of 'financial worth', with comments that: *"Every kid is money"*; *"Enrolment runs the budget; the budget runs the enrolment"*; and that *"We all want our [student] numbers up so we can get more money, more funding"* (2015b, p. 643). In this study it was also clear that UTCs were desperate to recruit students and that finance had come to dominate their planning. However, in both studies, the extent to which these funding pressures were leading to 'efficiencies', as widely claimed in neoliberal policy, was unclear.

Indeed, as Jabbar reported, the most prevalent competitive strategy Charter School leaders employed was marketing to promote the school brand (Beabout & Cambre, 2013) and compete for market share (Lubienski, 2005; Richardson, 2013). Marketing, can be perceived as a "recipe for success" to secure a school's survival in the choice market (Gunter & Fitzgerald, 2008, p. 271) by providing information to consumers (parents and students) to improve student admissions (Bagley, 2006). However, returns from marketing can be hard to measure and, as Lubienski (2003) argues, marketing can in fact be cheaper for higher-status schools, which benefit from informal word-of-mouth. This places the greater burden of marketing on lower status schools, which are often under greater financial pressure. Certainly among UTCs, funding marketing could be part of a wider financial vicious circle.

There were also differences between UTCs and Jabbar's Charter Schools. Jabbar noted how marketing could be used as an external strategy that did not represent or lead to a substantive change in a school's operations. Among UTCs,

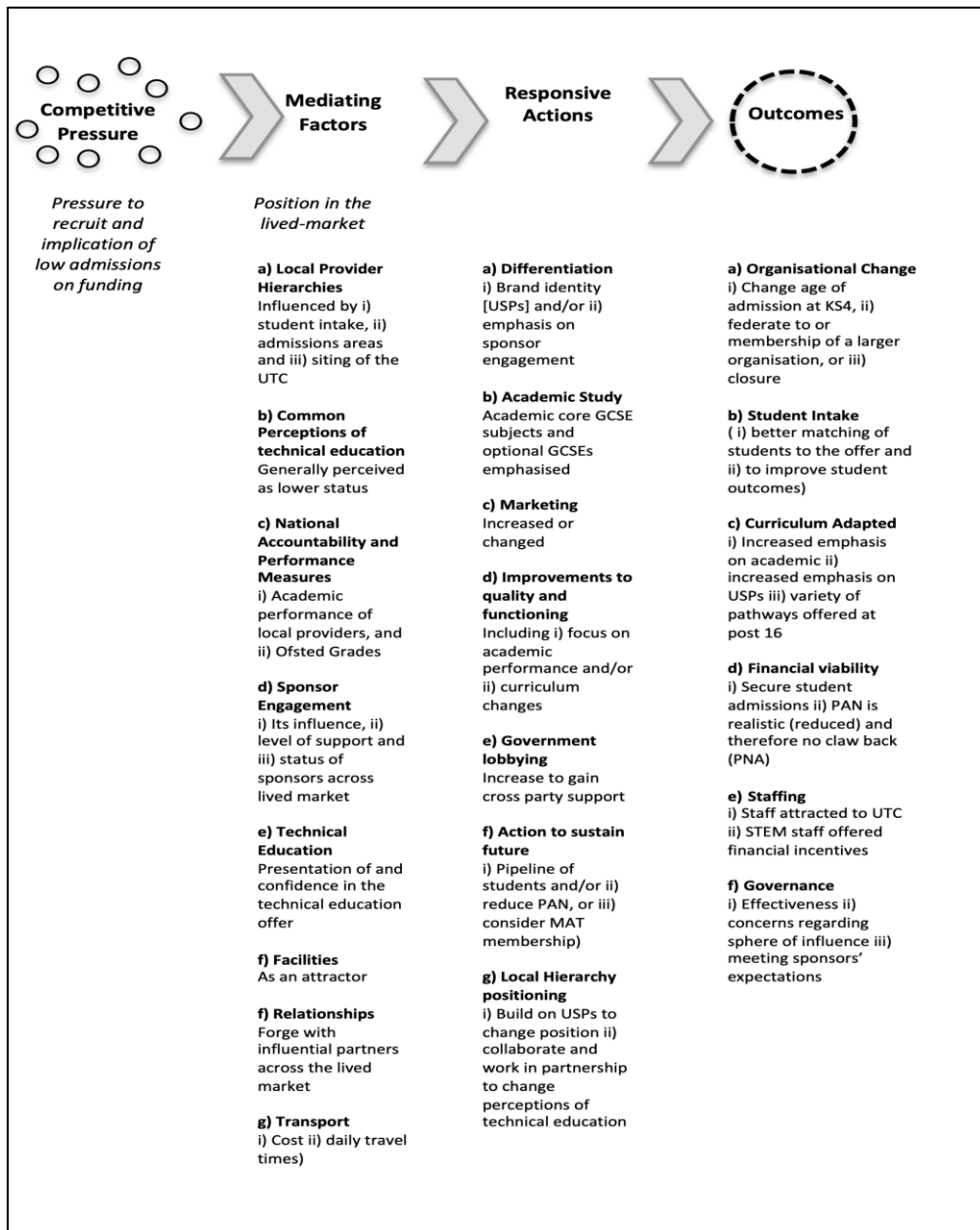
however, there was an alignment between the marketing messages and a movement in the substantive foci of the UTC and in particular the curriculum (with an emphasis on academic and STEM subjects). Further, Jabbar argues that exploiting a niche was another important competitive strategy, as a school worked to be 'differentiating itself as a niche provider'. This approach represents the traditional economic view of competition as a mechanism to stimulate educational improvement, including through increased diversity of schools (Hoxby, 2003). However, as also discussed in Chapter 2, competing schools can in practice end up pursuing broadly similar approaches, resulting in a form of isomorphism (Betts & Loveless, 2005). Certainly, in the case of UTCs, the initial 'ideal' of a niche technical education offer was often diluted in both the external presentation and internal practices of UTCs. This reflected, in part, a form of mimetic isomorphism (Lubienski, 2003) where, when the risks of being different are high, schools can move to mimic each other, and particularly higher status neighbouring schools, which can in turn lead to the proliferation of a more academic and sometimes more traditional educational ethos (Woods et al 1998).

At the same time, this study has also highlighted how there were additional incentives and pressures on UTCs. This showed how it is not only a neoliberal ideology of competition, but also neoconservative and new managerial approaches to reform since 2010 that have informed the emergence of UTCs. Notably, intensified managerialist approach to the national use of data and targets (Ozga, 2009) has combined with a 'neo conservative' approach to culture and knowledge (Williams, 2001), including a focus on core academic subjects within the EBacc and its influence on Progress 8 and an emphasis on formal qualifications with end point examinations as the dominant forms of assessment. For UTCs, the result has been not only a mimetic form of isomorphism, but also a 'coercive' isomorphism (Lubienski, 2003), that has incentivised a 'compliant curriculum', even if this was not (fully) intended in policy. Again, the emerging perceived status of individual UTCs was important to how these influences played out locally, with U6 and U7 reported to be more able to (partly) resist these forms of isomorphism than the other case UTCs. The overall challenges for new providers of technical education have, however, been almost insurmountable given the power of these wider

institutionalised schooling environments, which strongly influence local meanings of 'effective' and 'legitimate' schooling (Huerta & Zuckerman, 2009).

Turning to the overall conceptual contribution of this study it is argued that, by building on Jabbar's conceptualisation of competition, this research contributes to a greater understanding of how we can conceive of competition and competitive practices in England, specifically in the context of new providers of technical education. In Chapter 2, Jabbar's conceptualisation of competition was set out (*Figure 2.1*) and then initially adapted to reflect the literature on the public education system in England and the uniqueness of UTCs (*Figure 2.2*). This adaptation was noted to be a starting point and subject to further refinement during engagement with the data. In light of the findings, it is argued that Jabbar's initial conceptualisation is an appropriate framing of how competitive pressures may influence outcomes for students and organisations. In particular the importance of 'mediating factors' – which mediate competitive pressure and inform potential responses to competition – were found to be a particular important insight in the context of UTCs. It is also possible however, to further adapt and develop the conceptual framework in light of the findings, particularly to detail: which mediating factors were influential in the context of UTCs; which competitive responses UTC adopted most frequently; and what range of outcomes were most apparent. As a way of concluding this chapter, this further iteration of the conceptual framework is set out in *Figure 5.1*. It is presented both as a part summary of this research and offered as a framework that future researchers may be able to draw on and further adapt, including into other schooling contexts.

Figure 5.1 Conceptualisation of competition and competitive practices [Revised]  
(adapted from Jabbar (2015d, p. 34) with permission [2019])



As this research has highlighted, competitive pressure was particularly significant for UTCs whose status within the local provider hierarchy was low as a result of a combination of interrelated factors. These factors could vary across by case, but invariably included:



- initial low student admissions, year on year marginal increase, low or even negative growth;
- increasing financial instability (as an outcome of low admissions and its relationship to per-pupil funding);
- Ofsted grades that were low and/or lower than those of other local providers;
- below or below average student performance when measured against national examination performance criteria;
- a lack of effective support at a local level from sponsor and/or other local providers;
- difficulty with or a failure to build meaningful and supportive relationships and networks; and finally,
- the external pressure for the UTC to move into a MAT to address these factors or face forced closure.

In the context of these factors, Table 4.15 *The Competition Continuum* presents a cluster of conditions that influenced UTCs. In the Table, the majority of cases in this research (with the exception of U6 and U7) could be located towards the right hand side, which evidences how UTCs experienced a range of difficulties in their lived markets and why they were unable to meet the ‘ideal’ success criteria as BDT had originally envisioned. The left hand side of the table sets out the potential conditions associated with lower competition. It is noted, however, that the extent to which a UTC would be able to meet the ‘ideal’ success criteria (as originally envisaged by BDT) within a context of low competition is predicated not only on the UTC but also, importantly, on its lived market and the relationships and networks within that market.

Importantly, a key insight from Table 4.15 is that changing a UTC’s position from high to low competition (so that a UTC is able to remain viable and deliver on BDT’s ‘ideals’) would involve a significant change in policy. Changes in policy would need to include careful consideration of the introduction into local markets of new ‘niche’ or ‘innovative’ provision with a transition phase outside of the national norm (11 and 16 years).

Table 4.15 *The Competition Continuum*

<b>Factors associated with lower competitive pressure</b>	□	<b>COMPETITION</b>	□	<b>Factors associated with higher competitive pressure</b>
Perceived as High Status	□	Local Provider Hierarchies	□	Perceived as Low Status
High Regard for Technical Education (Equal Parity with academic)	□	Common Perceptions of Technical Education	□	Low Regard for Technical Education (Unequal and Little Parity)
	□	National Accountability Measures	□	
Outstanding or Good		Ofsted		Requires Improvement or Special Measures
Well Above, Above or at National Average		Examination Performance EBacc, A8, P8 & Destination Data		Below or Well Below National Average
Excellent, Regular & 'High Support' Relationships	□	Sponsor (University)	□	Poor, Irregular & 'Low Support' Relationships
High National and/or International Status	□	Sponsor (Employer)	□	Low National and/or International Status
High Local Status				Low Local Status
MAT Member or Standalone UTC with Strong Support	□	Organisation	□	MAT Member or Standalone UTC with Strong Support & Little Support
Clarity of Purpose & Mimetic Tendencies Whilst Retaining Technical Focus	□	Technical Education Offer	□	Unclear Purpose & Mimetic Tendencies, Less Focus on Technical Education
Confidence in Offer & Well Defined USPs				Lacking Confidence in Offer & Poorly Defined USPs
Impressive & Significant Attractor	□	Facilities	□	Less Significant Attractor
Well Established Network Across Local Schools Active, Influential Partners	□	Relationships	□	Poorly Established Network Across Local Schools Inactive, Non-Influential Partners
Travel Costs Low & Within 1 hour	□	Transport	□	Travel Cost High & Over 1 hour

The 'Competition Continuum' presented in Table 4.15 identifies, therefore, how changes in the current policy environment and local context might support the sustainability and educational aims of UTCs, but also why the majority of UTCs in this research faced real viability challenges. Efforts to compete and improve a UTC's status across its local provider hierarchy had led a majority of the case UTCs to adopt a curriculum offer similar to that of local higher performing schools in a bid to attract students and increase admission numbers. Pressure to perform well in nationally reported examinations had also led UTCs to offer subjects that enabled the double counting of performance points (for example English Literature). By contrast, a sponsor's national and local status within an industry and as an employer, alongside active engagement as a sponsor, could influence more positive local perceptions of UTC provision, as was seen in cases U6 and U7.

Table 4.15 is therefore a heuristic and as such provides an overview that goes some way to capture the competition and competitive pressure perceived across the cases in their local contexts. As a heuristic, however, it is recognised that the Table is limited in terms of summarising the processes of competition that this research has identified in local markets. The aim was to provide a final summary, whilst acknowledging that the processes detailed in the findings chapter – such as the relationship between sponsors, governors and leaders; or the relationships between local providers within a local market – remain partly veiled in this overview.

## **Chapter 7 Conclusion**

### **Introduction**

In this chapter I address the limitations of the thesis, my contribution to professional practice, and its implications for peer professionals working with new provision.

### **Limitations of the study**

The achieved research sample was drawn from nine UTCs across different areas of England and constituted approximately 20% of the 50 open UTCs. There were ten senior leaders participating in the research, each with a range of prior senior leadership and work experience. This was a relatively small sample, which was restricted to Principals and therefore did not include other members of staff, students and parents who may have presented different views. The research was undertaken in 2017 following a period of continuous qualification reform from 2011 onwards and during this time participants were constantly managing change. It is possible that this additional 'pressure' may have informed their qualitative data. Noteworthy, is the year in which a participant took up their post (2010 to 2017), which was potentially different for each participant as they responded to the myriad of reforms and the national accountability measures introduced in 2016.

While in theory all 50 UTCs open in spring 2017 could have been invited to participate in the research, a number of leaders had left their UTC after one or two years. As such, there were a limited number of leaders either in-post or formerly employed who were willing to participate in this research.

### **Contribution to Professional Practice**

Inspired by staff comments during my IFS case study research (and my curiosity peaked) I set out to investigate what competition and competitive practices were perceived to be taking place in UTCs. In my former role as a Strategic Partnership Manager I was unaware of the complexities of the market, the potential for new providers to fail in an education market, and importantly, the need to build successful and sustainable relationships. Building such relationships with those

who support the venture – and crucially those affected by the introduction of new provision.

I have presented at the Education and Employers Conference (2018), the UCL summer Conference (2018), the BELMAS Conference (2018), the Nordic Working Life Conference, Oslo (2018), and at the Crossing Boundaries Conference in València (2019) that resulted in an international publication. Going forward I would welcome opportunities to research the hegemony of pedagogy that in England supports the divide between ‘technical and academic’ study and subjects. I believe that this study will aid my peer professionals to consider the wider implications of their work and its impact on students and staff.

My original contribution to new knowledge lies in the findings and analysis of this research into how leaders perceive of, mediate, and respond to competition and competitive practices. Importantly, the conceptual framework provides a mechanism to analyse competition and competitive practices in other contexts that can be built upon and revised by future researchers. In addition, Table 4.15 provides a framing of the competition continuum (low to high) that suggests when certain pressures are at play then UTCs may be well placed, or not, to realise their ‘ideals’ but that this is heavily mediated by the lived market context.

#### Implications for the role of Strategic Partnership Manager or Education Consultant and Future Research

The impact of this research, its contribution to theory and **how** the market is understood to operate in education, has impacted on my professionalism, and will likely impact on the work of my peers engaged in similar roles supporting the development of new school providers. Whilst it is not possible to generalise nor draw wider conclusions from the research findings, this study offers a detailed insight into what participants perceive is taking place and the challenges they have encountered in their differing lived markets. These findings and analysis:

Highlight the interdependency, inter-relatedness, and complexity of different agencies working together to create a meaningful technical education offer for young people age 14 to 18years (Gomery, 2019, p. 8).

Crucially, it is important to note that competition between schools and perceptions of technical education as ‘second class’ can, as this data has indicated,

lead to a form of student segregation, albeit ostensibly through student 'self-selection'. Government's education policies and reforms continue to define what is measured (academic performance) and what is presented in government databases that influence what is perceived as 'first' class', and what is perceived as 'second class' schooling in England (Huerta & Zuckerman, 2009) that continue to underpin and bolster local school hierarchies. Amidst the re-orientation of education towards the 'market' there is also, however, an urgent need for research into curriculum design and "pedagogies that are effective at developing wider skills, in the context of both academic and vocational learning" (Lucas et al., 2010, p. 30). This remains as pressing a need today as it was for CTCs in the late 1980s, when the first UTC opened in 2010 and when Doncaster UTC opens in 2020.

### **Summary and Reflection**

Since 2010 the governments' approach to education has included two concepts at odds with each other: 'continuity' and 'constant change', and this can make 'continuity' (increased marketisation) hard to recognise, and importantly, because it is so hard to recognise it can be hard to challenge...before the next change (qualification reform and new accountability measures) requires Principals' attention. Further research may also consider *how* the government's liberalisation of supply positions providers as competitive entities and creates new educational structures that may serve to reposition leaders and their roles.

The findings of this research strongly suggest that government has much to learn from participants' experiences and their perceptions of competition and competitive practices between providers in their respective lived markets, and importantly, about the implications for leaders and their students. From the findings, analysis and discussion I would strongly recommend government adopt a more strategic role in creating such a 'world-class system' of technical education that attributes equal value to technical and academic study programmes, and does not replicate the historical, hierarchical status of technical education as 'second class'. It would be a strategy not championed by individuals, nor one which places the responsibility for the shape and form of technical education ever more squarely into the hands of employers and into the market, nor 'tinkers at the edges' by reforming qualifications or introducing new institutions.

It is, however, more likely that government will 'continue' on its main track of re-regulation, and 'continue' to support 'constant change' through qualification reforms and other devices as it advances the adoption of market tenets into mainstream education. I propose that UTC closures and their 'inherent problems' are not to be found in the number of students recruited, the brand identity, the curriculum offer, students' performance in national examinations, and the Ofsted grade. I propose this is a chimera, that UTCs are the government's instrument to achieve and deliver on its wider neoconservative education reforms to privilege academic study and return to a tripartite system of education.

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## Appendix 1: Ethics Approval Confirmation

### Departmental use

If a project raises particularly challenging ethics issues, or a more detailed review would be appropriate, you may refer the application to the Research Ethics and Governance Administrator (via [researchethics@ioe.ac.uk](mailto:researchethics@ioe.ac.uk)) so that it can be submitted to the Research Ethics Committee for consideration. A Research Ethics Committee Chair, ethics representatives in your department and the research ethics coordinator can advise you, either to support your review process, or help decide whether an application should be referred to the Research Ethics Committee.

*Also see 'when to pass a student ethics review up to the Research Ethics Committee':*

<http://www.ucl.ac.uk/srs/research-ethics-committee/ioe>

#### Reviewer 1

Supervisor name	Dr Rob Higham
Supervisor comments	Di knows that if any unexpected ethical issues arise during the fieldwork she needs to discuss these with me.
Supervisor signature	

#### Reviewer 2

Advisory committee/course team member name	Peter Earley
Advisory committee/course team member comments	All ethical issues adequately covered
Advisory committee/course team member signature	<b>Peter Earley</b>

## **Appendix 2: Research Participant's Information Letter**

Dear Principal / Participant

I hope this letter finds you well.

I am an education consultant carrying out a research project with the UCL Institute of Education. The focus of my research concerns how a UTC has formed its responses to the opportunities and challenges it has been presented with as it operates within the current education culture and environment.

I am eager to hear what Senior Leaders have to say and have chosen to use semi-structured style interview as the method for this research.

Anonymity and confidentiality will be exercised and all information will be used in accordance with the British Educational Research Association guidelines, which the UCL Institute of Education operates under and in accordance with the Data Protection Act 1998.

Once you have agreed to undertake the research I will do everything in my power to make the research journey run smoothly and to retain your participation. While your withdrawal from the research would impact on my capacity to complete the research – I would respect your right to withdraw.

I hope to undertake my research in the summer term and would be delighted if you would agree for you and one of your senior leaders to be interviewed in anticipation I have included a "consent form" and a stamped addressed envelope for you to return the signed form.

It is very much appreciated that your schedule is a busy one - and therefore my aim is to make this process as easy for you by being as flexible and accommodating of your wishes as is possible in order to secure your involvement. This can include the possibility of after school interviews and telephone follow-up calls at times best suited to and your staff's schedules.

If you have any questions or would like to clarify the content of this letter please be in contact either by email or by telephone so that we can discuss your involvement in more detail. A consent form is attached for your information.

I would like to emphasise how grateful I am for your time and support, and I look forward very much to hearing from you.

Yours sincerely

Dianne Gomery

### **Appendix 3: Research Participant's Consent Form**

To be read in conjunction with the Participation Information Letter

I am an education consultant carrying out a research project with the UCL Institute of Education. The focus of my research concerns how UTC senior leaders have formed their responses to the opportunities and challenges presented as they operate within the current education culture and environment. It is anticipated the research with you and your colleagues will take place in the summer term 2017. In anticipation I have included a "consent form" below for you to sign and I will collect this on the day of our interview or it can be scanned and returned electronically or returned by mail (please advise and I will supply a stamped addressed envelope for you to return the completed form). The face-to-face or Skype interview will last approximately 45 minutes, will be digitally recorded and some field notes may be taken with follow up telephone contact where required.

All data will be protected throughout the research period and destroyed following completion of the study, which is anticipated to be during the academic year 2017-18. If necessary any future usage of data would be applied for in writing within the research period. Complete anonymity and confidentiality can be assured, as the information will be used in accordance with the British Educational Research Association guidelines, which the UCL Institute of Education operates under and the Data Protection Act 1998. Anonymity and confidentiality will be exercised and all information will be used in accordance with the British Educational Research Association guidelines, which the UCL Institute of Education operates under and in accordance with the Data Protection Act 1998. You will not be named in the report or in the transcripts and all comments not directly concerned with the research will be kept confidential. The interview recordings will be kept for the duration of my study (2017-19 tbc) and then deleted. The data will not be used for any purpose other than those listed above. Requests to extend storing the data beyond the proposed end data will be submitted in writing for consent. If you agree to participate in this research, you will be able to withdraw your consent at any time during the process and while your withdrawal would impact on my capacity to complete the research – I would respect your right to withdraw.

#### **Informed Consent form for research participants**

This research is part of my doctoral study (EdD) at the UCL Institute of Education in London and would like to collect information in the following ways:

1. An interview in which we discuss your perceptions of the important factors in the UTCs journey since opening. This will be recorded and transcribed.

If you have any questions or would like to clarify the content of this letter please be in contact either by email \_\_\_\_\_ or by telephone \_\_\_\_\_ so that we can discuss your involvement in more detail. I would like to emphasise how grateful I am for your time and support, and I look forward very much to hearing from you.

#### **Statement of consent:**

I have read the above information. I agree to take part in this research. The researcher is Ms Dianne Gomery (DBS checked Sept 2014)

Name:

Signed:

Date:

## Appendix 4: UTC Leaders and Former Leaders Information Sheet

Thank you for taking part in this research conducted in accordance with the British Educational Research Association (BERA) guidelines. Your comments are confidential and will be anonymised – they are also valuable and will be stored safely and securely in accordance with the Data Protection Act 1998.

Please answer all questions wherever possible, however, if there are questions you prefer not to answer please indicate this is the case by adding X against those areas.

Senior Leaders Role *FTE = Full time equivalent	Gender	Number (FTE)*	Period of time in role (months/years)	Number of years prior experience in this role
Principal				
Vice Principal				
Assistant / Deputy Principal				
Assistant / Deputy Principal				
Former Principal				
Former Vice Principal				
Former Assistant / Deputy Principal				

### Professional background and experience

Date in role	
Qualified Teacher	Yes / No (please circle)
Length of experience (months / years)	
NPQH achieved	Yes / No (please circle)
Ofsted Inspector	
Previous SLT experience as a school or UTC head	Number of years:
	Number of schools:
Previous SLT experience	Number of years:
	Number of schools:
Type of employment experience outside teaching (where applicable)	



## Appendix 5: Potential Interview Themes (based on conceptual framing)

### Theme

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#### **Competitive Pressure**

- Student recruitment
- National accountability – academic performance A8 and P8 and Ofsted Inspections

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#### **Mediating Factors** (Perceptions of Competition and Position in market place)

- Perceptions of Competition
  - Schools' responses to the UTC
  - Status of technical education
  - Position in market place
- Perceptions of technical education
  - Importance of Academic status
  - Facilities
  - Sub-regional admissions
  - Staffing

---

#### **Range of Strategies adopted**

- Marketing
- Academic status
- Operational

---

#### **Outcomes**

- Establish partnership
- Admissions
- Intake
- Abandon model
- Influence intake
- Operational
- Academic performance

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#### **Any other issues**

- Original education vision
- Need to adapt original model for technical education provision
- Summary of opportunities and challenges to date

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## Appendix 6: Interview Questions and Probes

*Initial introduction and thanks:*

*Thank you for agreeing to take part in this research. Please advise if you would like clarification at any time during the interview or need to take a break.*

*Thank you also for completing the fact sheet where you kindly outlined the UTC's aims, ethos and vision for technical education. Thanks also for signing the Consent Form. As outlined in the information letter I will be audio recording our interview – and you have the right to withdraw at any time. The research operates under BERA guidelines and your comments will be deemed to be confidential and remain anonymous.*

1. Could you please tell me a little about the UTCs aims, ethos and vision?
2. How does your ethos and vision align, if at all, to the new accountability measures of A8 and P8, and to the Ofsted inspection?
3. In the fact sheet you identify the schools across your region from which students transfer to the UTC. Can you please describe how the sub-regional admissions system operates?
4. Are there any particular operations that help you to manage the transfer of students to the UTC at age 14?
5. Could you please expand upon your student recruitment - is the process a significant activity within the UTC's schedule?
6. Given this is a large admissions region – how do students travel here?
7. Do you market the UTC – and if so how?
8. What strategies do you employ to present the UTC in your marketing?
9. In what ways do you present the UTC? What do you emphasise?
10. From your responses it's clear [or not] marketing has an important role in facilitating recruitment. How important is recruitment in relation to your financial position?
11. Could you please describe the schools across the admissions area?
12. How would you describe the status of technical education across your admissions area?
13. What is the dynamic when operating as a technical education provider, given those perceptions you shared?  
**13a) Probe** – Can you please describe any instances?
14. How important do you think the UTC's facilities are for students and parents?

- 14a)** Probe - are there other factors at play concerning these facilities?
- 15.** Can you please describe the role of the university sponsor/s in the UTC?
- 15a)** What form does the university's support [if any] for technical education?
- 16.** Can you please describe the role of the employer/s sponsor/s in the UTC and their support?
- 17.** Do you consider your status as a provider of technical education as a positive factor when recruiting STEM staff?
- 17a)** Probe – is recruitment of staff easy or difficult across the admissions area?
- 18.** Going forward have you considered how you may strategically develop?
- 19.** Would the UTC consider changing or reforming its stand-alone UTC model (including transition at 14)?
- 19a)** Probe – has the UTC forged any partnerships with local schools and MATs?
- 20.** If I could take you back in time to the UTC's original education vision – to what extent do you consider it is reflected in the current technical education provision?
- 21.** Do governments' policies and its plans for education reform impact on your UTC and the schools in the local area – and if so how?

## Appendix 7: Transcript Sample

### Transcript samples of questioning and interaction

Code: P1= Participant1, Q1=Question 1, PA1= Participant's Answer to Q, U1= UTC 1

**Q1:** It's interesting you looked to your employers when considering national accountability. Can you please tell me more?

**P1A1:** It's trying to get the balance that you're meeting the ethos of what the trustees wanted, but also doing right by their learners, so you're not disadvantaging the learners by putting them on to too narrow a curriculum. So the trustees were keen to have geography rather than history, because a number of them are multinational companies, so they wanted people to be aware of what was out in the wider world. Even on the languages, they discussed whether it ought to be Spanish rather than French, but in the end we did a straw poll from the students. We could see, economically, we couldn't put multiple languages on, so we asked the students which was the most popular language, and ended up with French. Subsequently we realised we probably put too much into the curriculum, because what we found is we were expecting the learners to come with a certain amount of understanding of the subjects. What appears to be the case is the learners, which have come in have learned by rout. Therefore they may better repeat the information, parrot fashion for GCSE, but what they can't do is necessarily understand the subject, so we're having to go back to basics, re-teach those subjects so that they can understand it, which then means they've got the basic building blocks to then progress, and then have those life skills, and be useful for industry. Industry doesn't need people who can quote something. They need people who can understand and apply that knowledge, which is where the big difference is.

**Q2:** Do you have a schools admission impact statement?

**P1A2:** We did an admission statement, which was uploaded to [REDACTED]. We opted to have our admissions, which means we can meet with every learner and have a meeting with those learners-, I was going to say

'interview', but we're not allowed to call it an 'interview', to see why those learners wanted to come to us. We're well aware that a lot of other UTCs have been dumped on with schools trying to offload disaffected learners, so by meeting with those learners we could see whether they have an interest in ICT or engineering. We could also see what their attitude to learning was, because the curriculum relies, to a certain extent, on learners being self-motivated and engaging with the learning process. We're also aware that, with the equipment we've got in the workshops, we needed students which were well-behaved, and would respect rules, and work within those parameters, and that was the only way the learners were going to get the full benefit of being here, being self-motivated.

**Q3:** Your admissions area is quite large - how many secondary schools do you actually cover in that area?

**P1A3:** A lot. I don't know the exact number, but what we find is the majority of schools are quite hostile to us. To start with, [REDACTED] wasn't too bad because the one school in [REDACTED] only went up to age fourteen, so they allowed us in last year to talk to learners. They're subsequently, because of various politics in [REDACTED], now offering GCSEs, and therefore we've had no access to those learners at all, which is reflected in our recruitment from that area this coming year.

**Q4:** Can I ask where your predominant recruitment area is then?

**P1A4:** We're about 65% from within [REDACTED], but we do recruit from above [REDACTED], across to [REDACTED], and down [REDACTED]. As we're finding this year, we're picking up more learners from [REDACTED], possibly because [REDACTED] has had a poor Ofsted inspection. What we're finding this year is a lot of schools are more aware of us, and are starting all sorts of dirty tactics. You've been round the building, you've seen the students. They are model students, they're well-behaved, they are not noisy, but the rumour out there being spread by the schools is that our students are noisy, disruptive, and we're expelling them left, right and centre, when we haven't actually expelled anyone.

**Q5:** It sounds as though there's quite a challenge there for recruitment.

**P1A5:** Very much.

**Q6:** How do you respond to that?

**P1A6:** It's difficult. We have open evenings to bring people in, we send out as much positive publicity as we can, hence the articles in the newspaper. We've done some short videos which are on our website, we use quotes from parents and students. Word of mouth is quite powerful, but it's difficult, because we only get limited access to those learners, particularly as most of the schools are not allowing us in to talk to those learners. There's only one school, which has allowed us in so far to talk to Year Nine learners this year. The schools of course have access to those learners 25 hours a day, and the amount of negative comments going to...even learners we've recruited for next year, they're then being put off by the teachers with numerous untruths being told. We know certain heads have stood up in their staff meetings and said, 'Right, this number of students that went to the UTC last year, they are worth £5,000 each, therefore it's X amount of money, that is whatever number of people's jobs it is.' It's not about what is right for the individual learners it's down to finances.

## Appendix 8a: Transcript with Annotations, p.1

Initial Coding Annotations

Q1: It's interesting you looked to your employers when considering national accountability. Can you please tell me more?

P1A1: It's trying to get the balance, that you're meeting the ethos of what the trustees wanted, but also doing right by their learners, so you're not disadvantaging the learners by putting them on to too narrow a curriculum. So the trustees were keen to have geography rather than history, because a number of them are multinational companies, so they wanted people to be aware of what was out in the wider world. Even on the languages, they discussed whether it ought to be Spanish rather than French, but in the end we did a straw poll from the students. We could see, economically, we couldn't put multiple languages on, so we asked the students which was the most popular language, and ended up with French. Subsequently we realised we probably put too much into the curriculum, because what we found is we were expecting the learners to come with a certain amount of understanding of the subjects. What appears to be the case is the learners, which have come in have learned by rout. Therefore they may better repeat the information, parrot fashion for GCSE, but what they can't do is necessarily understand the subject, so we're having to go back to basics, re-teach those subjects so that they can understand it, which then means they've got the basic building blocks to then progress, and then have those life skills, and be useful for industry. Industry doesn't need people who can quote something. They need people who can understand and apply that knowledge, which is where the big difference is.

Q2: Do you have a schools admission impact statement?

P1A2: We did an admission statement, which was uploaded to ██████████ County Council. We opted to have our admissions, which means we can meet with every learner and have a meeting with those learners-, I was going to say 'interview', but we're not allowed to call it an 'interview', to see why those learners wanted to come to us. We're well aware that a lot of other UTCs have been dumped on with schools trying to offload disaffected learners, so by meeting with those learners we could see whether they have an interest in ICT or engineering. We could also see what their attitude to learning was, because the curriculum relies, to a certain extent, on learners being self-motivated and engaging with the learning process. We're also aware that, with the equipment we've got in

EMPLOYER NEEDS

EMPLOYER INPUT / LEAD

EMPLOYER CURRICULUM

PROGRESS ON ENGINEERING UTC ←

FOCUS ON EMPLOYER DEMANDS

SCHOOLS' CREAM SKIMMING COMPETITIVE PRACTICES

WORK READINESS?

Appendix 8b: Transcript with Annotations, p.2

EMPLOYER-BEHAVIOURS

the workshops, we needed students which were well-behaved, and would respect rules, and work within those parameters, and that was the only way the learners were going to get the full benefit of being here, being self-motivated.

STUDENTS INSTANCES ~ EMPLOYERS WANTING WORK READINESS?

**Q3: Your admissions area is quite large - how many secondary schools do you actually cover in that area?**

**P1A3:** A lot. I don't know the exact number, but what we find is the majority of schools are quite hostile to us. To start with, [redacted] wasn't too bad because the one school in [redacted] only went up to age fourteen, so they allowed us in last year to talk to learners. They're subsequently, because of various politics in [redacted], now offering GCSEs, and therefore we've had no access to those learners at all, which is reflected in our recruitment from that area this coming year.

SCHOOLS COMPETENT COMPETITIVE PRACTICES

↓ LOW STUDENT RECRUITMENT

SCHOOLS' COMPETITIVE PRACTICES

**Q4: Can I ask where your predominant recruitment area is then?**

**P1A4:** We're about 65% from within [redacted], but we do recruit from above [redacted], across to [redacted], and down to [redacted]. As we're finding this year, we're picking up more learners from the [redacted] area, possibly because [redacted] has had a poor Ofsted inspection. What we're finding this year is a lot of schools are more aware of us, and are starting all sorts of dirty tactics. You've been round the building, you've seen the students. They are model students, they're well-behaved, they are not noisy, but the rumour out there being spread by the schools is that our students are noisy, disruptive, and we're expelling them left, right and centre, when we haven't actually expelled anyone.

COMPETITIVE PRACTICES HOSTILE

- INSTAKE PERCEPTIONS / COMPETITIVE PRACTICES

**Q5: It sounds as though there's quite a challenge there for recruitment.**

**P1A5:** Very much.

**Q6: How do you respond to that?**

**P1A6:** It's difficult. We have open evenings to bring people in, we send out as much positive publicity as we can, hence the articles in the newspaper. We've done some short videos which are on our website, we use quotes from parents and students. Word of mouth is quite

EVENTS: MARKETING

MARKETING CHANNELS



Appendix 8c: Transcript with Annotations, p.3

powerful, but it's difficult, because we only get limited access to those learners, particularly as most of the schools are not allowing us in to talk to those learners. There's only one school, which has allowed us in so far to talk to Year Nine learners this year. The schools of course have access to those learners 25 hours a day, and the amount of negative comments going to..., even learners we've recruited for next year, they're then being put off by the teachers with numerous untruths being told. We know certain heads have stood up in their staff meetings and said, 'Right, this number of students that went to the UTC last year, they are worth £5,000 each, therefore it's X amount of money, that is whatever number of people's jobs it is.' It's not about what is right for the individual learners it's down to finances.

IN TAKE / RECRUITMENT  
RESTRICTED ACCESS TO SUPPLY OF STUDENTS

COMPEITION; HOSTILE BEHAVIOUR

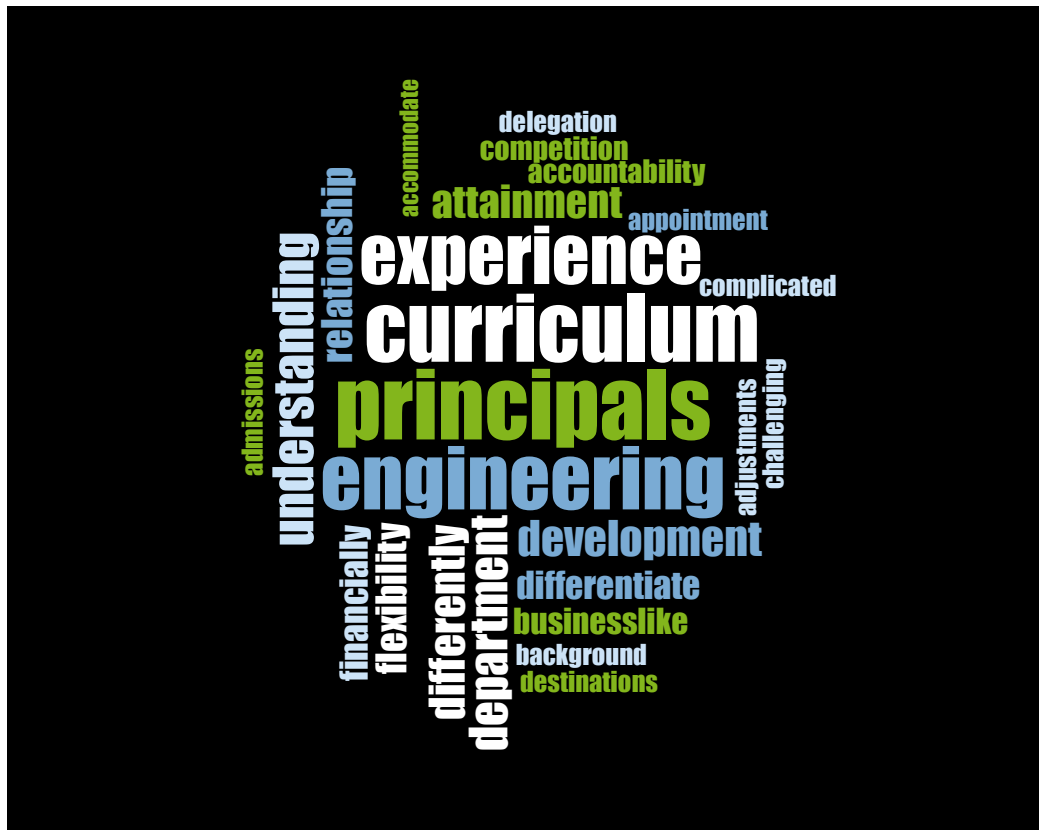
IN TAKE  
↓  
STUDENT SUPPLY LIMITED BY THE NEED TO HOLD ON TO STUDENTS AND THE FUNDING THEY ATTRACT

FUNDING:  
ITS IMPORTANT

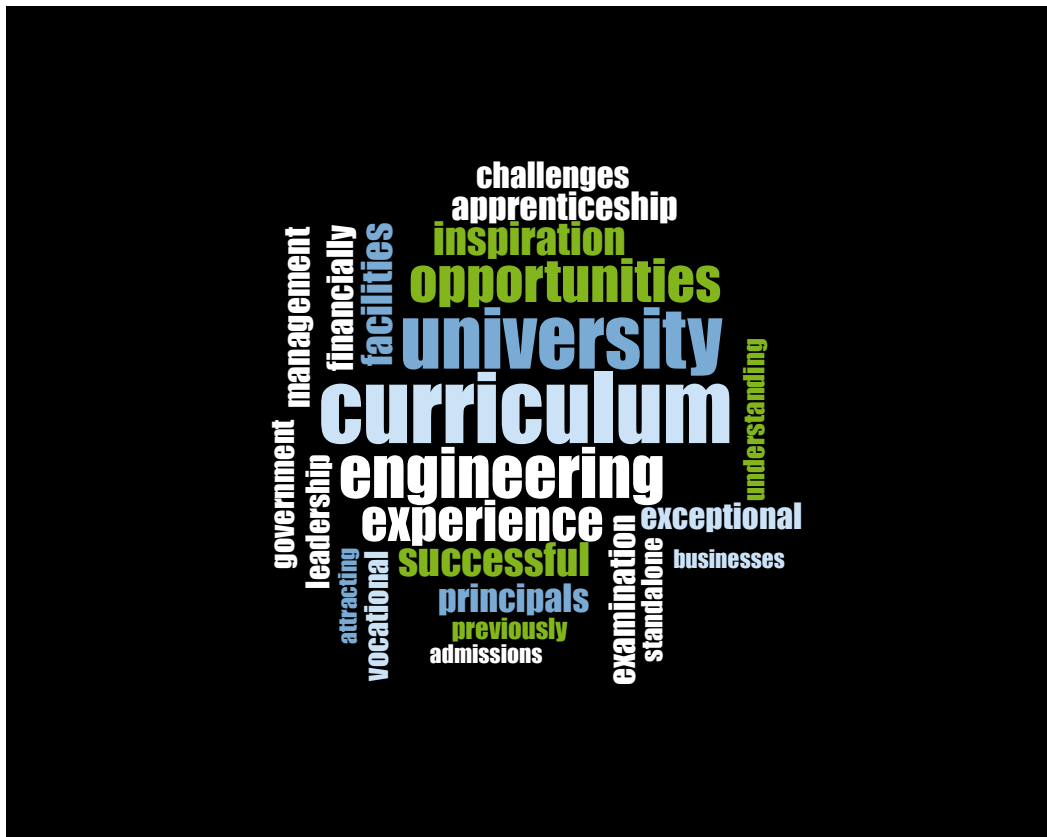
Appendix 9a: Key Participants' Data - Word Cloud Frequency (over 9 letters)



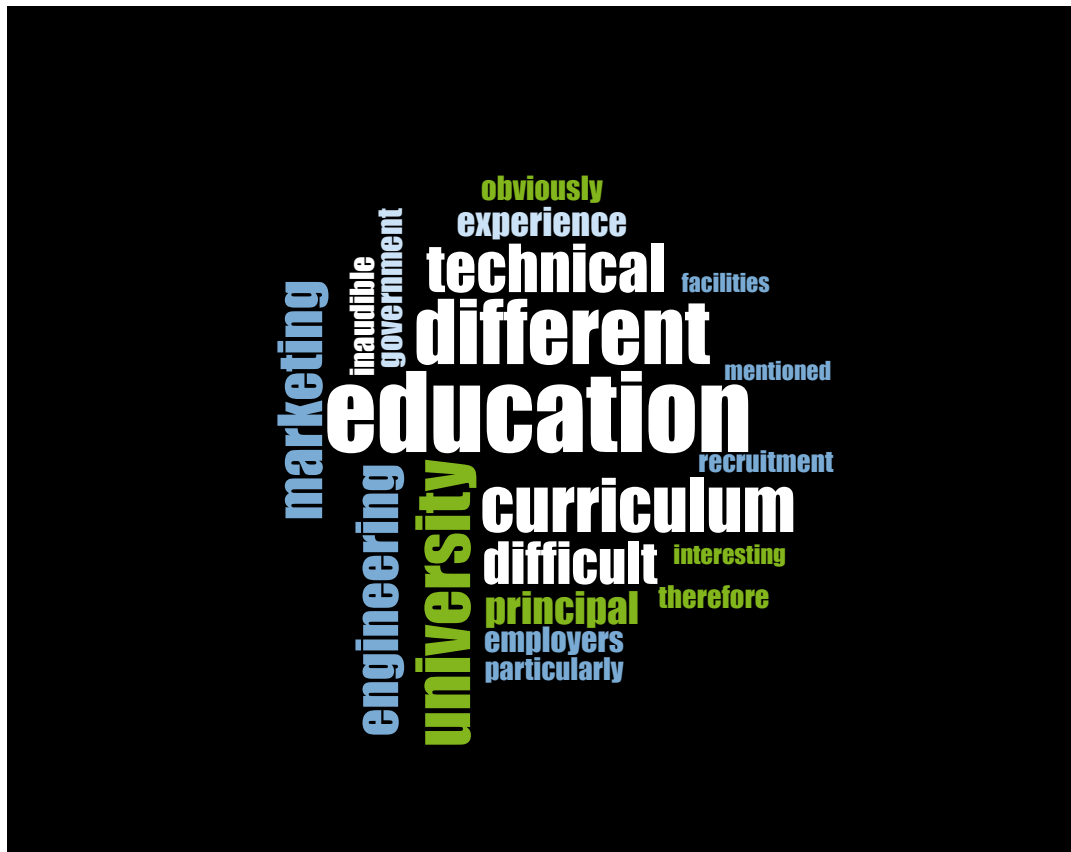
Appendix 9b: P6 Data - Word Cloud Frequency (over 9 letters)



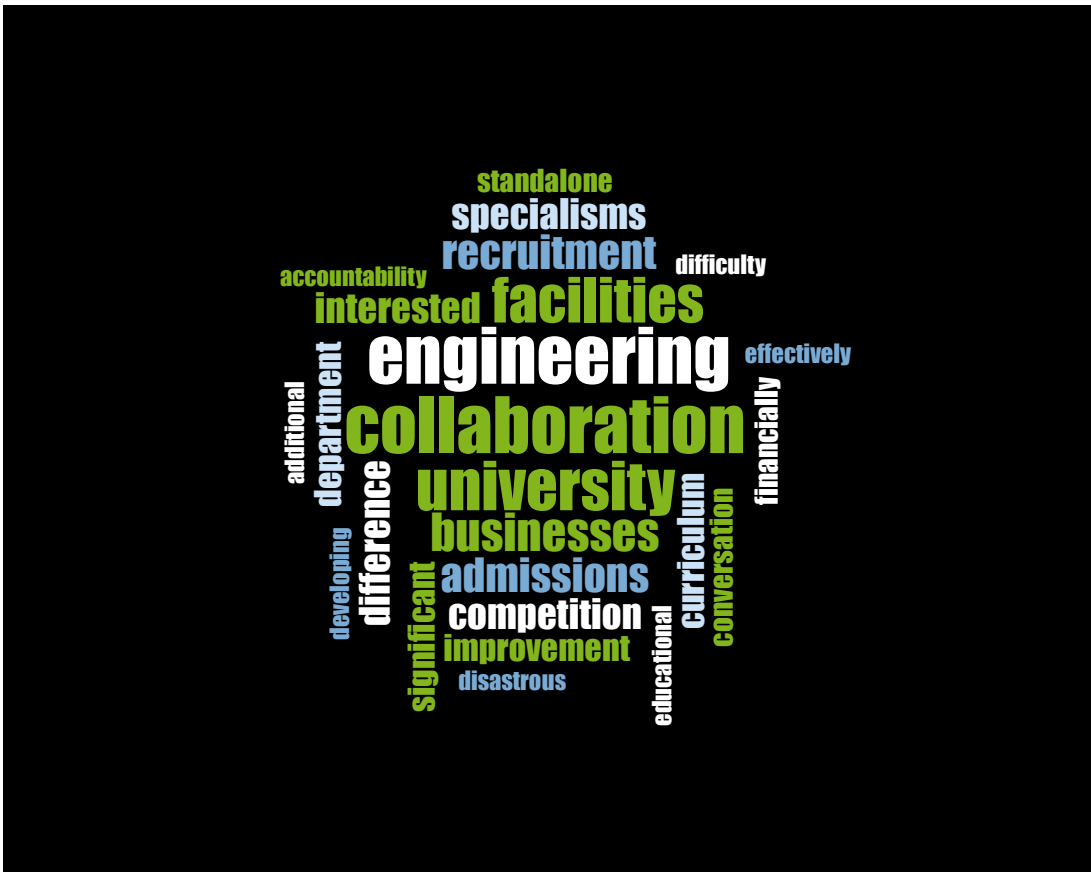
Appendix 9c: P7 Data - Word Cloud Frequency (over 9 letters)



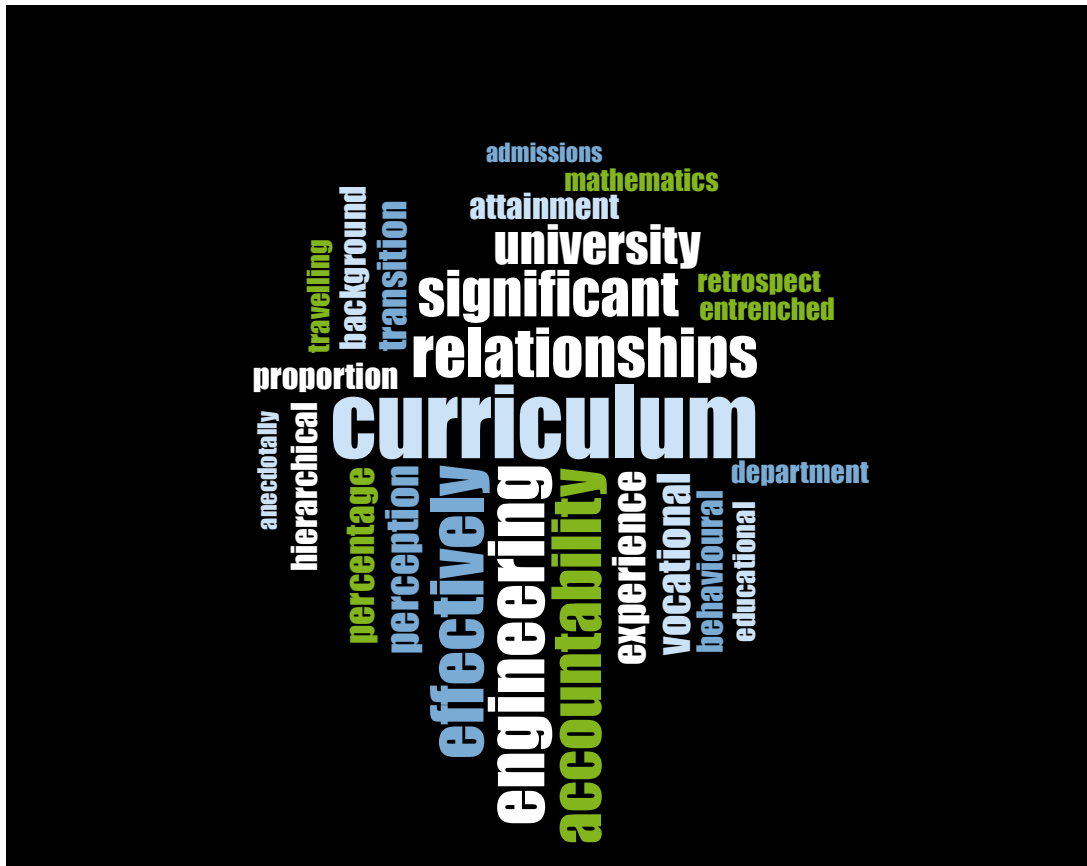
Appendix 9d: P5 Data - Word Cloud Frequency (over 9 letters)



Appendix 9e: P3b Data - Word Cloud Frequency (over 9 letters)



Appendix 9f: P8 Data - Word Cloud Frequency (over 9 letters)



## Appendix 10: UTCs (open and closed) and FE College Sponsors

<i>Sponsors</i>	<i>UTC</i>	<i>Opened</i>
	Aston University Engineering Academy	2012
	Bolton UTC	2015
City of Bristol College	Bristol Technology and Engineering Academy	2013
Cambridge Regional College	Buckinghamshire University Technical College	2013
	Cambridge Academy for Science and Technology	2014
	Crewe Engineering and Design UTC	2016
Derby College	Derby Manufacturing UTC	2015
	Elstree University Technical College	2013
	Elutec	2014
	Energy Coast UTC	2014
	Engineering UTC Northern Lincolnshire	2015
	Global Academy	2016
Peterborough Regional College	Greater Peterborough UTC	2016
	Health Futures UTC	2015
	Heathrow Aviation Engineering UTC	2014
	JCB Academy	2010
	Leigh UTC	2014
Lincoln College	Lincoln UTC	2014
	Liverpool Life Sciences UTC	2013
	London Design and Engineering UTC	2016
Mid-Kent College	Medway UTC	2015
	Mulberry UTC	2017
	Ron Dearing UTC	2017
	Scarborough University Technical College	2016
Gloucestershire College	SGS Berkeley Green UTC	2017
Tresham College	Silverstone University Technical College	2013
Harlow College	Sir Charles Kao UTC	2014
	Sir Simon Milton Westminster UTC	2017
	South Bank Engineering UTC	2016
South Devon College	South Devon UTC	2015
	South Wiltshire UTC	2015
	The Watford UTC	2014



<b>Sponsors</b>	<b>UTC</b>	<b>Opened</b>	
	University Technical College Leeds	2016	
	UTC Oxfordshire	2015	
	UTC Plymouth	2013	
	UTC Portsmouth	2017	
Activate Learning Group	UTC Reading	2013	
Sheffield College	UTC Sheffield	2013	
	UTC Sheffield Olympic Legacy Park	2016	
	UTC South Durham	2016	
	UTC Swindon	2014	
	UTC Warrington	2016	
	UTC@Harbourside	2015	Closure 2019
	UTC@MediaCityUK	2015	
	West Midlands Construction UTC	2015	
	WMG Academy for Young Engineers, Coventry	2014	
	WMG Academy for Young Engineers, Solihull	2016	
	<b>Closed UTCs</b>	<b>Open</b>	<b>Closed</b>
Moulton College	Daventry UTC	2014	2017
Bedford College Group (The)	Central Beds UTC	2012	2016
Burton and South Derbyshire College	Burton UTC	NA	Withdrawn
Oldham College	Greater Manchester UTC	2014	2017
Hackney Community College	Hackney UTC	2012	2015
Walsall College	Black Country UTC	2013	2015
	Tottenham UTC	2014	2017
	UTC Lancashire	2013	2016
	Royal Greenwich UTC*	2013	2016

\*Royal Greenwich converted to 11-18 school

**Appendix 11: Management in Education Paper (Online, April, 2018)**

*“Laissez-Features and emergent themes presented in a case study University Technical College”*

Access electronically via this link:

<http://journals.sagepub.com/doi/abs/10.1177/0892020617747610>

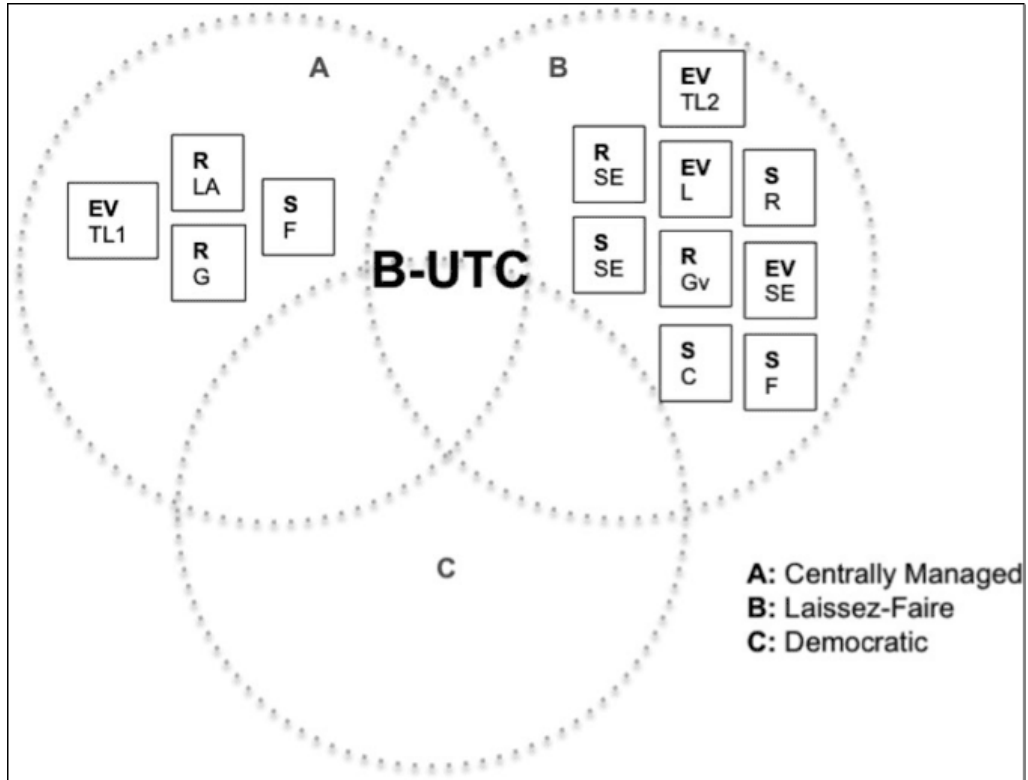
**Appendix 12: Management in Education (July, 2018)**

*“Critical Education and Policy Studies (CEPaLS) Research Interest Group (RIG)”*

Access electronically via this link:

<http://journals.sagepub.com/eprint/fwfSC5QyEF5aEhN9CFVf/full>

### Appendix 13: Laissez-Faire Localism Diagram



BUTC: Three versions of localism aligned to themes and sub-themes.

**Key:**

- EV Ethos and Vision
- R Relationships
- S Sustainability
- EV L Learners
- EV TL1 Teaching and Learning;
- EV TL2 Teaching and Learning (national accountability)
- EV SE Sponsor Engagement
- RG Government
- RGv Governance
- R LA Local agencies
- R SE Sponsor Engagement
- S C Competition
- S F Funding
- S R Recruitment
- S E Sponsor Engagement

## Appendix 14: BELMAS Bursary Award (January, 2018)



# BELMAS

British Educational Leadership, Management & Administration Society

Dianne Gomery  
Institute of Education, UCL

BELMAS  
Northchurch Business Centre  
84 Queen Street  
Sheffield  
S1 2DW

3 January 2018

Dear Dianne,

### **BELMAS Bursaries in Educational Administration, Leadership and Management**

I am delighted to confirm that the BELMAS Awards Panel has approved your application for a bursary. This letter sets out the details of payment and your obligations as an award holder.

#### **Bursary Award**

The bursary will be for £2,000 over two years and will be payable as two annual payments of £1,000, subject to receipt of a short report (see below). Payments will be made by cheque or bank transfer.

#### **Obligations of Award Holder**

It is a condition of the award that you agree to:

- Acknowledge the financial support of BELMAS in your thesis.
- Submit a short report on progress by June 2018 and a final report by April 2019. The reports should be countersigned by your supervisor and demonstrate substantial and satisfactory research progress. The format for the reports is shown below.
- Submit an abstract of a paper based on your thesis with a view to giving a presentation at the BELMAS Annual Conference in 2019, for which you will receive free registration. Please consider the various formats of presentation, including a poster presentation, which are explained on the BELMAS conference website. Online submission of conference abstracts is available from October – December 2018. You are also encouraged to submit papers for possible publication in *Management in Education* and/or *Educational Management Administration and Leadership*. **Papers submitted for inclusion in the conference academic programme are subject to peer review and may not be selected.**
- Once completed, deposit one copy of your thesis with BELMAS and one copy in the UK Data Archive administered by the University of Essex.

Please confirm in writing your agreement to the above terms of the bursary award.

#### **Bursary Payment**

Payment of your award may be made by bank transfer. Please provide the sort code and account number of a UK bank account. For international payments, please provide the International Bank Account Number, Branch Identifier Code and name and address of your Bank. Alternatively, please provide the name and postal address to which cheque payment may be made. Please note, cheque payments will take longer to process. The BELMAS Office may be contacted at: [info@belmas.org.uk](mailto:info@belmas.org.uk) or on: (0114) 279 9926.

Richard Davis  
Business Manager

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## **Appendix 15: BERA (2018)**

Section 49 of the BERA Ethical Guidelines for Education Research, Fourth Edition states that:

The UK Data Protection Act (1998) and the GDPR that supersedes it also confer the right to private citizens to have access to any personal data that is stored, and which relates to them. Researchers seeking to exploit legal exclusions to these rights must have a clear justification. The Freedom of Information Act (2000) is applicable to requests for access to data held by public authorities, including state schools, but research data in these settings would be exempt from such requests where explicit confidentiality arrangements are in place. The release of such information would be a breach of personal confidence (BERA, 2018, p. 24).

## **Appendix 16: Crossing Boundaries Conference Paper (2019)**

Gomery, D. (2019). **University Technical Colleges: Pedagogy Meets Market Demands**

UCL Institute of Education

Publication, May, 2019 [https://www.amazon.co.uk/Education-Studies-VV-AA/s?rh=n%3A4119301%2Cp\\_27%3AVV.AA](https://www.amazon.co.uk/Education-Studies-VV-AA/s?rh=n%3A4119301%2Cp_27%3AVV.AA).

## **Appendix 17: Memo to Self**

Memo Date: 17.09.07 U1 and P1

### **Status**

Audio fully transcribed  
Coding to conceptual framework – on-going  
Exceptions to coding framework – identified and on-going  
Data patterns – beginning to emerge that connect to other participants as key informants  
NVivo

### **Participant**

Reading through the data a confidence exudes– their prior SLT and management experience as a senior leader are palpable. P1 meets the multiple challenges, accepts the chaos and is not perturbed by this / manages them in a measured way. Has the measure of what the terms of 'the game' are - and how to respond

P1 is supportive of the UTC model and the potential benefits for students who are less able or have not been given the right context to work in - that he believes will enable them to achieve.

P1 – there is almost a notion that the UTC model is a 'saviour' – which it alone can meet the needs of these students some of whom are from second-generation unemployed families. There is inference of social mobility...but that the way forward is complex.

### **Sponsors**

With many years of prior SLT experience there is an operational confidence that helps P1 to engage with sponsors and in particular employer sponsors. This confidence – its existence or not to be noted in future memos

P1 'speaks' the language of employers and understands their needs – the participation of a university sponsor is less well articulated and the benefits of partnership working with the university would appear minimal.

P1 – believes in the model and in it meeting the needs of certain students

### **UTC and the Lived Market**

P1 was mindful of the complexities of the local area in terms of university sponsorship and there was a new university build on an adjacent campus that was not yet aligned to the UTC.

P1 was aware of the 'politics' across the local area in terms of duplicate provision, employers' power dynamics and the lack of support from local providers – in particular those schools with sixth forms

P1 identifies a number of challenges – STEM staff, holding on to good staff, commitment to deliver on the aims etc, travel plans  
Local providers very resistant to the acceptance of the UTC as a provider

Masses of competition for students across the region / plus high unemployment rates

### **Networks**

The networks are either fragile or non-existent within the wider provision. Schools are not communicating with U1 and there was a level of frustration with local HTs attempts to 'squeeze out' the UTC.

Peers who shared the UTC vision were other UTC Principals and not local. P1's support was from its sponsor employers and sponsor employers who were also governors. Chair of Governors has v strong ideas about what employers' need (he is an employer). BDT played a role in bringing leaders together to share concerns and work to resolve issues.

P1 had sponsor employers who had strong ideas about what should be in and out of the curriculum.

### **Notes**

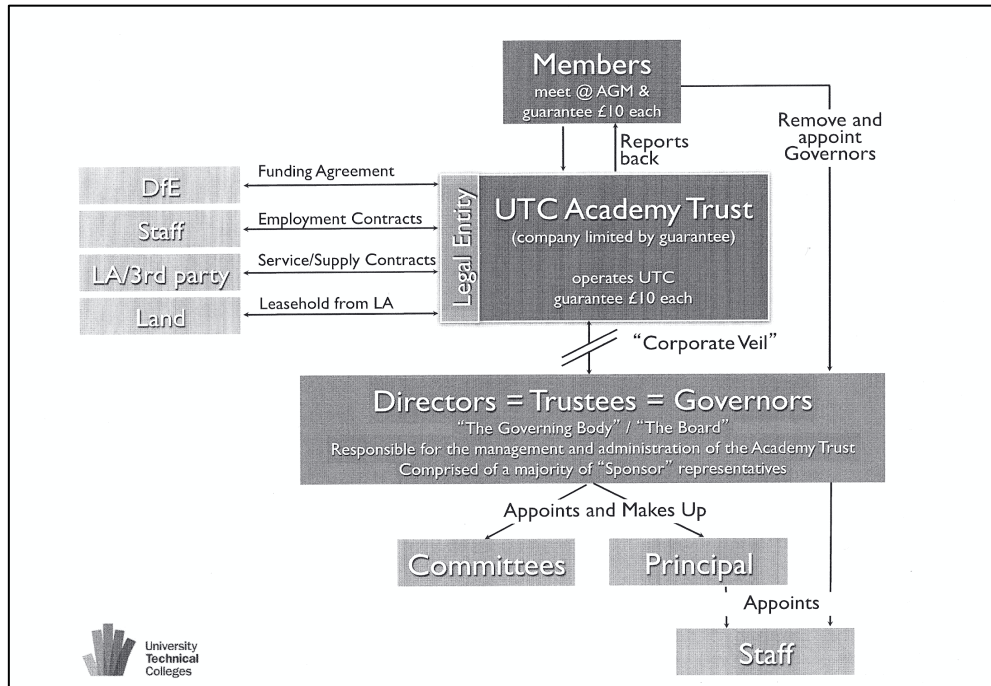
Check notions of competitive advantage across the competitive arena of the lived market

Check the formation of networks

Note 'self-confidence' in future memos

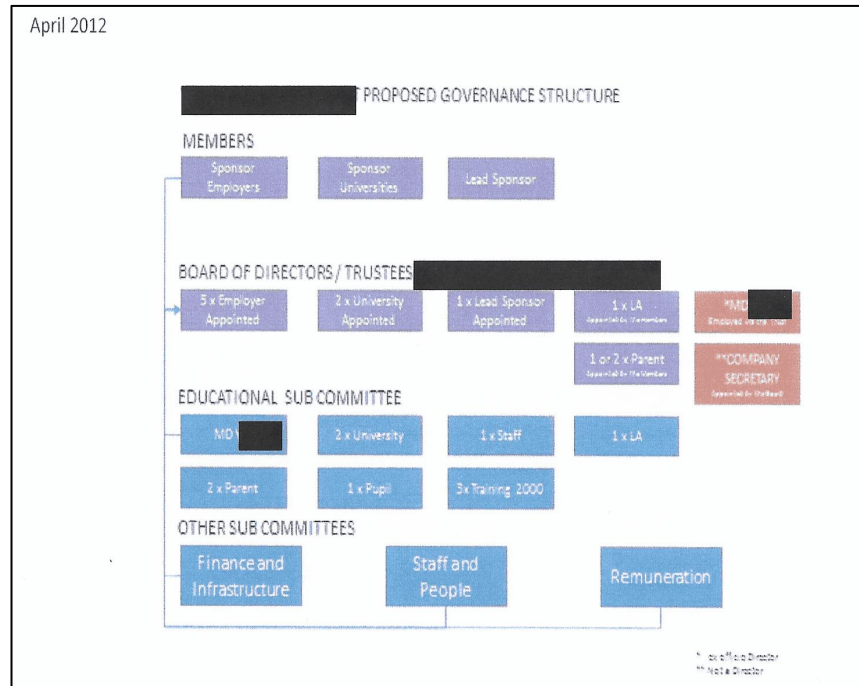
Leadership autonomy?

**Appendix 18: Baker Dearing Trust Governance Model (2011)**





## Appendix 19: Governance Model (2012) Anonymised



## Appendix 20a: DfE Letter to UTC Principals and Chairs of Governors, p.1



Department  
for Education



Department  
for Business  
Innovation & Skills

**Nick Boles MP**  
Minister of State for Skills  
1 Victoria Street  
London  
SW1H 0ET

15 October 2015

Dear Principal and Chair of Governors,

As you may be aware, over recent months we have been considering how we can ensure the UTC programme succeeds and we create schools that are educationally and financially successful. The Government is committed to expanding and supporting the UTC programme, and fulfilling the manifesto commitment to have a UTC within reach of every city.

The reforms I am writing to you about today have been developed in response to the feedback I have on the UTC programme, and in the context of disappointing provisional exam results at some UTCs. I am grateful to those of you who were able to attend the recent roundtables to discuss these issues, and those who wrote to provide your views and ideas. These have been instrumental in developing the content of the changes I want to introduce.

I want to ensure all young people at UTCs have access to the education they need to unlock their potential and give them the best opportunity to get on in life. I know that some UTCs have faced challenges particularly linked to pupil recruitment and these have impacted on their financial viability and their educational offer. It is also important that UTCs are able to secure sufficient expertise in secondary education in the pre-opening period and embed this into their leadership and governance.

We are, therefore, implementing a number of reforms which will help open UTCs, projects in pre-opening and future UTCs with their pupil recruitment and strengthen their educational and financial viability.

We recognise that transition at Year 10 is a challenge and, having listened to your views on admissions, we will formally consult on potential changes to the Admissions Code in due course. We will let you know as soon as we can what these will mean for UTCs. We know that in some cases participating in local authority co-ordination has been perceived as an additional barrier to successful pupil recruitment. If you feel your UTC would benefit from not participating in co-ordination from September

## Appendix 20b: DfE Letter to UTC Principals and Chairs of Governors, p.2

2017 and would like the Department to consider this, please contact Paul Roberts at or telephone on (

We are also making the following changes:

- **a presumption that UTCs should be part of a strong partnership involving successful secondary schools.** In future, to support UTCs educationally and financially (through the benefits of educational expertise and shared services), we will expect UTC applicant groups to be part of a school-to-school partnership. This could include, for example, joining up with a multi-academy trust or through strong links with a cluster of local good and outstanding schools. As you are already open, we encourage you, if you are not already doing so, to review whether you would benefit from joining up with an existing partnership of high performing secondary schools. Your DfE education advisor would be happy to discuss the benefits of joining an educational partnership, including joining up with a multi-academy trust, if that is appropriate to your current position and trust arrangements.
- **the potential for UTCs to start at an earlier age.** Thus far UTCs have been for pupils aged 14-19 and we understand most university and employer sponsors think that this is the right age for a young person to choose to follow a specialised technical route. We will consider proposals for UTCs starting at an earlier age (for example at 13) provided an affordable case can be made that this will improve pupil recruitment and be of benefit to the educational landscape locally. If you would like to discuss the process to make a significant change in relation to your age range, please discuss this with your EFA contact.
- **encouraging feeder arrangements with other schools.** We encourage you to work with local schools to develop such arrangements and formalise them where possible.
- **encouraging established UTCs to consider offering apprenticeships and/or clear progression routes into them.** Many UTCs are already doing this, though only a small number are currently involved in apprenticeship delivery.

Our plans for future UTC applicant groups can be seen in more detail in the recently published new UTC [How to Apply guide](#). The deadline for applications is 29 January 2016. In this guidance, for the first time, we have published a list of priority target locations for future UTCs. These priority target areas reflect the importance of ensuring that we locate UTCs in areas of high population and good transport links where their provision offers a new and distinctive curriculum for young people. This will also ensure there is limited, if any, overlap in catchment areas for UTCs offering similar technical specialisms.

You may also be aware of the government's recent plans for area-based reviews of post-16 institutions which were published in July. The focus is on further education and sixth-form colleges, but each review will take into account the quality and availability of all post-16 provision in each area including UTCs. The purpose of the

## Appendix 20c: DfE Letter to UTC Principals and Chairs of Governors, p.3

review is to establish the right set of institutions to offer high-quality provision to meet the current and future needs of learners and businesses in that locality. [Information about the first area-based reviews](#) is available online, and the location and timing of reviews will be published on gov.uk in due course. If you would like to be involved in your local review, please contact the chair of the review direct (once this is known) to discuss how this can happen.

I recognise the challenges associated with opening and operating a university technical college. I am grateful to those people involved in the leadership and management of these new schools, which can play a vital role in our education system. I have enjoyed the visits I have made to UTCs and I hope you welcome the reforms I have outlined in this letter and that the young people at your UTC will gain the world-class technical education that they deserve.

I am copying this letter to Lord Baker and Charles Parker at the Baker Dearing Educational Trust

Yours sincerely,

**NICK BOLES MP**

## Appendix 21: A Report to Celebrate the First Year of JCB Academy (2011) p.6

A REPORT TO CELEBRATE THE FIRST YEAR OF THE JCB ACADEMY | The first University Technical College

### Building blocks of success

**The impact of the academy on the students has been immense. A successful beginning has flowed from the following elements:**

#### A defined purpose for attending The JCB Academy

The defined purpose is of course to find out about engineering. A secondary purpose, however, has emerged. Certain students who have misused their time at a previous school have taken the opportunity of the non-standard age of transfer at 14 for a second chance. At the academy they are treated in a more adult way. There is a singleness of purpose and a greater amount of the learning is done in a practical way. This has suited those "second chancers" and the students agree with parents and staff that it has transformed their outlook and prospects.

#### A clear ethos

The clear ethos is about responsibility and hard work, having a goal and a path for future education and work. It involves encouragement, recognising achievement and preparation for adulthood and the world of work. And yet The JCB Academy is a still very much a school, the Principal and staff are well aware that there must be occasions for fun, competition and sport.

#### A carefully prepared programme of studies

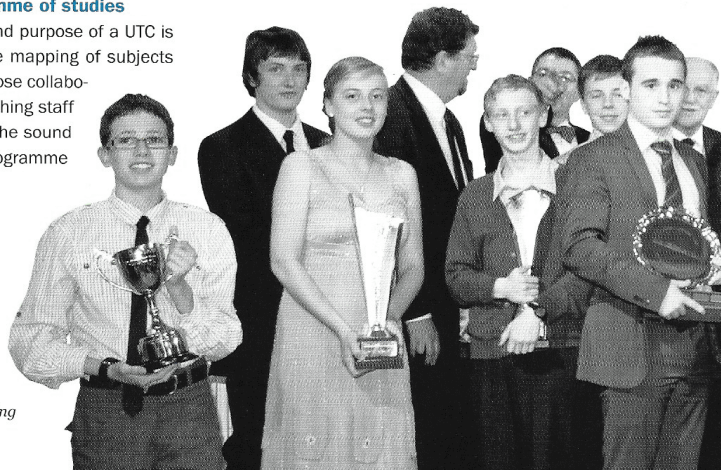
Fundamental to the creation and purpose of a UTC is the unique curriculum with the mapping of subjects across the engineering core. Close collaboration between employers, teaching staff and awarding bodies ensured the sound design of The JCB Academy's programme of studies.

#### An environment in which to achieve

The environment that is created when a UTC is founded is also integral to the concept. The mentoring, the facilities and the interaction with professional engineers and academics has proved a potent combination for success at The JCB Academy.

The first year was demanding for several reasons. The long day, short holidays and very concentrated working day was new for teachers and students. To design and implement a brand new curriculum and style of education was challenging. A new building with new equipment brought snagging issues. It was a totally new start in every aspect – building, staff group, students, curriculum and ethos.

The JCB Academy overcame these difficulties in a variety of ways; primarily through the strong commitment of the sponsor JCB who brought encouragement, know-how and connections; the ambition of all involved to enhance educational and technical provision; imagination and determination; and last but not least, the wise use of standard government funding common to all other state schools.



☉ The JCB Academy Awards Evening

## Appendix 22: BDT UTC Sponsors (2011) Insert



### Employers and Universities

Employers and the university provide leadership for the structure of the curriculum rather than mere approval. They monitor the operation of the curriculum through active engagement in it and through internal and external reports on it.

All students undertake a range of employer challenges or commissions. These provide the fundamental link between employers, students and the curriculum. Employers and the university set substantial and lengthy projects which have real interest to them and which enable students to understand the relevance of their learning to employment or higher education. Care is taken to explain the business and enterprise implications of the challenge.

The university gives master classes to the students, encourages its undergraduates and postgraduate students to work with the UTC by for example mentoring or teaching and gives access to its specialist facilities. Employers support the UTC in similar ways engaging their apprentices and other members of staff.

Employers and university offer students high quality work experience related to the curriculum. The person within the company who is supervising the work experience is well briefed and understands the curriculum context. Employers and University make an active contribution to a careers advice programme.



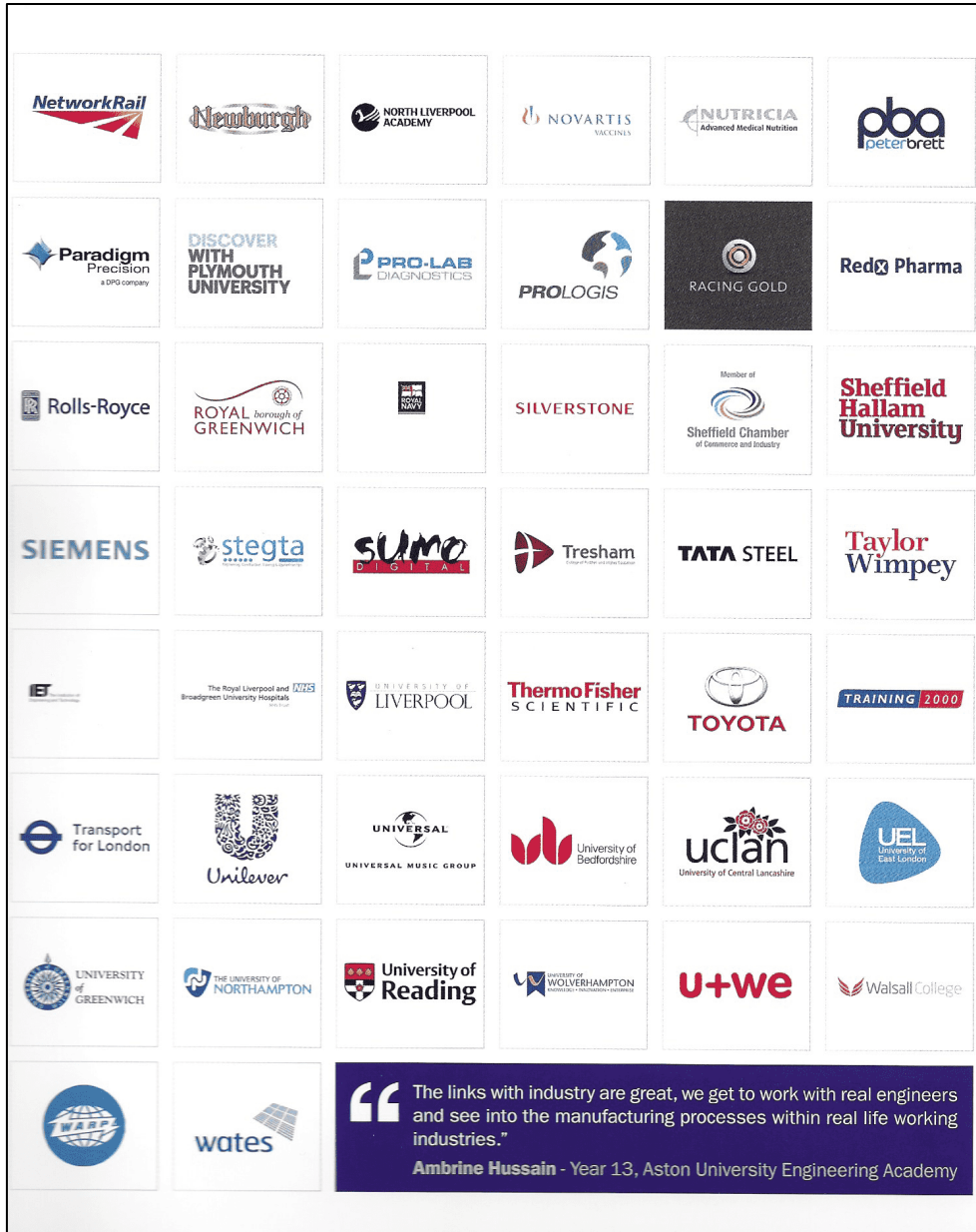
## Appendix 23a: BDT UTC Sponsors (2014)

### Organisations backing UTCs

More than 500 employers and nearly 50 universities, including those selected here, support UTCs.



## Appendix 23b: BDT UTC Sponsors (2014)





## Appendix 24: UTC Prospectus (2014) Anonymised

### What Else Makes Us Different?

The UTC year has five 8-week programmes, each comprising approximately seven study weeks with one week of enhancement activities embedded into the programme. Employer placements and university visits led by UTC sponsors are directly linked to the study theme of each programme.

There will be fixed breaks at Christmas, Easter and Summer, with one or two week breaks between programmes. There will be a break during summer of four weeks typically, helping you to become accustomed to the world of work.

For annual dates, please refer to the website.

**What else can you expect when you come to**

- Every learner will receive a Nexus 10" tablet computer
- The UTC day is 8.30am – 4.45pm Monday to Thursday with a 3.45pm finish on a Friday
- The longer days eliminate the need for traditional homework which will be undertaken during the learning day
- There will be three 2 hour learning sessions and 1 hour of enrichment activities per day (excluding Friday), eg sports and fitness, creative arts, music, community activities, personal challenge such as the Duke of Edinburgh Award (see page 15 for further details)
- Learners have specialist learning coaches and a personal mentor
- The fully integrated curriculum links subjects together and gives you the flexibility to move between the different pathways at your own pace
- You will be working with employers on employer-led projects
- You will be learning with other people who share the same interests and ambitions as you



## Appendix 25: BDT Top tips (2011)

### PROGRAMME



### Top Tips for UTCs from the Baker Dearing Educational Trust

One Great George Street, London SW1P 3AA, Smeaton Room  
Monday 28 November 2011

10.00 - 10.25	Arrival and registration, coffee & tea	
10.25 - 10.35	Welcome, to include video from Sec of State	Peter Mitchell (Chair)
10.35 - 10.40	Update, the national picture	Jane Ware
	<b>The application</b>	
10.40 - 11.10	Business and University partnerships Questions	Alison Halstead
11.10 - 11.35	Governance Questions	Charles Parker
11.35 - 11.50	Coffee & tea	
11.50 - 12.20	Outline of the UTC Education vision Questions	Peter Mitchell
12.20 - 13.00	Education plan Questions	
13.00 - 14.00	Lunch	
14.00 - 14.25	Role of BDT, pre- and post- approval of UTC Evidence of demand and marketing Questions	Peter Mitchell Jane Ware
14.25 - 15.05	Capacity and capability Initial costs and financial viability Questions	Charles Parker
15.05 - 15.25	Premises Appendices What happens after approval	
15.40 - 15.50	Questions and summary	
15.50	Close	

#### Speakers from The Baker Dearing Educational Trust

Peter Mitchell, Chief Executive  
Professor Alison Halstead, Director of University Engagement  
& Pro Vice Chancellor Aston University  
Charles Parker, Director of Operations  
Jane Ware, Director of Programmes

The Baker Dearing Educational Trust



## Appendix 26a: BDT Kit Seminar Proposed KS4 Curriculum (2011)

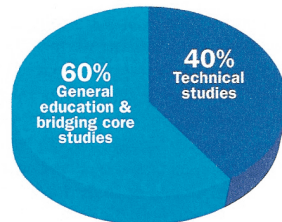


### The Curriculum Model

The University Technical College curriculum is divided into two components: general education/bridging core studies and technical studies. These are not taught separately, however, but are integrated into each other.

### 14 to 16 Year Olds

The core national curriculum requirements are provided with the split of time between general education/bridging core studies and technical studies being 60:40 respectively.



The modern language study is such that will enable students to be competent in the technical and general language associated with the technical study. For some students a GCSE course may also be followed.

The humanities cover the history and geography of the development of the technical study, including major developments and the people responsible.

The mathematics and English studies, whilst aimed at GCSE, are supplemented by material that ensures basic numeracy and literacy are secure to the standard expected by employers. Much of this material will be taught as part of the technical studies, not separately.

The enrichment activities include a range of experiences from further sport to community service to drama and art.

#### TECHNICAL STUDIES

This includes broad technical studies, for example engineering, experience of work (10% of total time for this component), projects (proposed by employers as far as possible); and mentoring. The content of the technical studies is determined by employers and higher education and also includes any content needed to enable students to achieve the technician qualification.

#### GENERAL EDUCATION

English, mathematics, science, a modern language, humanities, sport/PE and PSHE (including personal and employability skills), RE, enrichment activities.

#### BRIDGING SUBJECTS

Financial literacy, understanding and setting up a business, IT, careers education and guidance.

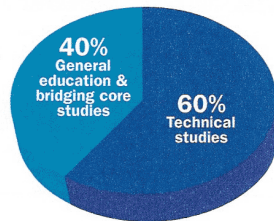
## Appendix 26b: BDT Kit Seminar Proposed KS5 Curriculum (2011)

[www.utcolleges.org](http://www.utcolleges.org)

### 16 to 19 Year Olds

Post-16, students are able to continue with their studies or they may choose to do an apprenticeship, which might include part-time study at the UTC.

If students choose to continue full-time study at the UTC the split of time between general education/bridging core studies and technical studies is 40:60 respectively.



The technical study is more specialised and job-related and the content should not only lead to a technical qualification but also to a professional qualification such as "Tech Eng" or "Tech Sc", both of which are being developed and recognised by the professional bodies. These will enhance employability and provide much needed skilled technicians.

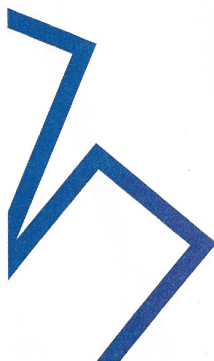
### General Education / Bridging Core Studies Post-16

This includes English, mathematics, science, sport/PE, business understanding, IT, careers education and guidance, modern language, employability skills. Short courses are also included.

The English work centres on report writing and presentation skills, both oral and written. The mathematics supports the requirements of the technical study as does the science. For many students, subjects may well be studied to A-level or its equivalent, thus ensuring students have as many pathways open as possible. Short courses could include Level 4 units of study drawn from the sponsoring university or from the Open University.

### Technical Studies Post-16

This includes job specific content and professional qualification content and experience of work (equivalent of one day per week), projects (provided by employers), and mentoring and may lead to A-levels or other Level 3 qualifications.



## Appendix 27a: BDT Brand Booklet Welcome (2012) p.2

### Welcome

Welcome to the Brand Book for University Technical Colleges.

In the following pages, we provide guidance on the application of the corporate identity that contributes to building and strengthening the University Technical Colleges brand.

A cornerstone of a strong brand is a clear identity. We want everyone who sees the University Technical Colleges identity to know who we are and connect with our vision and core values.

As one of our core competitive assets, our logotype must be communicated through consistent and correct implementation in order to preserve the value that our brand gives to the organisation. If we mix our corporate messages we risk creating confusion, doubt and distrust. We must aim for coherence in our presentation at all times, to nurture our future aims and achievements to fruition.

“The Baker Dearing Educational Trust” owns the brand. When using the logotype, UTCs should use the registered symbol at all times.

To this end, this brand book covers key characteristics such as the use of the registered symbol, use of the initials UTC and how to name a UTC.

Over the following pages we explore ways of implementing the identity. Please follow them in any educational and marketing work that you may manage.

We hope that you enjoy using the following guidance.

If you feel you need help putting these guidelines into practice then please contact:

**Jane Ware**  
Tel: +44 (0)20 7960 1555  
Mobile: +  
Email:  
[www.utcolleges.org](http://www.utcolleges.org)

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# 1 Introduction

## 1.1 University Technical Colleges

A UTC is a college for students aged 14 to 19 which specialises in technical education and is sponsored by a university. It offers full time courses which combine practical and academic studies. Employers are involved from the start in shaping the curriculum.

## 1.2 Our Vision

To boost the UK economy by ensuring an increased and improved supply of technicians and highly skilled vocationally qualified people.

## 1.3 Objectives of the Baker Dearing Educational Trust

- To promote the University Technical College concept and secure the opening of 100 UTCs across the country.
- To support University Technical Colleges so they provide a high quality education ensuring excellent outcomes for their students.
- To protect the concept of University Technical Colleges against erosion and contamination

## 1.4 University Technical Colleges Key Values

- Technical and academic education are integrated.
- Progression routes are planned and understood by students.
- The curriculum is responsive to the needs of employers and universities.
- Practical work is as highly valued as academic work.
- Students are given responsibility and respect which will prepare them for employment.

The name University Technical Colleges embodies what we are about:

**University** - high status

**Technical** - hands on and cutting edge

**Colleges** - forward-thinking educational institutions.

Our culture is to be professional, dignified, authoritative yet irresistible, energetic and inspirational.

## Appendix 27c: BDT Brand Booklet Naming (2012) p.27

### 9.2 Naming

Deciding on a name for a UTC is the most significant stage of individual college branding. Our advice is to pick a name which complies with one of the following routes:

**ROUTE 1: Lincoln University Technical College**

The word "university" is a protected word and it can only be used by adhering to both of the following:

- a) the UTC has the permission of the sponsoring university for use of its name and,
- b) the UTC has obtained a letter from the Department of Business Innovation and Skills stating the Minister does not object to the use of the word University in this context.

**ROUTE 2: Lambeth UTC**

If a region, town or borough does not have a university, for example, Lambeth, then the UTC phrase in full cannot be used after the location name. In this case we advise Route 2, naming it simply Lambeth UTC, Hackney UTC, Black Country UTC.

**ROUTE 3: University Technical College Lambeth**

If a region, town or borough does not have a university, for example, Lambeth, it is permitted to use the three words in full before the location name.

**ROUTE 4: Toshiba UTC**

We understand that individual UTCs may wish to reflect the involvement of other sponsors or refer to the specialism that they follow in their name. In this case, we strongly advise that the initials UTC are incorporated into the name, for example: Toshiba UTC

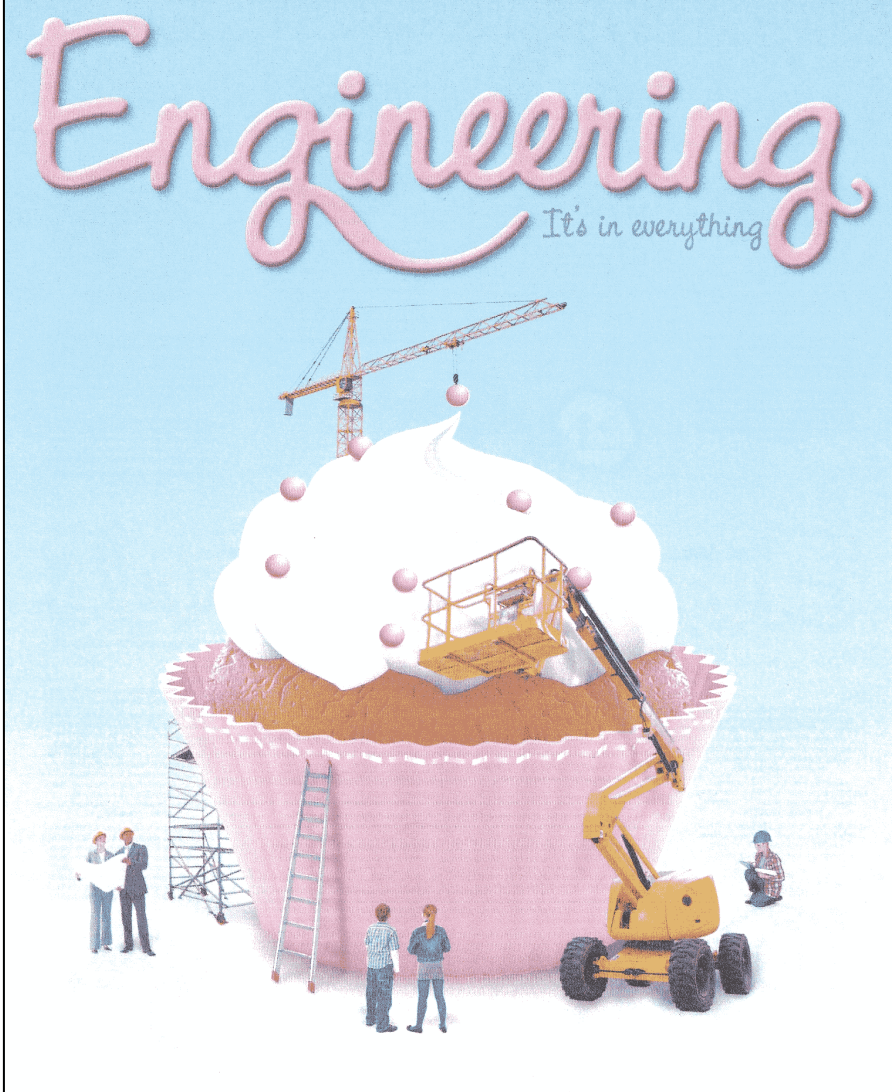
**ROUTE 5: UTC Plymouth, UTC Toshiba**

UTC sponsors may decide to use the initials UTC to precede the name of the university, region or employer sponsor and this is an acceptable route.

**What we do not advise:**

A UTC should incorporate the UTC brand in one of the forms in its name. If the name bears no reference to the UTC, for example a college known as Barnet Academy, or Innovation Academy, it will not be thought of as a UTC. Furthermore the term "academy" has become generic and implies an institution which is completely different from the UTC model.


**Appendix 28a: Marketing Poster Focused on Increasing the Number of Girls to enter Engineering Programmes of Study (2014)**



**Engineering**  
*It's in everything*

**Engineering. A career that's made for you**


Engineering is all around us. It's in the phone in your hand and the shoes on your feet. It's in sub-sea pipelines and supersonic planes, towering skyscrapers and nano-technologies. It's even in the perfectly-baked cupcake (ovens don't heat themselves). And it's engineers who make it all possible – just try imagining a world without them. Find out more about engineering and engineering careers at <http://engineergirl.wes.org.uk>

 **wes**



## Appendix 28b: Marketing Poster Focused on Increasing the Number of Girls to enter Engineering Programmes of Study (2014)

# Meet the Students




**Hanah** Chemical Engineer

"I'd really love to work in the pharmaceutical industry or automotive industry, the pharmaceutical industry, as I would like to give a helping hand in supplying medical aid, and the automotive industry as it lacks female engineers on a large scale."


I was inspired to study Chemical Engineering because I saw a gap in the market for engineers especially female engineers and decided to rise to the challenge. I also enjoyed studying Chemistry and Maths.

On my Chemical Engineering course we do all types of work from hands-on projects to designing plants. For me, the laboratory work is the best as I get a chance to work with my friends and explore different types of equipment."




**Rosie** Mechanical Engineer

"I studied Maths, Physics and Drama A Level. I'm a farmer's daughter and a practical individual. I always got the benefit of technology to a business, but drama was my first love at school and preferred choice for study. My Physics teacher was always telling us stories about the jobs his friends were doing that made me think 'now' and shifted my thoughts to engineering and made me see what else I could do. I also saw a leaflet from Engineers Without Borders which made me realise how engineering can help the developing world, so I researched into courses to find the things I liked doing."



**Izzie** Mechanical Engineer


"I'm an artist at heart. My parents work in the NHS and always wanted to be doctors - they found it hard to understand how I didn't know what I wanted to do. A friend's dad had suggested engineering, but I wanted to draw. On results day I got great grades in Maths and Physics and suddenly realised that's what I'd do. Engineering is Maths and Art. It's perfect. I balance my course with my love of art - spending my spare time capturing the views around Cardiff and socialising."



**Kashaf** Chemical Engineer

"I was inspired to study Chemical Engineering because I had a discussion with a lecturer at Aston University who told me about the benefits. I realised that the course isn't designed just for boys and that there is so much potential with a Chemical Engineering degree. After graduation you can go into almost any field."

On my course we work together as a big group, there's no division within the people on the course, you can turn to anyone for help. Students on the course are always helpful and the lecturers are always available. I'd really love to work in the energy industry when I graduate."



# Time for... Engineering Girls

<http://engineergirl.wes.org.uk>

"I started with BAE Systems in 2006 as an Advanced Technical Apprentice after finishing my GCSEs. I now work in Production Engineering, helping to make the manufacturing of Eurofighter Typhoon helmets more straightforward, working with the operators in production."


I love that every day is different and watching the technology evolve is fascinating. I love engineering because it's constantly changing and diverse.

Outside of work I'm a qualified diver and have helped as a volunteer with marine surveys around Fiji. I also sing in a rock band, Charlie and the Steam Age Heroes."


"I joined the nuclear industry with Sellafeld Sites on their graduate programme. Chemical Engineering seemed a bit daunting but now I'm in industry I'm not expected to know everything. I'm learning lots on the job and applying and reinforcing everything I studied. I love being part of a big team and gaining experience across different parts of the business. Every piece of work I get involved in is different. This requires me to adapt and step outside my comfort zone. It's not always easy but once the job is done you feel a real sense of achievement."

Outside of work I enter dance competitions and have participated in acts at the London Palladium and Hackney Empire Theatre."


Engineers like Emily Cummins are transforming lives with practical thinking and bags of imagination. Her sustainable fridge doesn't need electricity and is made from old car parts and household items, perfect for isolated communities in the developing world.




**Charlotte Tingley**  
Production Engineer, BAE Systems



**Neruja Srikantharajah**  
Lead Process Engineer, Sellafeld





**Yewande Akinola**  
Environmental Services Engineer, Jubilee



**Gemma Whitting**  
Medical Engineer, Cardiff University

# Meet the Engineers

Produced by the Women's Engineering Society with support from Aston, Cardiff, Durham, Hull and University College London.  
 Funded by the Royal Academy of Engineering. Photos: Penelope Jankovik, Charlotte Tingley & Izzie. Design: www.kitsondesign.co.uk

Appendix 29: Royal Academy of Engineering Marketing to Girls (2014) Cover



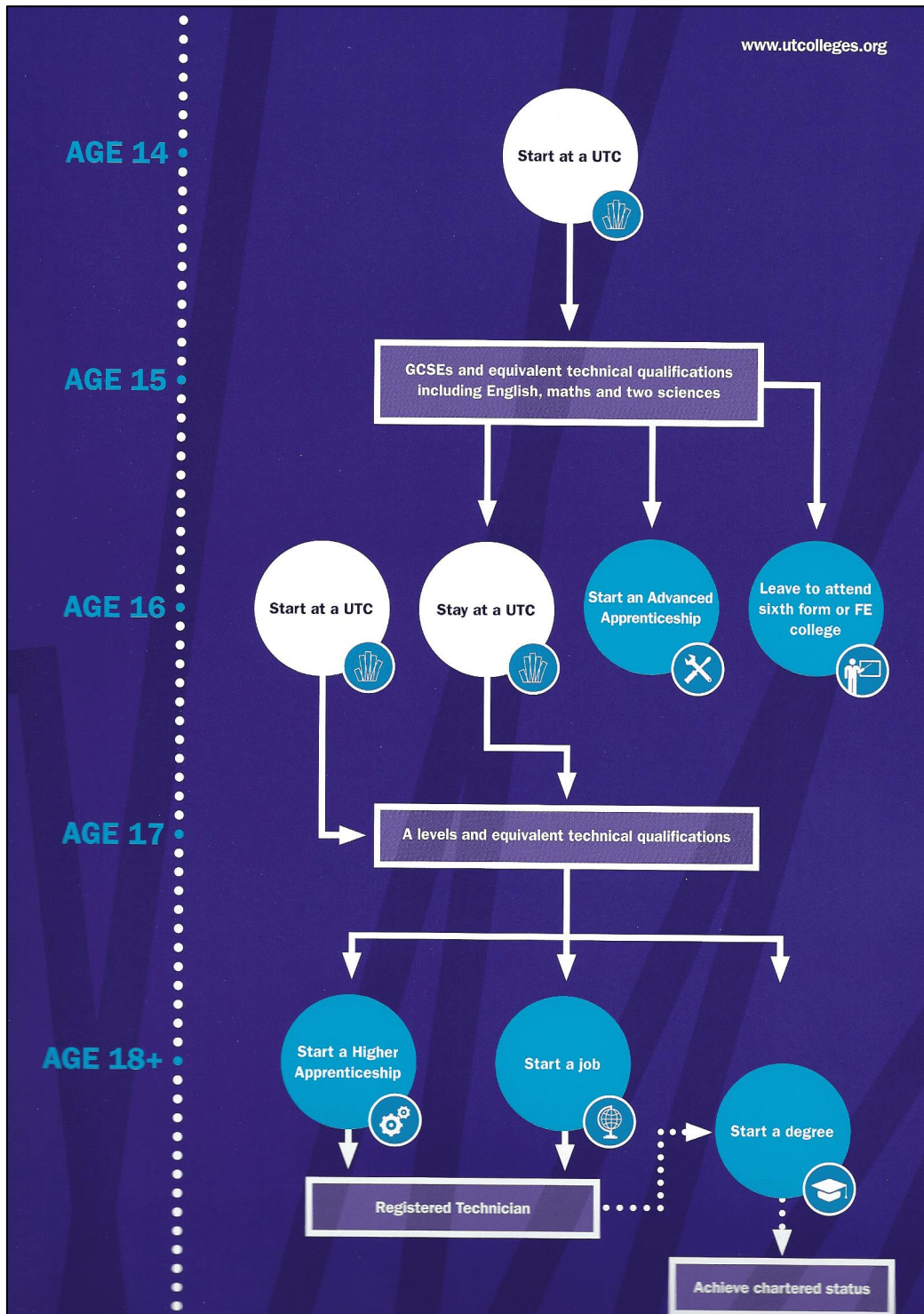
**University Technical Colleges®**

Opening up new opportunities for girls

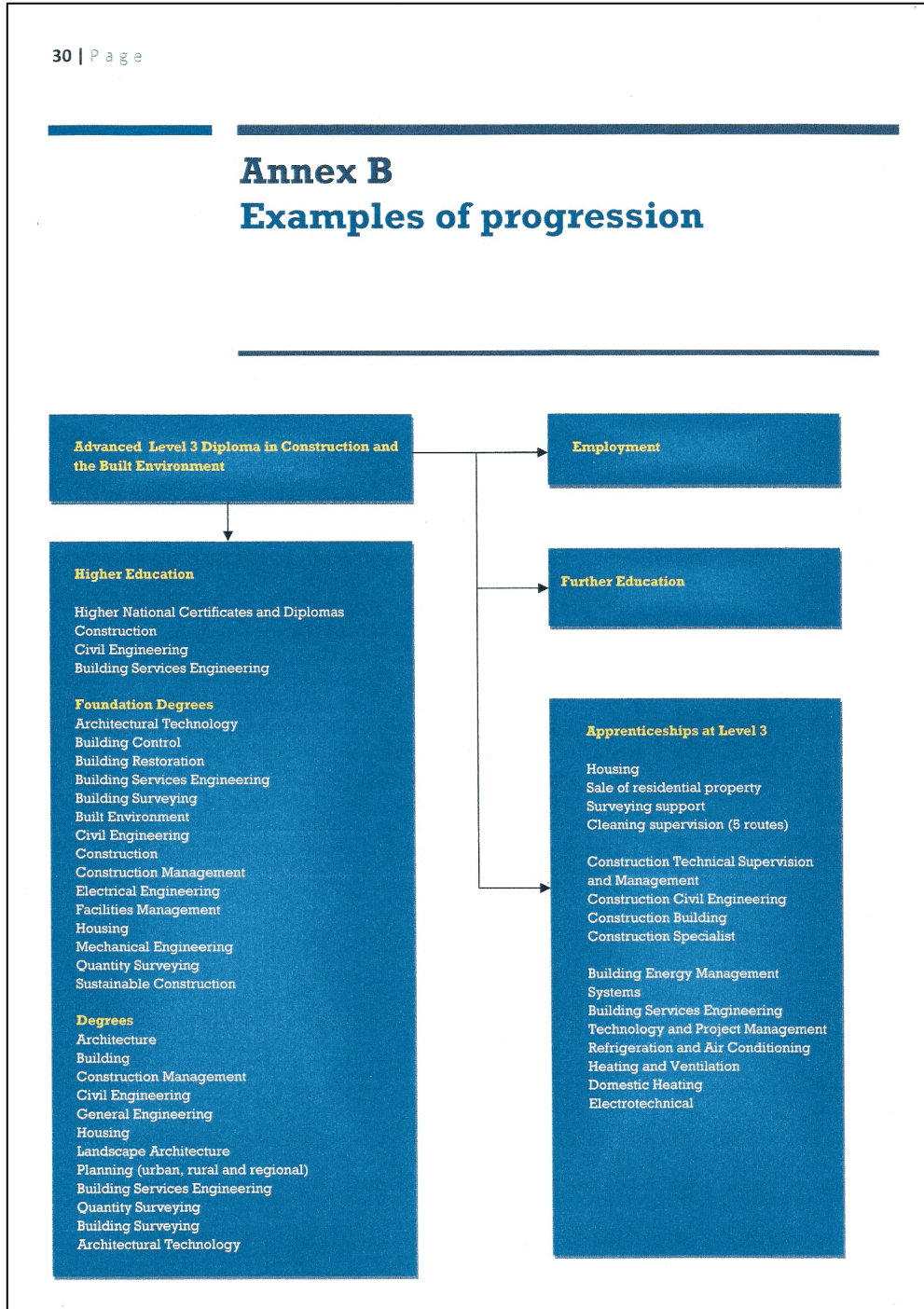


Produced by WISE for the  
Royal Academy of Engineering  
with support from the  
Women's Engineering Society and  
WiSET at Sheffield Hallam University  
June 2014

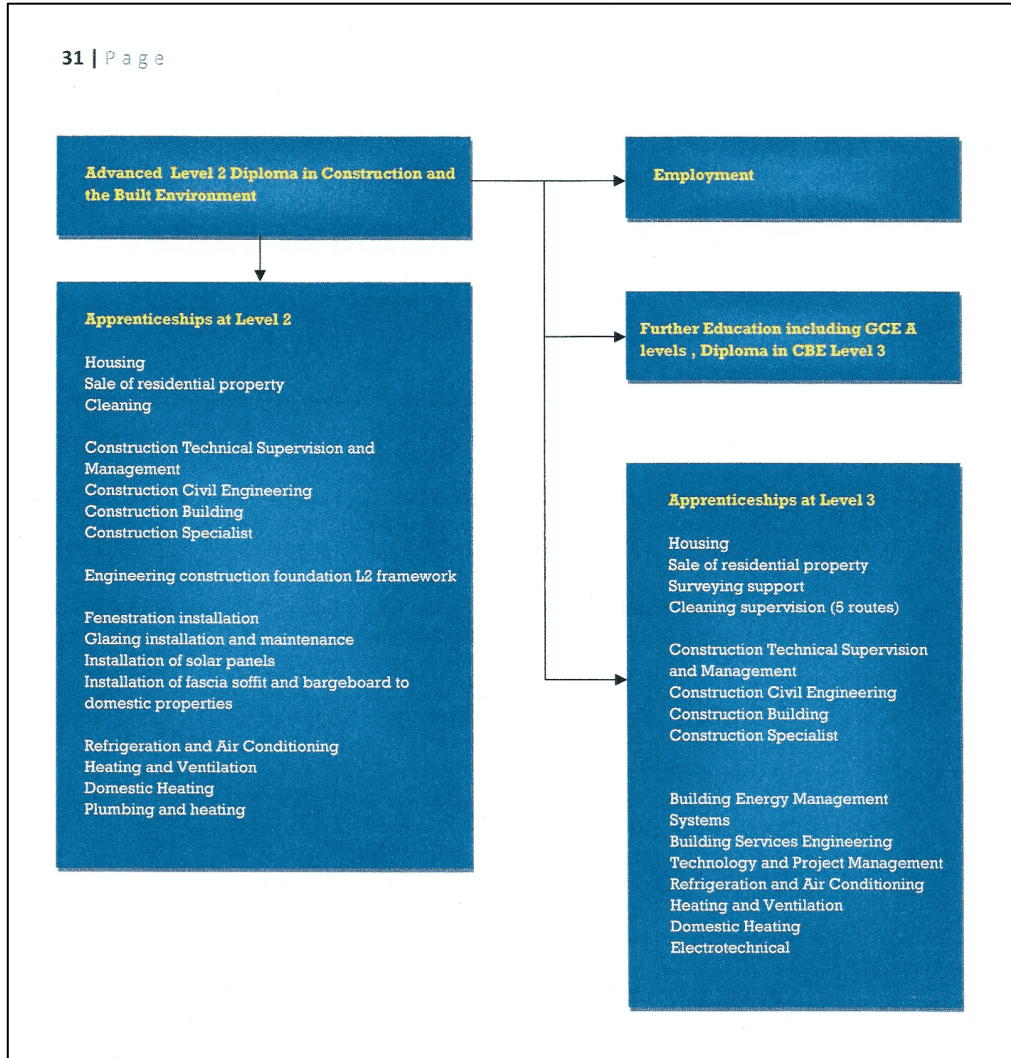
Appendix 30: BDT Proposed Progression Routes (2014) p.13



## Annex B Examples of progression



**Appendix 32b: Construction in the Built Environment (CiTB) Draft Curriculum (2012) p.31**



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## Annex C

### Exemplar distribution of guided learning hours (GLH)

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The purpose of this annex is to provide an indication of the guided learning hours that could be available for technical studies in a typical UTC.

Example 1 refers to 14 to 16 year old students at Key Stage 4 and Example 2 to 16 to 19 year old students.

#### Example 1 – students 14 to 16 years

Two years.

40 weeks per year.

School week: 43 hours or 35 hours excluding breaks etc.

1,400 hours per year.

60:40 split general / technical education.

Per year: general 840 hours and technical 560 hours.

Technical (1120 hours – in this example over two years)

- Technical Qualifications (Diploma PL Level 2) 420 Hours
- Project 60 Hours
- Employment related subjects or skills 640 Hours

General including core GCSEs (1680 hours – in this example over two years)

- Science 240 Hours
- Maths 120 Hours
- English 240 Hours
- Language 120 Hours
- Humanities 120 Hours
- ICT 120 Hours
- Personal Learning Thinking Skills 60 Hours

Other studies

- PHSCE (may not lead to a qualification) 80 Hours

**Appendix 32d: Construction in the Built Environment (CiTB) Draft Curriculum (2012) p.33**

33 | Page

- PE (may not lead to a qualification) 180 Hours
- Extension or additional studies 320 Hours
- Careers 60 Hours
- Financial literacy (may not lead to a qualification) 60 Hours
- Entrepreneurial studies and activities 60 Hours

Other distributions could be employed including for example other distributions of core GCSEs could be favoured – such as increasing the time spent on Science , adding further study of ICT, study of related subjects such as art and design or design and technology.

**Example 2 – students 16 to 19 years**

Two years.

40 weeks per year.

School week: 43 hours or 35 hours excluding breaks etc.

40:60 split general / technical education.

Per year: general 560 hours and technical 840 hours.

Technical (1680 hours over two years)

- Technical Qualifications (Diploma PL Level 3) 540 Hours
- GCE Maths 360 Hours
- Project 120 Hours
- Employment or specialist related subjects or skills 600 Hours
- Employee rights and responsibilities 60 Hours

General (1120 hours over two years)

- Language 120 Hours
- PE (may not lead to a qualification) 180 Hours
- Extension or additional studies 500 Hours

**Appendix 33a: Typical UTC KS4 Curriculum Prior to Opening (2010-2012)  
Anonymised**

<b>CURRICULUM*</b>		<b>CHALLENGE PROJECTS FOR ALL STUDENTS</b>		
<b>14-16</b> (Key Stage 4)		<b>PLUS CHOICE FROM:</b>		
<b>CORE SUBJECTS FOR ALL STUDENTS</b>		Technical & Professional	EBACC top-up	Additional GCSEs
BTEC Diploma Science	GCSE English	Additional BTEC Diploma or Units	GCSE Geography	GCSE 3rd Science top-up
Informatics	GCSE Maths		GCSE Spanish	GCSE Computer Science
	GCSE Double Science			GCSE Further Maths
or Individually Tailored Programme				
* Challenge Projects include Health & Safety, Infection Control, Hygiene, Energy Awareness and Environmental Support				



**Appendix 33b: Typical UTC KS5 Curriculum Prior to Opening (2010-2012)  
Anonymised**

<b>CURRICULUM*</b>				
<b>16-19 (Key Stage 5)</b>				
<b>CHALLENGE PROJECTS FOR ALL STUDENTS</b>				
<b>ALL STUDENTS</b>	<b>LEVEL 3 Technical &amp; Professional</b>	<b>LEVEL 3 A Levels</b>	<b>LEVEL 3 Combined</b>	<b>LEVEL 2</b>
<b>Development of English</b>	<b>plus</b> <b>BTEC Extended Diploma Science</b>	Biology	<b>or</b> <b>BTEC Diploma plus A Levels</b>	<b>or</b> <b>BTEC Diploma (1 Year)</b>
<b>Development of Maths</b>		Chemistry		
<b>Informatics</b>		Further Maths		
		Physics		
		Maths		
		Computer Science		
		Geography		
		Use of Maths		
<b>or Individually Tailored Programme</b>				
Challenge Projects include Health & Safety, Infection Control, Hygiene, Energy Awareness and Environmental Support				

\*Subject to exam body revisions

## Appendix 34: UTC Project Mapping Proposals (2012) Pearson (slide 15)

### Project Mapping

#### **Project 1 A challenge or question to solve with specific tasks over 6 weeks / a focus on team work and collective problem solving**

**English**- a few elements  
**Maths**- multiple examples  
**Science**- substantial opportunities  
**MFL**- terms and definitions applied  
**NVQ Level 2 Performing Engineering Operations** -elements covered  
**NVQ Level 2 Performing Manufacturing Operations** -elements covered  
**History**- elements of: Engineering / I&CT and Digital / Construction / Health and Medical Technology

**BTEC Specialist subject**- elements of 2 Mandatory units  
**Business and Enterprise** -elements  
**BTEC I&CT** -elements of 1 Mandatory unit  
**GCSE Resistant Materials** -elements covered

#### **Discrete delivery to cover full programme of study**

English, maths, Sciences

Other subjects where the PoS is not fully covered by the Projects

Multiple opportunities to learn and practice skills – either via a VLE or Active Learn where students may work independently -online, anytime, anywhere

Collaboration mechanisms – between staff and students

Excellent Careers and Education Advice

## Appendix 35: AQA Products & Services (2014)

AQA	
AQA products & services to meet your needs	
You asked	We're planning
for a replacement for Principal Learning in Engineering	two new Level 1/ Level 2 Certificates in Engineering for September 2012
to meet the EBacc requirements but using content relevant for UTCs	an enhancement to GCSE History to support understanding of Britain's industrial past and present; IGCSEs in MFLs that can include engineering and vocational contexts
for qualifications approved by industry	a cutting edge Computing qualification developed in partnership with a global computing brand for September 2012; innovative Certificate in Use of Maths endorsed by RAoE
for support in attesting wider/ employability skills	to adapt our online enrichment diary to enable the recording and tracking of these skills
for support in how to contextualise core GCSEs	on-site support with planning of delivery of STEM qualifications

## Appendix 36: South Devon UTC Proposed Technical Qualifications Engineering (2013)

### Technical Qualifications

#### BTEC Level 3 Engineering Structure



**SOUTH DEVON  
University  
Technical  
College**

in Engineering, Water and the Environment

Unit		Title	Credit Value
1	M	Health and Safety in the Engineering Workplace	10
2	M	Communications for Engineering Technicians	10
3	M	Engineering Project	20
4	M	Mathematics for Engineering Technicians	10
5	M	Mechanical Principles and Applications	10
6	M	Electrical and Electronic Principles	10
8	O	Engineering Design	10
10	O	Properties and Applications of Engineering Materials	10
11	O	Further Mechanical Principles and Applications	10
12	O	Applications of Mechanical Systems in Engineering	10
15	O	Electro, Pneumatic and Hydraulic Systems and Devices	10
17	O	Computer Aided Drafting	10
19	O	Mechanical Measurement and Inspection Techniques	10
20	O	Engineering Primary Forming Processes	10
21	O	Engineering Secondary, Finishing Techniques & Processes	10
26	O	Applications of Computer Numerical Control in Engineering	10
28	O	Further Mathematics for Engineering Technicians	10

### Typical Unit Selection for BTEC Level 3 Engineering

*Note – Man. Units total 70 credits leaving  
110 credits from Opt. Units*

*Unit selection resulting from employer  
consultation 02.07.2013*

Post Tuesday 2<sup>nd</sup> July – Educational Sub Group

## Tech Bacc explained

David Harbourne, Senior Education Adviser, Baker Dearing Educational Trust



### David Harbourne, Senior Education Adviser to the Baker Dearing Educational Trust.

The last few years have seen huge and growing interest in the Tech Bacc. Or more accurately, in Tech Baccs, plural.

Following the Wolf Review of vocational education, the Coalition government was keen to promote high-quality post-16 pathways for young people aiming to work in specific occupational areas. The first step was to develop new guidelines on level 3 qualifications taught in schools and colleges.

In future, three types of level 3 qualification will count in post-16 performance tables<sup>1</sup>:

- A Levels
- Technical Levels (Tech Levels)
- Applied General Qualifications (AGQs)

In theory, there is a clear distinction between Tech Levels and AGQs. Tech Levels are meant to relate directly and specifically to specific occupations, defined by reference to two-digit Standard Occupational Codes. AGQs do not have the same specificity; instead, they provide learning linked to a broader collection of job roles, often across a wide sector of the economy.

The Department for Education has issued guidance on both types of qualification. In a list of qualifications counting as Tech Levels in the 2017 performance tables, DfE says:

Tech levels give students an opportunity to develop specialist knowledge and skills to help them get an apprenticeship or job, for example in engineering, IT, accounting or professional cookery or progress to a higher level qualification. In some cases, a tech level qualification

is a 'licence to practise' or can exempt someone holding the qualification from a professional exam.<sup>2</sup>

The parallel document on AGQs says:

Applied general qualifications are rigorous advanced (level 3) qualifications that allow 16 to 19 year old students to develop transferable knowledge and skills. They are for students that want to continue their education through applied learning.<sup>3</sup>

In practice, it is not always easy to work out why one qualification has been approved as a Tech Level and another as an AGQ. As a result, both types of qualification could be used as a springboard either to an Apprenticeship at 18+ or to direct entry to higher education, either alone or – more commonly – in combination with other qualifications, including A levels.

Nevertheless, Tech Levels have been accorded a special place in the government's post-16 performance measures, because unlike AGQs, they count towards the Technical Baccalaureate measure, or TechBacc for short.

The TechBacc will recognise achievement in a Tech Level, an Extended Project Qualification (EPQ) and an approved level 3 maths qualification (mainly A level or core maths). Like the EBacc, this is a "virtual" Baccalaureate: students will not receive an extra certificate, but their UTC, school or college will gain extra credit in the performance tables.

The DfE says:

The TechBacc provides bright young people with a first-class alternative to the more traditional A level route, ensuring they have the technical ability employers want, and giving

Britain the skilled workforce it needs to compete in the global race.<sup>4</sup>

Combining a Tech Level with Level 3 maths and an extended project is expected to be of particular benefit to young people aiming to become technicians, whether in a STEM field – IT, engineering or construction, for example; a service sector such as hospitality or accountancy; or a creative field such as media or design.

The TechBacc will be reported for the first time in 2016. As an interim measure, five maths qualifications will count, falling to three in the 2017 performance tables – namely AS/A level maths, Core Maths, and International Baccalaureate Certificates in Mathematical Studies and Mathematics. The two qualifications which count in 2016 but not 2017 are OCR's AS level in Quantitative Mathematics and AQA's AS/A level in Use of Mathematics.

Core Maths qualifications have a strong emphasis on the application of maths to real-world situations. Examples include using and analysing data, financial

## UTCs: A model to be celebrated and encouraged

Toby Peyton-Jones, HR Director, Siemens GB & Ireland



**Toby is a member of the Executive Management Board of Siemens Plc with responsibility for Siemens in the UK and assigned countries where Siemens has approximately 14,000 employees. In this article, he argues for better technical pathways to enable young people to take advantage of the careers in engineering and other sectors. He recognises this is exactly what UTCs were set up to do and why more are needed.**

The Siemens business and product portfolio today is very different to what it was, say, ten years ago and it is sure to be so again in another ten years, most probably as a result of the spread of robotics and use of

digital technologies. These changes will affect our skills requirements in ways that we are only beginning to understand and UTCs are helping us to address this.

We need a UK education and skills system that makes young people ready and adaptable to the coming digital revolution. It is a combination of both core technical skills and 'meta skills', such as project management, commercial awareness and team working, which will be the biggest driver of both productivity for our company and career progression for our future employees. This is why we are supportive and active participants in the development of University Technical Colleges (UTCs), as they offer students a high quality, rounded, technical education which can lead to apprenticeships, foundation and higher

degrees. The broad combination of skills that UTCs develop can help to future-proof careers in a world of rapidly changing technology.

Readers of *Technical Matters* will be familiar with the skills shortages facing engineering and other sectors and providing UTCs with the rationale to help meet this demand. It is a personal frustration, that we have got technical skills so wrong in this country over so many years. I compare that with Germany, home of our parent company. Here the strength of the system comes not just from the quality of qualifications (which are good, but not best in class) but from the fact that Germany has a long-standing and trusted system, in which all participants have confidence. The forthcoming Apprenticeship Levy is an opportunity to end the constant cycle of change which has blighted the UK's approach for the last twenty years. But even then the government's new White Paper on Academies does appear to propose a future curriculum that still squeezes out technical education and practical, hands-on experience, in favour of academic subjects.

**It is essential that we develop better pathways that can lead to technical and professional careers and that is exactly what UTCs were set up to do and why we need more of them.**



What particularly attracts us to the UTC model is the way in which it helps to engender engineer aspirations through specialist teaching and equipment. The longer school day, 8.30 till 5.30, and the involvement of universities and employers exposes students to core technical disciplines as well as giving them experience of working in teams, solving problems and thinking commercially. Integrating real engineering problems with

## Comprehensive Education

The Government's changes to education are welcome but do not extend far enough

By his own hand in *The Times*, Michael Gove has two principles that define his mission for education in Britain. The first is that the teachers are there to serve the pupils. The second is that the same opportunities should be open to children from poorer families that are enjoyed by the wealthy. The risk with his announcement yesterday of a new system of examinations to replace GCSE is that it does not do enough to fulfil his second stated objective.

It is not that the reforms do not have a lot to commend them, because they do. There is a lot to be said for ensuring that candidates study history in some depth, do extended topics in science that equip them with the principal scientific and mathematical concepts and read whole books by Jane Austen and Charles Dickens. If the exams prove to be tougher to pass than those they replace, then that too is a good thing. Success cannot be purchased at the price of lost excellence.

The proper reservation about Mr Gove's plans is not that anything is wrong with them, as far as they go, but that they do not go far enough. Every year 13,000 children leave school with nothing to

their name. It is probable that the same number again have left long before they decide not to turn up to take any public exams. A further 10,000 children a year come away with a single pass, which counts as zero to employers. A quarter of all children, the vast majority from working-class families, do not gain a single A or B grade at GCSE. It is hard to see how Mr Gove's changes to exams, welcome as they are, fix this.

There is, though, a clear solution. The great historic anomaly of postwar English education policy was the failure to establish many of the technical secondary schools that were promised by the Butler Education Act of 1944. Those pupils with great ability who were not primarily academic were marooned without any high-class institutions to learn in. Better technical education will give an opportunity to those students who currently gain little or nothing.

It is therefore puzzling that Mr Gove should be so apparently lukewarm on an initiative that can solve the problem. The University Technical Colleges (UTCs), established by the former Education Secretary Lord Baker of Dorking and the late

educationalist Ron Dearing, offer all the core subjects and specialise in a skill that is valuable to employers. Each one is backed by an industry sponsor and by a university. They provide a route into employment and a route into higher education for pupils who will, by the age of 14, know that conventional academic study is not for them. At the age of 16 students take diplomas in engineering and business alongside GCSEs in IT, maths, English, science and a foreign language.

UTCs are still young. There will only be 45 in England by 2015. But they do offer a quality of education in a field in which this country has been poor. Ministers are fond of saying that Britain is in a global race where the skills of the employees will be a determining factor. That is not only true; it is also the best possible case for high-class technical education.

One of the flaws of the comprehensive vision of education was the notion that people were much the same. A more sophisticated system would recognise that talent comes in many forms. Rigour for those children who are academic is a fine thing. But so it is for those who are not.

**Appendix 40: Tomlinson's 'Ideal' UTC Curriculum (2014), School Science Review 95, p.37**

Perspectives on the science curriculum

## The philosophy and structure of the curriculum in university technical colleges

*Sir Mike Tomlinson*

**ABSTRACT** Arguments about the content and structure of the curriculum for 14- to 18-year-old students in England continue apace, not least as a consequence of the National Curriculum review and proposed changes to qualifications. However, the majority of initiatives aimed at providing high-quality and rigorous technical pathways from age 14 onwards have failed to match those provided in many European countries. The creation of university technical colleges (UTCs), 14–18 schools sponsored by universities and employers, has provided an opportunity to plan and provide a new approach to the curriculum.