

Business Studies A-Level or BTEC? Which qualification provides the better foundation for degree level-study? A comparative analysis of student performance during the first year of an undergraduate business management degree programme

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Declaration

1. This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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Date 17/06/2020

2. This dissertation is being submitted in partial fulfilment of the requirements for the degree of MA Professional Development, Education and Training

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3. This dissertation is the result of my own independent work/investigation, except where otherwise stated.

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Abstract

A series of successive reforms in education, particularly reform of qualifications, have combined to create an increasingly fragmented education system. Students now face a minefield of choices when determining which path to follow to give them the best prospect of achieving their goals. Today, the majority of students who are considering applying to university, still choose A-levels to prepare them for application and entry. However, increasing numbers of students are choosing BTEC qualifications as an alternative. Across subject areas this is no more prevalent than within business studies.

Whilst the Qualifications & Credit Framework considers these qualifications to be of equivalence, some universities have begun to question the value of BTECs, with notable top UK universities only now accepting BTEC as an entry qualification alongside A-Levels.

This small-scale study examines whether the A-level in business studies or BTEC qualification in business management is better at preparing students for university study.

By comparing student performance during their first year of degree study and seeking the views of first year students and those teaching them, this research aims to answer this question and contribute to the wider discourse surrounding curriculum reform.

This study centres on an analysis of student performance in examinations and coursework, as well as scrutinising overall performance, including progression. It also examines the perceptions of students and the observations of academics who teach students with these qualifications, with the aim of establishing whether the perceived value of these qualifications is supported by the statistical evidence.

Analysis showed a statistically significant difference in the performance of holders of different qualifications. In stark contrast to the academic performance data, the views of students and academics on the subject of the utility of qualifications were far more positive.

Overall, the project concludes that students who enter university possessing AS-Level and/or A2-Level qualifications in business studies perform better overall than those students who possess a BTEC qualification in business management.

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List of Abbreviations

A2-Level	General Certificate of Education Advanced Level
AS-Level	General Certificate of Education Advanced Level Supplementary
A-Level	General Certificate of Education Advanced Level
BTEC	Business & Technology Education Council
CQFW	The Credit and Qualifications Framework for Wales
GCE	General Certificate of Education Advanced Level (A-Level)
GCSE	General Certificate of Education
GNVQ	General National Vocational Qualification
HEA	Higher Education Academy
HEI	Higher Education Institution
HESA	Higher Education Statistics Agency
L3	Qualifications at level 3
L4	Qualifications at level 4 (first year degree study)
L5	Qualifications at level 5 (second year degree study)
L6	Qualifications at level 5 (third year degree study)
NVQ	National Vocational Qualification
O-Level	General Certificate of Education Ordinary Level
RQF	Regulated Qualifications Framework
QCF	Qualifications & Curriculum Framework
UCAS	Universities & Colleges Admissions Service

Chapter 1 - Introduction

Business degrees are more widespread and popular than ever before – business studies is currently the most popular degree choice in the UK (Hackett, 2016). With a larger group of students than ever graduating with business studies degrees – 326,470 students obtained a degree in business or a related subject in 2017 (HESA, 2017), HEIs need to do all they can to understand and close the gap that exists between the top performers and lowest performing students (Lowe & Cook, 2003).

The Gap

The number of students gaining 1st-class degrees continues to break records year-after-year (Pells, 2017). We know a great deal about academically successful business students (Bennett & Barkensjo, Characteristics of academically excellent business studies students in a post-1992 university, 2005) and the reasons for grade inflation are well documented (Achen & Courant, 2009), yet little is known about students that perform poorly.

The relationship between a student's willingness & ability to engage with learning opportunities and consistent performance is firmly established (Bovill, Cook-Sather, Felten, Millard, & Moore-Cherry, 2016), but until relatively recently the existence of a relationship between entry qualifications and performance on degree programmes had not been the subject of extensive research, because whilst the performance of A-Level students at university has been discussed (Barnett, 1987), it was not until the (Wolf, Review of Vocational Education, 2011) that commentators started to really consider whether vocational qualifications provided students with the same foundation in terms of knowledge and skills as their academic counterparts.

Thankfully, the relationship between entry qualifications and outcomes is now starting to be explored by researchers such as (Brimble, 2013) and (Pallavi Amitava Banerjee, 2018) adding to the wider discourse surrounding progression described in detail by (Vryonides & Lamprianou, 2013).

This researcher's own experience suggests that a performance gap between those who have a business studies entry qualification and those that do not possess a business studies qualification exists. Furthermore, the researcher's experience points to the existence of a disparity between learners who possess AS/A2-Level Business Studies and those that possess a BTEC in Business Management. This research will explore these themes, but first it is important to understand why the researcher formed the view that a difference exists.

The Background

Immediately prior to the author's appointment as a university lecturer, he completed a PGCE at secondary level, which included placements in a school and FE college. On the researcher's first day as a lecturer he discovered that many of the students that he had taught in school and college, in his capacity as a then trainee, were now students on the degree programme, which he was now in part responsible for delivering.

Following the end-of-term examination, the author couldn't help but notice that there appeared to be a concerning theme, particularly in respect of students who had failed his course. Students who the author knew well from his time teaching BTEC Business Management at the local college only a year earlier, appeared to have achieved lower marks than those that the author had taught as part of an A-Level course in the local school during the same academic year. Both groups of students had had the same teacher – the researcher. Both had benefited from the same subject knowledge and approach to teaching.

This led the author to ask whether students who completed BTECs were at a disadvantage, compared to those who completed an A-Level in the same subject. This also led the researcher to consider the wider role of entry requirements.

Entry Qualifications

Business-based degrees were being offered in the UK as early as 1902 (Birmingham Business School, 2010). But whilst the value of business and economics education is appreciated by education policy makers (Brant & Cullimore, 2012), neither subject yet has a place in the national curriculum. Although, as Davies (2006) points out the perceived association of business studies with the vocational curriculum leaves its academic credentials under question.

According to Gardner (2013) universities rarely require students to possess a business studies qualification in order to gain a place on a business studies course, Only rarely will a university require any specific entry qualifications prior to embarking upon a business studies degree. Where specific qualifications are required, they tend to be limited to mathematics. This is despite business courses requiring students to immediately engage with an applied social science subject that combines theory, practice and real world case study (Baruch, Bell, & Gray, 2005), in other words – a challenging course.

It is assumed that students embarking on a business degree programme will have a minimum level of knowledge and possess certain skills to enable them to engage from day

one. But is this realistic or fair? This question is central to the widening participation debate. It poses a further question, which is: if it is realistic to expect learners with no prior study of business to engage in the same way as those with business studies qualifications, how robust are said entry qualifications and are equivalent qualifications truly equivalent?

This research will consider whether students who possess the two most popular entry qualifications perform better than students without these qualifications. It will also explore whether learners in possession of the A2/AS Level in Business Studies perform differently to learners in possession of a BTEC in Business Management.

A-Levels (AS/A2)

A-Levels were introduced in 1951 as a standardised school-leaving qualification, replacing the Higher School Certificate (WJEC, 2012) and are graded A-E. A-Levels were initially conceived to be delivered in schools by qualified teachers and were aimed at academic students, i.e. those that have attained the highest grades at O-Level (Perry, 2014). O-Levels have since been replaced with GCSEs (Burdett, 2015), whilst A-levels, albeit reformed, have remained. Whilst A-Levels have lost some of their lustre (Smith & White, 2015) they remain the gold standard qualification at L3 (Gill T. , 2017). Today A-Levels are divided into two parts – AS and A2. Since the creation of Curriculum 2000, which was widely welcomed at the time by HEIs (Hodgson, Spours, & Waring, Higher education, Curriculum 200 and the future reform of 14-19 qualifications in England, 2005), A-Level subject choice is wider than ever.

At the time of the creation of A-Levels, the secondary school system in England & Wales was segregated by academic achievement (Gillard, 2008). There were three types of secondary school: Grammar, Secondary-Modern and Technical (Hitchens, 2012). The Butler Education Act, which introduced this tripartite system of secondary education envisioned that grammar schools would deliver a traditional and highly academic curriculum, teaching students to deal with abstract concepts based in theory (Bolton, Grammar School Statistics, 2017). A-Levels were at the pinnacle of grammar-school study.

Learners were encouraged to read from text-books and were required to retain information for long periods; in order to achieve strong results they would need to be able to draw upon what they had learned in examinations.

Students obtaining strong A-Level grades would have the option to progress to university, of which there were only forty-five across the UK in 1944.

By contrast, children who were not deemed to be academic, but who were considered to have technical potential, were offered a scientific and mechanical education at a Technical High School. Students would learn highly-skilled vocations, to serve industry or science (Barber, 2014). The remaining students, according to Sampson (1965), not considered to be academically bright or technically gifted, were schooled in secondary modern schools, which delivered a basic education to the majority of school-age pupils ranging from joinery to cooking.

Subjects and qualifications taken by students during their secondary education were therefore critical in determining whether they could gain access to a university education.

BTEC

Today the picture is very different. The tripartite system has long been replaced across nearly all counties by a comprehensive system. Comprehensive schools were designed to deliver a full-curriculum education to all, regardless of socio-economic background or academic attainment, until age 16 (Paterson, 2012). A-Levels remain central to the school curriculum in schools which cater for post-compulsory learners. But an alternative – the BTEC, is growing in popularity. In fact, the number and proportion of students undertaking BTEC qualifications continues to grow year on year (UCAS, 2017).

BTECs were conceived as vocational programmes and were designed to be assessed by means of coursework as opposed to examination (Wolf, Review of Vocational Education, 2011). It was envisioned that students who were not viewed as academic could undertake a vocational course in a teaching environment, as opposed to either: train to work in one of the trades; or enter the unskilled labour market (Our history, n.d.). Initially, BTECs were delivered exclusively by further education colleges, whereas A-levels continued to be delivered by schools. Over time though, as a result of numerous and wide-ranging reforms of the education system these distinctions have become blurred.

Most schools and colleges offer a range of courses which include subjects at BTEC and A-level. Students often take a mix of the two qualifications and BTECs are accepted to have equivalence to A-levels by a significant proportion of UK universities (UCAS Tariff Tables, n.d.). Indeed as Busby (2017) explains: students are being encouraged to complete BTECs, opposed to A-levels, as a means to secure a good university place. This research will examine whether as well as providing a basis to secure a university place, BTECs provide an adequate foundation for university study.

BTEC qualifications are flexible – learners can take them alongside (or instead of in some cases) GCSEs and A-levels in schools and colleges. BTECs are divided into units, which cover specific areas of knowledge and skills. They are assessed exclusively by coursework (including presentations). They also heavily feature group work.

Equivalence

As already mentioned, BTEC and A-Level are viewed to have equivalent status as a university entry qualification. Indeed, outside of the Russell Group of UK Universities, the group established to represent the interests of the pre-1992 universities (Russell Group, 2016) traditional lines between academic and vocational education do not exist in the same that they once did (Collins, 2011), meaning that choosing BTEC is often viewed as a ‘safe bet’ for learners. Indeed, Hyland, 2014 argues that HEIs demonstrate enthusiasm for accepting vocational qualifications.

A-Levels require students to sit examinations, BTEC does not. The nature of the assessment regime surrounding A-Levels massively restricts the ability to resit examinations. Meanwhile, BTEC is noted for its flexibility, with students being able to seek formative feedback for their coursework submissions from the marker directly, enabling students to submit ‘text-book’ ready answers for grading.

Table 1 National Qualifications Framework / Qualifications Credit Framework Comparison

Level	Examples of NQF qualifications	Examples of QCF qualifications
Entry	Entry level certificates	Awards, Certificates, and Diplomas at entry level
	English for Speakers of Other Languages (ESOL)	Foundation Learning at entry level
	Skills for Life	Functional Skills at entry level
	Functional Skills at entry level (English, maths and ICT)	
1	GCSEs grades D-G	BTEC Awards, Certificates, and Diplomas at level 1
	BTEC Introductory Diplomas and Certificates	Functional Skills at level 1
	OCR Nationals	Foundation Learning Tier pathways
	Key Skills at level 1	NVQs at level 1
	Skills for Life	
	Functional Skills at level 1	
2	GCSEs grades A*-C	BTEC Awards, Certificates, and Diplomas at level 2
	Key Skills level 2	Functional Skills at level 2
	Skills for Life	OCR Nationals
	Functional Skills at level 2	NVQs at level 2
3	A levels	BTEC Awards, Certificates, and Diplomas at level 3
	GCE in applied subjects	BTEC Nationals
	International Baccalaureate	OCR Nationals
	Key Skills level 3	NVQs at level 3
4	Certificates of Higher Education	BTEC Professional Diplomas Certificates and Awards
		HNCs

		NVQs at level 4
5	HNCs and HNDs	HNDs
	Other higher diplomas	BTEC Professional Diplomas, Certificates and Awards
6	National Diploma in Professional Production Skills	BTEC Advanced Professional Diplomas, Certificates and Awards
	BTEC Advanced Professional Diplomas, Certificates and Awards	
7	Diploma in Translation	BTEC Advanced Professional Diplomas, Certificates and Awards
	BTEC Advanced Professional Diplomas, Certificates and Awards	NVQs at level 5 (in the QCF framework)
8	Specialist awards	Award, Certificate and Diploma in strategic direction

Notes:

1. The BTEC being examined in this study is the Level 3 Diploma.
2. BTEC qualifications are offered at a number of levels but for the purposes of this study we are only concerned with BTEC qualifications at Level 3 on the National Qualifications and Credit Framework which (Ofqual, 2015) states are equivalent to A-levels in terms of difficulty and academic rigour.

For university educators, this raises a number of questions. As students arrive at university for their undergraduate study from an increasingly diverse education background, how can universities ensure that their programme provision is equally accessible to all of their students? And, if universities are still going to assess by means of examination, how can HEIs expect students who have completed a BTEC, as opposed to A-levels to perform at the same standard as AS/A2 Level students?

In addition to these general questions, the author's own experience has led the researcher to query whether the AS/A2 Level qualification and BTEC truly are equivalent. At the author's university, which is the focus of this research project, AS/A2 Levels and BTECs are afforded equivalent status, yet anecdotal evidence appears to suggest that learners who possess an AS/A2 qualification achieve better results than those who possess the BTEC qualifications in the same subject. This is the hypothesis underpinning this research.

Table 2 Entry Tariff at the Sample University

Tariff Points	A Level Grades	BTEC Grades
144	AAA	DDD
136	AAB	
128	ABB	DDM
120	BBB	
112	BBC	DMM
104	BCC	
96	CCC	MMM
88	CCD	

Notes:

UCAS points are used by some universities, including the sample university to allocate a numerical, and therefore comparable value to qualifications (UCAS Tariff Tables, n.d.).

A-Level grades range from A to E, A* being the highest and E being the lowest (Acquah, 2013)*

BTEC qualifications are graded as either: D = Distinction, M = Merit, P = Pass (Pearson qualifications - Edexcel, BTEC, LCCI and EDI - Pearson qualifications, n.d.)

The benefits of a university education are impossible to deny in a general sense (Development, n.d.), but the experience of each individual student should matter (Jordan, Carlile, & Stack, 2009). It is accepted that (UCAS, 2017) are doing more to encourage students to fully explore the requirements of universities before making their post-16 qualification choices, but what UCAS have so far failed to do adequately is draw learner's attention to the apparent disparity in performance terms between holders of BTEC and A-Level. This is not say of course that the picture is entirely one-sided. As Rowbottom 2013s study showed, students who completed an accounting A-Level performed better than their counterparts during the first year of study, but worse in the degree overall. This shows that this debate is complex and multi-layered.

Nevertheless, if HEIs are admitting students in full knowledge that they are not adequately prepared to fully access and therefore benefit from degree courses, this raises significant ethical questions. It also raises questions surrounding the integrity of the RQF and CQFW for general and vocational qualifications.

Research Questions

The following research questions were developed to test the hypothesis that students possessing an AS/A2 Level qualification in business studies perform better during the first year of degree study than those who possess a BTEC in business management.

Main Research Question

Do learners who possess either an AS/A2 Level Business Studies qualification or BTEC Business Management qualification perform better during the first year of a business studies degree programme?

Sub Questions

1. Which students achieve better first year outcomes – BTEC or AS/A2-Level holders?

2. Which students achieve better outcomes in examinations – BTEC or AS/A2-Level holders?
3. Which students achieve better outcomes in in-class tests – BTEC or AS/A2-Level holders?
4. Which students achieve better outcomes in coursework – BTEC or AS/A2-Level holders?
5. Which students achieve better outcomes in presentations – BTEC or AS/A2-Level holders?
6. Do students who have completed the first year of degree feel that their entry qualification has been useful to them during their study?

Chapter 2 – Review of Literature

To help us consider the overarching question and the specific research questions that have been identified, we need to gain an understanding of the state of post-16 education in general in light of successive reforms; the widening participation agenda; the challenges and merits of continuous assessment & examinations; and the existing body of research which has looked at the relationship between entry qualifications and performance.

Post-16 education

Reforming education has occupied governments for at least the last three decades (Hodgson & Spours, *Specialised diplomas: transforming the 14–19 landscape in England?*, 2007) and there is nothing to suggest that this debate will not continue indefinitely.

The role that post-16 education plays in society and the economy is not to be underestimated. It is of interest to parents, policy-makers, employers and universities (Morris, 2018). However, despite its obvious social and economic importance, post-16 education is often kicked around as a political and media football (Association of School and College Leaders, 2019). As a result, planning of the post-16 curriculum and suite of qualifications is dominated by short-term thinking, rather than being grounded in a long term strategy (Moran, Equality and Human Rights Commission) and as (McNeill, 2006) pointed out the speed of change at 16+ shows little sign of slowing down.

The historical context surrounding the debate over the development of post-16 education is perhaps best summed-up by Burchell (2010) who argues convincingly that the state of post-16 education is the result of an inevitable compromise of competing ideas and priorities, where the needs of industry, the input of pedagogical experts and views of the teaching profession are thrashed out to lead to the inevitable: a system which is neither fit for purpose, nor what any one special interest group would desire, were that group able to plan the curriculum unhindered. It is contended that the post-16 education ‘settlement’ favours the position espoused by the old humanists and argues that real curriculum and qualification reform, which removes the elitist undertones that exist within education is required. Whilst convincing, the paper is entirely theoretical in nature, wholly qualitative and lacks any basis in data.

Burchell’s writings were in stark contrast though to the arguments advanced by Cawston, Thraves, Truss, & Bassett (2009) who make a robust case that traditional A-levels grounded in challenging subjects are the foundation of what they term “*intellectual*

integrity” and are central to a solid education. In their paper, Cawston et al. make the point that individuals and society generally benefit from the critical thinking skills that are developed through vigorous study of the traditional academic disciplines. Far from arguing for further change, the authors advocate a return to the past, claiming that A-levels were unique in being grounded in a strong academic heritage. They maintain that universities should play an enhanced role in restoring A-levels to their former glory, echoing the point made by West (2006) who argues that the different accreditation arrangements that exist in further education can no longer be justified and are a contributing factor to a number of the issues that we see today.

Cawston et al. go on to make the point that A-levels, particularly since the widening of the catalogue of A-levels to include subjects that were once not viewed as being academic in nature, has led to erosion of A-level standards, teaching to the lowest common denominator and a “*hollowing out*” of the once gold standard qualification in favour of a teaching approach that places marking schemes and assessment criteria above the value of a rounded education. They further contend that this “hollowing out” has turned the A-Level into no more than a university entrance exam, rather than a vital component of the education system in its own right.

The paper, whilst extensive in its commentary and criticism of the ‘new’ A-Level lacks impartiality and appears to be firmly rooted in a hypothesis which the authors are not prepared to challenge. There is little in the way of what could be described as data evident in the paper, which is not surprising when you consider the publishing organisation’s obvious bias. Reform, who commissioned the study, whilst independent of any one political party, do not deny that they have their own political agenda. The authors have done very little in the way of critical research. Instead their commentary is based on selective sampling of A-Level assessments and exam questions to highlight the alleged erosion in standards they claim is apparent. Besides being incredibly subjective, the study is notable by the gaps that exist within it. Whilst the study does contribute to the discourse surrounding post-16 education, the lack of peer-review and the absence of any quantitative research means that the study must be read with caution.

In 2010 Barnes (2010) builds upon this critique by considering how A-Level examinations have developed, questioning their true purpose and their value as an assessment tool. But it was Bell, Malacova, & Shannon (2011) who explored the true objectives of Curriculum 2000 and the developments that this review spawned. Specifically, they examined uptake of A-levels and considered diversity of subject

combinations, concluding that students were moving away from traditional subject combinations and were increasingly looking for a more balanced package of subjects, as opposed to specialising.

This seemed to confirm what early proponents of Curriculum 2000, such as Greateorex (2001) argued for, specifically a breaking down of traditional barriers between vocational and traditional qualifications. Authors such as Greaztorex contended that BTECs should benefit from looking and feeling more like A-Levels, whilst A-Levels would be better if they looked more like BTEC. Importantly, the author recognised that the value of vocational qualifications was of particular importance as universities pursued aggressive new growth targets. It is easy to now forget the background to this and why vocational qualifications suddenly started to be seen in a different light, the author quite rightly draws attention to this.

The Bell et al. study must be commended for the fact that it is firmly rooted in a statistical base. In their study, the authors have remained true to quantitative research methods using reliable sources of information. The study is also notable for highlighting significant increases in the uptake of A-Level General Studies since its creation. However, the authors fall short in their conclusions. Instead of answering critical questions and contributing to the debate, the authors seem content to let the data speak for itself. This non-committal approach seems overly cautious.

More than a decade after the advent of Curriculum 2000, which promised radical change and which was driven by an aim to widen access to education, came a 2012 study by Daly, Baird, Chamberlain, & Meadows (2012). In it, they examined the 'stretch and challenge' policy which was brought in to address the perceived lack of higher order thinking skills being developed as part of the new A-level curriculum which had been identified and discussed by others such as Cawston et al. in their 2009 paper. Daly et al. examined the perceptions of students and teachers and concluded that on balance the policy shift in favour of critical thinking had had a positive impact on the quality and credibility of the A-Level qualification. This qualitative study contributed to the discourse surrounding the development of the curriculum and qualifications. However, the absence of a quantitative element to the research means that taken in isolation, it is of little value. Had the authors chosen to challenge the perceptions of learners with statistical data, the study would be have more efficacy.

In parallel to the debate surrounding A-levels, exists what at times feels like an entirely separate discourse on the subject of vocational education, in particular BTEC. This is despite the fact that it is clearly established that BTEC is viewed by students, schools and universities as being on par with A-levels. This artificial separation draws attention to the underlying issue, namely the fact that despite being increasingly taken as an entry qualification for university, vocational qualifications such as BTEC are still being designed and delivered within the context of vocational education and training.

In 2006 Bathmaker explored the changing role and underlying purposes of vocational education arguing that whilst vocational education has a role to play in preparing students for higher education, it is not its dominant purpose. Furthermore, the author argues that the nature and formality of traditional academic qualifications provide their holders with an advantage over their vocational counterparts, as they are more akin to the traditional hierarchical structures that a student will encounter in the university environment. This is controversial as it seems to indicate a preference for retaining boundaries between traditional and more modern qualifications. The study is a secondary study of existing data and is largely drawn from government sources of information. Whilst this is understandable in light of the fact it examines public policy, the paper is limited in scope.

Meanwhile, Mangan, Adnett, & Davies (2006) concluded from a detailed economic analysis of educational decision-making that decision making by post-16 learners has less to do with a strategic approach to one's learning journey and more to do with a tendency to 'play it safe' and chose a broad range of subjects in order to keep options open. The researchers contend that parental involvement guides post-16 learners as to whether to follow a traditional A-level path or a vocational route, but offers little of substance to support this assertion. The study makes clear that whilst parents and learners are both notable by their high degree of caution, they appear to see vocational options as being broadly equivalent to A-levels, whilst offering the added benefit of being wider in subject scope, perhaps due to the role that employers play in developing vocational education courses, a point developed by (McCrystal & McAleer, 2010). What wasn't examined as part of this study though was the role that methods of assessment plays in the decision-making process. This researcher contends that the fact that vocational courses more often than not tend to involve assessment purely by means of coursework, as opposed to examination, is central to the learner's decision-making process.

In 2012 Major published the results of an extensive research study built on focus groups and interviews which examined the opinions of students and practitioners surrounding the L3 BTEC qualification, in order to establish its perceived value. The research was notable for its scope and depth, having been conducted with the backing of local learning networks and universities. This provided the researchers with an extensive pool of data from which to draw. Despite this access to data though, the study lacked scientific rigour. Much like this study aims to do (i.e. examine data and perceptions), the author's study could have benefited from this dual approach.

Wilkins & Meeran (2011) attempted to answer why so many students fail to gain entry to their chosen university because of subject choice. This paper is prominent because it draws attention to the fact that qualification type is not everything, and that subject choice remains of fundamental importance. It reminds us that the decisions that are taken by learners and by those controlling the university admissions process is a complex multi-faceted process and that for most learners, qualification choice will not play a crucial role in determining whether a university place is offered to that learner or not, save in the case of the top universities, where the choice of which post-16 courses to undertake is sure to be of critical importance during the application process.

Swift & Fisher (2012) later conducted an extensive study based on questionnaires and interviews which suggested that students adopted a cautious approach to deciding which post-16 qualification route to choose. The authors contend that a wide range of factors such as eventual earning capacity is considered by learners when making course choices. This was in stark contrast to earlier studies suggesting that students were likely to choose an option perceived as being 'easier'. Whilst the interviews and questionnaires are of undeniable value, this researcher finds the lack of a quantitative basis to the study to be a cause for scepticism. It is notable that among the wide variety of factors apparently involved in qualification choice, ease of assessment barely features. This raises questions about the nature of the interviews and questionnaires and whether they were sufficiently open as to encourage candour, as it is simply difficult to believe that ease of assessment does not play a role in course choice.

It was without doubt though, the recent study done by Masardo & Shields (2015) that does more to inform the discourse surrounding student choice and performance choice than perhaps any other single study. In it, the authors attempt to draw attention to the fact that the myriad of choices facing students today is greater than ever, and the need therefore to understand the consequences of making certain choices is also greater than ever. Data,

the authors argue is key to helping students navigate this difficult journey of never-ending decisions.

The authors draw attention to the fact that not only has the number of qualifications grown considerably, so to have the number of students shunning traditional A-levels for a BTEC qualification. It is impossible to deny this, as the fact is evident from the data presented by the authors, but what the study does not adequately address is the reasons for this. The authors explore how well BTEC prepares students for higher education using a mixed methods approach, combining a quantitative analysis of data from HESA with qualitative data obtained from student focus groups and staff interviews.

The Masardo et al. study closely resembles this researcher's study, in terms of questions asked and methodologies used, although it is distinguished by its scale. As a HEA and HESA sponsored study, its scope is far wider than this researcher could hope to replicate. However, the existence of a study so similar in construction gives this researcher confidence that the research questions in this project are worthwhile trying to answer. In effect, this researcher's project aims to replicate the Masardo study at a case-study level.

Critically, the Masardo study found that students with vocational qualifications are less likely to receive a first or upper-second class degree, which supports the study done by Hayward & Hoelscher (2011) which looked at first year drop-out rates, and was also based on HESA and HEA datasets. The qualitative analysis shows that students with vocational qualifications, the majority of which hold a BTEC qualification, possess qualities which enable them to be more successful at university, such as confidence and self-awareness. But is noteworthy that these identifiable qualities are intangible. One cannot help but think that, the data paints a very clear picture of performance and progression, whilst the perceived value of vocational qualifications, despite being overwhelmingly positive, is simply not grounded in reality.

For example, students who hold a vocational qualification are perceived as possessing more advanced interpersonal and organisational skills, yet one would be forgiven for thinking that organisational skills are central to the successful completion of a course or qualification. The fact that the authors leave unchallenged this perceived value is a weakness in this researcher's view. Despite its shortcomings though, this study could be described accurately as a landmark study in the field due to its breadth and depth. But what must be kept in mind when considering the value of the study is the fact that despite

the overwhelming quantitative evidence suggesting that students who have pursued a vocational route prior to university attain lower outcomes than their A-Level counterparts, the recommendations made are more muted. Whilst the author recommends increased regulation of qualifications such as the BTEC and highlights the need for providers of qualifications to be more transparent regarding their true value, the author stops well short of recommending that BTEC and A-Level qualifications should no longer be viewed with equivalent status. In this researcher's view, this represents a missed opportunity to call for real reform. In the five years that have passed since this review, hundreds of thousands more learners have undertaken BTEC qualifications in the apparent false belief that they are completing a qualification that will prepare them for university study in the same way that A-Levels promise to do.

Widening Participation

Widening participation in HE is a high priority on the political agenda across most European nations (Boezerooy & Vossensteyn, 1999) and we should not forget that widening participation was the primary goal of the policy decision to massively expand university places by the then New Labour government. As McCoy (2016) points out, the UCAS End of Cycle Report shows that the growth in participation in HE by disadvantaged young people has been made possible in part because of the existence of BTEC qualifications which enable students who otherwise might not proceed to university to be able to do so. However, although (Jarvis, 2010) contends that there is little evidence to suggest that vocational qualifications are viewed negatively by admissions tutors, it certainly appears that vocational education is viewed with negativity by both younger (Atkins & Flint, 2015) and older (Derricott, 2006) people. This study will in part at least aim to ask if this negativity is justified.

In their 2010 paper, Aynsley & Crossouard (2010) contend that vocational pathways do not offer straightforward progression to HE and (Hoelscher, Hayward, Ertl, & Dunbar-Goddet, 2008)'s study makes clear that graduates who have entered university with a vocational qualification are less likely to attend a pre-1992 university. Meanwhile, (Fisher, From Business Education Council to Edexcel Foundation 1969–96: the short but winding road from technician education to instrumentalist technicism, 2007) argues that there exists a class-based ideological subtext that continues to deny 'parity of esteem' to vocational education.

Regardless of whether the perception of vocational qualifications is negative or not though, the role vocational qualifications, on particular BTECs have played in widening participation is undeniable. What is questionable though is whether they adequately prepare learners for what is coming next – i.e. undergraduate study.

Scholars such as Fulton (2006) assert that the large scale expansion of higher education which has occurred in recent years should have been accompanied by significant reform of the entry qualifications system with the aim of abolishing what he describes as the elitist A-Level system, and which he further argues is preventing much needed social change. Indeed, Fisher (2010) champions the role that vocational qualifications have played in improving general pedagogical practices appearing to indicate that the problem, if there is any, does not lie with BTEC but elsewhere. This view is supported by (Smith & Bocock, 2010) who surveyed the relationship between the FE and HE sectors in the context of widening participation and concluded that students, particularly those without traditional A-levels suffered as a result of a lack of coordination and partnership working between the two sectors, which appears to indicate that further reform is necessary.

Examinations vs Coursework

This research will in part examine student performance in different types of assessments. The reason for this is that the degree programme that is the focus of this project is assessed using several different methods, including coursework and end-of-term examinations. As the central question for this research involves asking whether BTEC or AS/A2 Level holders perform differently, an analysis of their performance in different types of assessment is required.

(Bridges, et al., (2002) extensive study examined in detail the role of coursework assessments in determining overall grades. This study showed that in business studies, performance in coursework is much higher, by as much as two-thirds of one honours class, suggesting that the proportion of overall marks comprised from coursework based assessments is central to determining overall academic performance. This research was supported by the findings of (Richardson J. T., 2015) whose research established that coursework alone or by a mixture of coursework and examinations tends to yield higher marks than assessment by examinations alone. The author goes on to say that a shift towards assessment by coursework is a leading cause of grade inflation. As BTEC students are assessed purely by coursework, this would suggest that learners who possess

a BTEC qualification should perform better in coursework than their A-Level counterparts. What role coursework plays in determining overall assessment outcomes is a controversial subject in its own right though as validity remains a central principle of assessment (Crisp & Shaw, 2011)

Are BTEC qualifications easier?

Although commentators such as (Joy, 2017) point out that learners who have chosen a vocational pathway are better suited to work, unsurprisingly, what is not clear is if vocational qualifications provide the necessary grounding to achieve academic success. Underlying this is a question, the asking of which appears to be taboo – are BTEC qualifications easier?

One of the most important studies to tackle the subject of whether vocational courses should be viewed on par with traditional academic courses was completed by (Wilkins & Walker, Applied and academic A levels: is there really a need for the applied track in UK further education?, 2010) They challenged the notion that vocational and coursework-based courses are often criticised for being easier and are therefore bound not to develop students in the same way as traditional A-levels. Their extensive study involved roughly four times as many students as are the focus of this researcher's research at a sixth form college. The statistics when viewed in isolation showed a clear picture – those following vocational subjects, did not perform at the same level as their counterparts studying for academic qualifications.

In this researcher's view though, the study fell short though in tempering the findings with a conclusion that appeared to be based on nothing but a desire to want to appear fair and balanced. The researchers argued that whilst the evidence was conclusive, there was another side to the debate. Students studying vocational courses were much more likely to demonstrate softer skills they argued. This may well be true, indeed there is much research to support this proposition, but in the case of this study it appeared that the researchers simply felt it was necessary to say this, in order to take the edge of the statistical findings.

The research carried out by Wilkins and Walker has been followed by one of the most important studies to impact this area of research. (Gill T. , 2017) conducted extensive research centred around logistic regression models, which were undertaken to predict the probability of a student achieving a first-class degree (or at least an upper second) depending on which prior qualification(s) they possess. This research, which is

firmly rooted in statistical evidence shows that there is little meaningful difference in the performance of those undertaking vocational qualifications when compared to traditional qualifications. Gill goes on to argue that in addition to being of little consequence in terms of attainment, the vocational route may have added soft benefits. As with the Wilkins & Walker research, it seems that there is a reluctance to accept the statistical realities, perhaps owing to the obvious impact that acknowledging this would have on the widening participation agenda.

Chapter 3 - Methodology

The underlying aim of this study is to determine whether those learners who possess a BTEC or A-Level qualification perform better during the first year of university study.

The answer to this question is becoming increasingly important as BTEC holders now comprise a bigger proportion of the overall student body at university than at any time in the past. As (Masardo & Shields, Changing patterns in vocational entry qualifications, student support and outcomes in undergraduate degree programmes) suggest, it is also far more likely that a student from a lower socio-economic background will choose a BTEC qualification, so the answer to this question is also central to the discourse surrounding widening participation.

As students from lower socio-economic and unrepresented groups are generally less likely to apply to university in the first place and are also less likely to study A-Levels (Rowbottom, 2013) it is vital that if disparities exist between the two most widely taken qualifications, that these are understood and addressed, as to not address them will be to disadvantage the target groups of the widening participation agenda.

A reminder of the main research question and sub questions is useful at this point.

Main Research Question

Do learners who possess either an AS/A2 Level Business Studies qualification or BTEC Business Management qualification perform better during the first year of a business studies degree programme?

Sub Questions

1. Which students achieve better first year outcomes – BTEC or AS/A2-Level holders?
2. Which students achieve better outcomes in examinations – BTEC or AS/A2-Level holders?
3. Which students achieve better outcomes in in-class tests – BTEC or AS/A2-Level holders?
4. Which students achieve better outcomes in coursework – BTEC or AS/A2-Level holders?
5. Which students achieve better outcomes in presentations – BTEC or AS/A2-Level holders?

6. Do students who have completed the first year of degree feel that their entry qualification has been useful to them during their study?

In order to answer the overarching question, this study examined the performance of a degree cohort embarked upon a business management degree programme at a UK university.

The quantitative analysis used statistical modelling to analyse whether students with BTEC qualifications or AS/A2-Level qualifications perform differently, discounting the possible effects of demographic variables and entry tariff. The quantitative aspect of this study aimed to answer sub-questions 1-5.

Meanwhile, the qualitative analysis examined how well students felt that their entry qualification prepared them for university study. It also examined the extent to which academic staff at the university are aware of the students' previous study and whether they adapt their approach to teaching accordingly.

During phase one of the project, data was extracted (with permission) from the university's application database. This data consisted of anonymised individual data for an entire degree cohort. Anonymity was necessary not only to protect privacy (Lavrakas, 2008) but also to guard against researcher bias (Fuller, 1974). This was a particular risk in this research, as the researcher knows most of the participants personally and commenced the project with a very clear hypothesis in mind, based on his own experience.

Each student record had to be extracted separately as individual files, which were identified by a record number, which could not be used to identify the student concerned. Each record was then explored to ascertain whether the student in question had declared an entry qualification when applying for their university place.

Where the record indicated that this was the case, the student record information was then inputted into a master spreadsheet. In separate columns, the students' entry qualifications and performance in each and every assessment was inputted. This was an extensive undertaking, owing to the size of the cohort and the number of assessments undertaken by students, as the researcher was working alone, the risk of incorrect data entry was increased (Barchard K. F., 2019), meaning that the entire process had to be repeated and the two spreadsheets compared for accuracy to overcome the potential impact of human error (Barchard K. P., 2011).

Entry qualification data was not available for a large proportion of the students. This is because this particular university recruits heavily from international markets. Whilst some international students apply as direct entrants, most enter via partner colleges, which are based on the applicant's home country. These colleges teach the overseas students for a period between 1-3 years, depending upon the student's background and educational needs. The respective college is responsible for judging the merits of a student's application to the university. Therefore, entry qualification data is not recorded by the university for these students. A significant number of students are also over the age of 21, many having completed 'gap years'. Under the university's admissions policy, these students are considered mature applicants, so again entry qualifications data is not recorded.

Of the 149 (N = 149) students that had one of the following entry qualifications recorded against their name, the following qualifications were listed:

- AS Level Business Studies (70 students)
- A2 Level Business Studies (106 students)
- AS Level Applied Business Studies (3 students)
- A Level Applied Business Studies (7 students)
- BTEC Business Management (38 students)

Grades were also recorded for the above students. However, for the purposes of this study, grades were not considered. As (Tate, 1994) suggests it is necessary to explain why this decision was taken, as the choice to not consider grades is a limiting factor in this research. The reason taken for this decision was that the admissions team could not guarantee that the BTEC data was accurately recorded. They explained, that whilst they could guarantee that if a student record showed that a student possessed a BTEC, this was the case. But as BTECs had undergone so many structural changes over the years, the way that diplomas and certificates were recorded could not be guaranteed.

The student records were then aligned using the process of concatenating (Combining SAS Data Sets: Methods, n.d.) into a single dataset using Microsoft Excel, so that the data could be filtered and explored.

Statistical grouping was then used to then allow for processing and analysing statistical data (Riabushkin, n.d.). Using this method, required students to be divided into classes each with a particular characteristic. In this case, classes were based on prior qualifications in accordance with the aforementioned list.

For the exploratory analysis presented in this paper the researcher excluded resits and all those who entered via a university-partner foundation course. The reason for excluding resits was necessary to ensure validity remained central to the study which was as identified as a necessity by (Crisp & Shaw, 2011).

The second phase of the study involved a detailed subject-level analysis. Student performance across all subjects undertaken during the first year of study was analysed on a subject-by-subject basis. This involved analysing not only the overall subject, but also each individual assessment component.

At the case study university students undertake the same compulsory modules in their first year of study.

The modules undertaken are:

- Accounting;
- Human Resources Management;
- Marketing;
- Analytics;
- Finance;
- Professional Skills;
- Operations Management; and
- Context of Business.

The rationale underpinning this is to ensure all students, regardless of entry qualifications, are on a level footing by the second year of the degree programme, at which point they will be studying at L5; and provide students with requisite knowledge to be able to take specialised modules in the second and third year of study. This ensures that a student who wishes to specialise in a subject, (e.g. marketing) has a grounding at L4 in the subject, prior to undertaking L5 and L6 modules.

Modules are assessed using different assessment methods:

- Coursework;
- Presentations;
- In-class tests; and
- Examinations.

Therefore, student performance in each type of assessment was analysed, as was performance in each subject area overall. By this point the researcher had a clear idea of individual subject level performance, which seemed to indicate a clear theme. Nevertheless, further analysis was required.

For the third phase of the study, the researcher considered student performance against each type of assessment and performance overall during the first year of study in the model of the research undertaken by (Green & Vignoles, 2012). The purpose of examining overall performance, subject level performance and assessment level performance was to achieve a degree of triangulation. Whilst this would ordinarily be achieved by means of quantitative analysis, anonymous questionnaires and interviews (Gerard, 2004) as empirical research was not the primary focus of this study, it was decided not to favour multiple layers of data analysis over experiential methods. As part of this phase an ANOVA test was carried out. *“ANOVA is a statistical technique that assesses potential differences in a scale-level dependent variable by a nominal-level variable having 2 or more categories”* (ANOVA (Analysis of Variance), n.d.)

In the fourth phase of the study students were asked to respond to 18 questions in the form of a survey designed using the Qualtrics system. The survey contained a mixture of statements graded on a 4-point Likert-type scale, multiple choice, single answer and open-ended questions. Participants were drawn exclusively from the cohort for which the university provided results data and the survey was designed to be answered as quickly as possible. The value of online surveys in research was discussed extensively by (Evans, 2005). The rationale for seeking this data via an online survey was to increase potential participation, ensure consistency of questioning and remove interviewer participation with participants in order to reduce potential of interviewer bias or hypothesis being communicated to the participants. The researcher felt that this was more preferable to holding focus groups which are often notable for low participation, as well as being susceptible to interviewer influence and/or the influence of dominant participants (Evidence Base: An Evaluation Toolkit, 2006).

Chapter 4 – Presentation of the Data

Subject-level results

Accounting

The accounting module is assessed by:

- Mid-term in-class test – 30%;
- End-of-term examination – 70%.

Table 3: Performance in accounting general statistics

	Overall	Examination	In-Class Test
Min	12	0	0
Max	100	100	100
Range	89	100	100
Mean	60	55	71
St Dev	21.1973	26.1041	17.21907

Table 4: Performance in accounting by entry qualification

	Overall	Examination	In-Class Test
All students	60	55	71
Holders of BTEC	50	44	64
Holders of AS Level Business Studies	64	61	73
Holders of A2 Level Business Studies	56	51	69

- Analysis shows that students who possess AS-Level Business Studies prior to entry achieve the highest marks overall, whereas students who possess a BTEC qualification achieve the lowest marks overall.
- This is also the case for the mid-term in-class test and end-of-term examination.

Human Resources Management

The human resources management module is assessed by:

- Mid-term coursework – 40%;
- End-of-term examination – 60%.

Table 5: Performance in human resources management general statistics

	Overall Module	Coursework	Examination
Min	0	0	0
Max	83	84	89
Range	83	84	89
Mean	55	52	57
St Dev	13.7097	15.585	15.5192

Table 6: Performance in human resources management by entry qualification

	Overall Module	Coursework	Examination
All students	55	52	57

Holders of BTEC Business Management	47	46	48
Holders of AS Level Business Studies	58	57	60
Holders of A2 Level Business Studies	59	56	60

- Analysis shows that students who possess A2-Level Business Studies achieve the highest marks overall, whilst students who possess BTEC Business Management achieve the lowest marks overall.
- Students possessing AS-Business Studies achieve the highest marks in coursework, whereas students who possess BTEC Business Management achieve the lowest marks in coursework.
- Students possessing AS-Business Studies and A2 Business Studies jointly achieved the highest marks in examinations, whereas holders of BTEC Business Management achieve the lowest marks in examinations.

Marketing

The marketing module is assessed by:

- Mid-term coursework – 25%;
- Mid-term coursework – 5%;
- End-of-term examination – 70%.

Table 7: Performance in marketing by entry qualification

	Overall Module Result	Examination	Coursework 1	Coursework 2
Min	0	0	0	0
Max	73	84	73	72
Range	73	84	73	72
Mean	49	52	51	48
St Dev	13.4806	16.22462	15.68111	14.65019

Table 8: Performance of students in marketing by entry qualification

	Overall Module	Examination	Coursework 1	Coursework 2
All students	49	52	51	48
Holders of BTEC	42	43	46	43
Holders of AS Level Business Studies	53	56	54	51
Holders of A2 Level Business Studies	53	57	54	51

- Analysis shows that students who possess AS-Level Business Studies achieve the highest marks overall, whilst those who possess BTEC achieve the lowest marks overall.
- Students possessing A2-Business Studies and AS-Business Studies jointly achieve the highest marks in coursework, whereas students possessing BTEC Business Management achieve the lowest marks in coursework.

- Students possessing A2-Business Studies achieve the highest marks in examinations, whereas holders of BTEC Business Management achieve the lower marks in examinations.

Analytics

The marketing module is assessed by:

- Mid-term coursework – 30%;
- Mid-term coursework – 35%;
- End-of-term coursework – 30%.

Table 9: Performance of students in analytics general statistics

	Overall Module Result %	Coursework 1	Coursework 2	Coursework 3
Min	0	0	0	0
Max	83	94	100	83
Range	83	94	100	83
Mean	55	60	54	50
St Dev	19.7102	22.34539	25.21912	21.45131

Table 10: Performance of students in analytics by entry qualification

	Overall Module Result	Coursework 1 Result	Coursework 2 Result	Coursework 3 Result
All students	55	60	54	50
Holders of BTEC	46	51	43	41
Holders of AS Level Business Studies	60	65	60	55
Holders of A2 Level Business Studies	59	64	60	54

- Analysis shows that students who possess AS-Level Business Studies achieve the highest marks overall, whilst those who possess BTEC Business Management achieve the lowest marks overall.
- Students possessing AS-Business Studies achieve the highest marks in coursework, whereas students possessing a BTEC achieve the lowest marks in coursework.

Finance

The finance module is assessed by:

- Mid-term in-class test – 30%;
- End-of-term examination – 70%.

Table 11: Performance of students in finance

	Overall Module	In-class Test	Examination
Min	0	0	0
Max	92	100	94
Range	92	100	94
Mean	53	68	46
St Dev	19.18017	19.23465	21.62285

Table 12: Performance of students in finance by entry qualification

	Overall Module	In-class Test	Examination
All students	53	68	46
Holders of BTEC	40	57	33
Holders of AS Level Business Studies	57	72	51
Holders of A2 Level Business Studies	58	73	52

- Analysis shows that students who possess A2-Level Business Studies achieve the highest marks overall, whilst those who possess BTEC Business Management achieve the lowest marks overall.
- Students possessing A2-Business Studies achieve the highest marks in in-class tests, whereas students possessing BTEC Business Management achieve the lowest marks in in-class tests.
- Students possessing A2-Business Studies achieve the highest marks in examinations, whereas holders of BTEC Business Management achieve the lower marks in examinations.

Skills

The skills module is assessed by:

- Mid-term in-class test – 40%;
- End-of-term presentation – 60%.

Table 13: Performance of students in skills

	Overall Module	Coursework	Presentation
Min	0	0	0
Max	77	85	74
Range	77	85	74
Mean	49	46	50
St Dev	15.73436	17.79018	18.70236

Table 14: Performance of students in skills by entry qualification

	Overall Module	Coursework	Presentation
All students	49	46	50
Holders of BTEC	44	42	45
Holders of AS Level Business Studies	51	72	51
Holders of A2 Level Business Studies	50	48	52

- Analysis shows that students who possess AS-Level Business Studies achieve the highest marks overall, whilst those who possess BTEC Business Management achieve the lowest marks overall.
- Students possessing AS-Business Studies achieve the highest marks in coursework, whereas students possessing BTEC Business Management achieve the lowest marks in coursework.
- Students possessing A2-Business Studies achieve the highest marks in presentations, whereas holders of BTEC Business Management achieve the lower marks in examinations.

Operations Management

The operations management module is assessed by:

- Mid-term coursework – 30%;
- End-of-term examination – 70%.

Table 15: Performance of students in operations management

	Overall	Examination	Presentation
Min	0	0	0
Max	84	96	87
Range	84	96	87
Mean	49	48	52
St Dev	19.24237	23.1542	20.3151

Table 16: Performance of students in core skills

	Overall	Examination	Presentation
All students	49	48	52
Holders of BTEC	35	28	46
Holders of AS Level Business Studies	54	55	53
Holders of A2 Level Business Studies	55	54	53

- Analysis shows that students who possess A2-Level Business Studies achieve the highest marks overall, whilst those who possess BTEC Business Management achieve the lowest marks overall.
- Students possessing AS-Business Studies achieve the highest marks in examinations, whereas students possessing BTEC Business Management achieve the lowest marks in examinations.
- Students possessing A2-Business Studies and AS-Business Studies jointly achieve the highest marks in presentations, whereas holders of BTEC Business Management achieve the lower marks in examinations.

Context of Business

The context of business module is assessed by:

- Mid-term coursework – 10%;
- Mid-term coursework – 40%;
- Presentation: - 10%;
- Presentation – 40%.

Table 17: Performance of students in context of business

	Overall Module Result %	Coursework 1	Coursework 2	Presentation 1	Presentation 2
Min	0	0	0	0	0
Max	198	88	469	81	92
Range	198	88	469	81	92
Mean	58	54	58	57	60
St Dev	20.31652	17.2254	38.5593	20.7669	22.35784

Table 18: Performance of students in context of business

	Overall Module Result %	Coursework 1	Coursework 2	Presentation 1	Presentation 2
All students	58	54	58	57	60
Holders of BTEC	49	49	46	50	52
Holders of AS Level Business Studies	62	57	64	60	61
Holders of A2 Level Business Studies	63	58	63	60	62

- Analysis shows that students who possess A2-Level Business Studies achieve the highest marks overall, whilst those who possess BTEC Business Management achieve the lowest marks overall.
- Students possessing AS/A2-Business Studies achieve the highest marks in coursework, whereas students possessing BTEC Business Management achieve the lowest marks in coursework.
- Students possessing A2-Business Studies achieve the highest marks in presentations, whereas holders of BTEC Business Management achieve the lower marks in presentations.

Performance in assessments overall

Table 19: Overall Descriptive Statistics

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
BTEC Holders	38	44.16	15.120	2.453	39.19	49.13	7	68
A2-Level Business Studies Holders	106	57.49	9.838	.956	55.60	59.39	29	77
AS-Level Business Studies Holders	70	57.49	9.940	1.188	55.12	59.86	29	76
Total	224	54.94	12.059	.806	53.35	56.53	7	77

- From the frequency table, A2-Level Business Holders and AS-Level Business Holders, have the highest mean score of 57.49, while BTEC holders have the lowest mean score of 44.16. So, we can conclude that students with pre entry qualifications of A2-Level Business and AS-Level Business will perform better than other students with another pre-entry qualifications. Also, BTECs holder are much more likely not to perform well compared to others with different pre entry qualifications.
- To test if the qualifications, significantly influences the student' performance on the course, ANOVA will be carried out.
- H0: The pre entry qualifications that a student has, does not significantly influence their performance on the course.
- H1: The pre entry qualifications that a student has, significantly influences their performance on the course.
- (Reject H0 if p-value < 0.05)

Table 20: ANOVA Test

	Sum of Squares	df	Mean Square	F	Sig.
Pre entry qualifications	5713.502	4	1428.376	11.710	.000
Within Groups	26712.743	219	121.976		
Total	32426.246	223			

- From the Anova test, $F(4,219) = 11.710$, with p-value < 0.05, this implies that the H0 is therefore rejected and hence it's concluded that the entry qualifications that a student possesses significantly influences his/her performance on the course.

Student Perception Survey

Of the 28 students from the cohort who participated in the student perception survey, 2 students identified as possessing BTEC Business Management, 8 identified as possessing AS-Level Business Studies and 10 identified as possessing A2-Level Business Studies.

Table 21: Perceived Utility of Entry Qualifications by Qualification

Qualification	N	Average Perceived Utility
BTEC Holders	2	6.5
AS-Level Holders	8	6.42
A2-Level Holders	10	6.7

- The students surveyed who identified as possessing one of the entry qualifications which are the focus of this study, all reported that they perceived that the entry qualification that they possessed was slightly, moderately or extremely useful to them during the first year of degree study.

Chapter 5 –Discussion, analysis and interpretation of the data

Analysis of pure results data from the cohort shows that there is a statistically significant difference in student performance on the degree programme overall. It also shows that there is a statistically significant difference in student performance in all types of assessment including:

1. Coursework;
2. Presentations;
3. Mid-term in-class tests; and
4. Examinations

Application of the results data provides definitive answers to sub-questions 1-5.

Sub- Question 1 - Which students achieve better first year outcomes – BTEC or A-Level holders?

It is clear that students who possess a AS or A2 Level qualification in business studies achieve better overall assessment outcomes across all subject areas in the first year of degree study. In light of the aforementioned, students possessing an AS or A2 Level qualification also achieve better first-year outcomes overall.

Sub-Question 2 - Which students achieve better outcomes in examinations – BTEC or A-Level holders?

It is clear that students who possess an AS or A2 Level qualification in business studies achieve a better outcome in end-of-term examinations across all subject areas in the first year of degree study.

Sub-Question 3 - Which students achieve better outcomes in-class tests – BTEC or A-Level holders?

It is clear that students who possess an AS or A2 Level qualification in business studies achieve a better outcome in mid-term in-class tests across all subject areas in the first year of degree study.

Sub-Question 4 - Which students achieve better outcomes presentations – BTEC or A-Level holders?

It is clear that students who possess an AS or A2 Level qualification in business studies achieve a better outcome in presentations across all subject areas in the first year of degree study.

Sub-Question 5 - Which students achieve better outcomes coursework – BTEC or A-Level holders?

It is clear that students who possess an AS or A2 Level qualification in business studies achieve a better outcome in coursework across all subject areas in the first year of degree study.

In addition, whilst not a research question for this study, it is notable that students identifying as having one of the A Level qualifications in Business Studies or BTEC Business Management perform better overall than the cohort average, indicating that an entry qualification in business studies, regardless of whether it is BTEC or A-Level has a value to the holder.

Sub-Question 6 - Do students who have completed the first year of degree feel that their entry qualification has been useful to them during their study?

The quantitative analysis provides evidence that students who had completed the first year of the degree programme found that their entry qualification was either: slightly useful, moderately useful or very useful to them during their first year of study.

Overall

The statistical modelling reveals that students who hold an AS/A2 level qualification are more likely to achieve a better result than those who hold a BTEC business qualification. However, those that hold a BTEC business qualification are more likely to achieve a better result overall than those who do not possess a business studies qualification prior to entry.

Chapter 6 - Summary and Conclusions

In 2015 there were 164 HEIs, excluding further education colleges, in the UK (Universities UK, 2016) catering to 1.75million undergraduate students. As the number, and proportion, of school leavers attending university is now greater than ever (Bolton, Education: Historical statistics, 2012), the need to ensure students are equipped to fully engage with all the teaching and learning opportunities on offer at university is increasingly important.

The UK government's widening participation strategy has brought with it both opportunities and new challenges. One such challenge relates to the student population and the assumptions that can be made about its skills and knowledge base. There is understandably a growing concern that students entering university today are not as well prepared for degree study as their predecessors (Maguire, Carter, & Curran, 2015). This is apparent as the number of students that fail the first year of university is fast becoming a major concern across the world (Fonteyne, Fruyt, & Duyck, 2014). A greater number of universities are also now teaching basic numeracy and literacy skills to undergraduates during degree programmes (Carroll & Feltham, 2007) to address skills gaps that have emerged. Whilst it is positive to note that “higher levels of education are paying off for young people” (Development, n.d.) in a general sense, we must not overlook the issues. Employers are increasingly voicing their concerns regarding the quality of graduates generally (Chiru, Ciuchete, Lefter, & Paduretu, 2012) and increasingly sceptical public are starting to ask “is a degree still worth having or is it just a waste of time and money?” (Schmidt, n.d.) Furthermore, it appears that achieving curriculum balance and cohesion continues to elude (Tate, 1994). The financial cost to the country of students undertaking courses that are not of value to them, their employers or wider society is also not to be overlooked (Stables & Stables, 2006).

(Pokorny & Pokorny, 2006) pointed out, that whilst it is not surprising, it should concern all of us in higher education that the expansion of student places has been accompanied by declining student progression and retention rates. It is therefore vital that all of those in HEI and those that make HE policy understand what is taking place within universities and the role that different factors play in influencing student performance and attainment on degree programmes.

In 2006 (Bennett & Barkensjo, Characteristics of academically excellent business studies students in a post-1992 university, 2006) asked what characteristics an excellent business studies student displayed, while extensive research has also been carried out

examining the role that different forms of assessment play in determining overall performance (Richardson J. T., 2015). However, it is only relatively recently that the role of entry qualifications possessed by students in determining eventual degree outcomes has started to become the focus of research. This area is controversial, as qualification equivalence has become a bedrock principle in the HE admissions process.

It was intended that this research would contribute to the wider discourse surrounding student performance and attainment in a small but significant way by exploring the effect of entry qualifications on student performance during the vital first year of a degree programme generally and specifically by helping to inform the debate as to whether BTEC and A-Level qualifications truly are equivalent.

Only when we know whether there is a clear established relationship between performance on degree programmes and entry qualifications can we: ensure

- (a) that qualifications accreditation and regulation is improved if this is required;
- (b) that school & college students are aware of the potential impact that choosing a particular qualification route may have on them in the long term; and
- (c) ensure HEIs develop their transitional arrangements and first year programmes to maximise the learning opportunities available to all students so that by the time students reach the second year of study, they are equipped with the knowledge and skills to be successful on the programme.

This research centred on a single degree business studies cohort and analysed the performance of students in coursework, presentations, in-class tests mid-term tests, end-of-term examinations and overall. The research also touched upon the perceptions of learners, specifically whether learners in the cohort believe that their entry qualification had an impact on their performance during the first year of study.

When commencing this research the researcher felt that certain hypotheses were hard-wired into his own belief system. As a university business studies lecturer, who had previously taught business studies at GCCE, BTEC and A-Level, the researcher had formed clear views regarding the academic rigour of the BTEC qualifications, which the researcher had hoped would be confounded by the data. After all, school-age pupils make a significant time investment into their pre-university qualifications. It is morally right and essential on a practical level that that investment of time is rewarded with utility.

The researcher's own teaching experience had convinced him that the A-Level in Business Studies was a more robust course than the BTEC. In particular, the researcher believed that the mixed-approach to assessing the A-level was more challenging than the wholly coursework-based assessment of the BTEC qualification. This view was further ingrained in the researcher when he commenced a career as a university lecturer. His early classroom experience had convinced him that those completing BTECs were less engaged with teaching & learning opportunities than their A-level counterparts and were performing comparatively lower at university assessments.

The research confirmed the hypothesis finding that students who completed an AS or A2 Level in Business Studies performed better than their BTEC counterparts in all types of assessment and overall. Whilst a small scaled study, its results seemed to echo the findings of (Pallavi Amitava Banerjee, 2018) who found that entry qualifications were a strong predictor of end-of-first year results on business management courses.

The researcher was surprised though to see that A-Level holders performed better than their BTEC counterparts in coursework and presentations. The researcher had believed that, owing to the fact that BTEC qualifications are entirely coursework based, this would not be the case.

The perceived value of business studies qualifications, by their holders is encouraging though. It shows that students feel that there is a tangible benefit to them of undertaking an entry qualification in business studies. What is also positive is that all those students possessing either a BTEC or A-Level qualification in business studies perform better than their counterparts who do not arrive at university with an entry qualification in the subject. This demonstrates the business studies school curriculum and learning opportunities available to school and college learners when they take a business studies qualification has efficacy.

It is clear that learners, teachers, education providers and employers all need to have confidence in the integrity of qualifications. All qualifications, whether vocational or academic should meet rigorous quality standards. It is therefore a recommendation of this research that the current accreditation and qualifications framework is reviewed and that the true equivalence of qualifications is considered in light of the data. It is this researcher's conclusion that a new single regulatory body should be created to licence all education providers and qualifications, so that all qualifications are held to the same academic standards. The current fragmented system of accreditation has helped create a situation

where true equivalence and qualification integrity is in question. It is therefore reasonable to conclude that the current system requires reform. New transparency rules should also be developed to ensure that course and qualification providers at L3 communicate in an unambiguous fashion, the progression and attainment data of past learners who have embarked upon level 4 study.

In the short term, HEIs need to improve transition arrangements for existing students and those arriving in higher education in the future, as suggested by (Maguire, Carter, & Curran, 2015) so the playing field is levelled as much as is practicable within the limits of resources available.

Nevertheless, it is clearly not reasonable to expect HEIs to ‘solve the problem’ alone, which is why reform of L3 qualifications accreditation is required, but as any meaningful change is likely to be far away, HEIs have a duty to their current and future students to do what is feasible to address the issue. As (Jones, Gaskell, Prendergast, & Bavage, 2016) argue, the transition from school/college to university is significant and pre university courses held between the end of the school year and beginning of the university term, can be advantageous. In their study of the efficacy of pre university courses they examine the impact of an existing course and conclude that it is of value. It is therefore this researcher’s view that pre-university courses aimed at university entrants that have completed a vocational qualification would help to address the issue. Because, whilst the researcher acknowledges that it remains the responsibility of teachers to ensure that topic content is communicated in a way that is engaging (Thorpe & Rawlinson, 2014) and improving student performance is the primary goal of teachers (RAND, 2012), the link between entry qualifications and first year performance cannot be overlooked.

It is acknowledged that this research was limited in scope to a single degree cohort in one university. The research also did not take into account other factors which are known to affect performance such as school context which (Lasselle, McDougall-Bagnall, & Smith, 2014) argue is central to the discussion surrounding student attainment or school resourcing which is more stretched than ever as a direct result of an expanding curriculums (Huckman & Fletcher, *Staying On in the Sixth: teachers' views of the expansion and diversification of the sixth form curriculum*, 2006). Neither did the paper explore the role of race or gender upon attainment which (Chansarrkar & Michaeloudis, 2010)’s study appears to show is a relevant factor.

However, the research findings appear to confirm what other researchers, perhaps most notably (Pallavi Amitava Banerjee, 2018) and (Gill T. , 2017) found. The researcher believes that the methods and approach followed in this project could be replicated across multiple degree cohorts in a single university or within the university sector more widely and that this should be a priority for all those concerned about student performance in general, and first year pass rates in particular.

A fundamental question posed by this study is the same question asked by (Smith V. , 2011) which is what do we want from our education system? Does it exist to serve the needs of the economy, society or individual learners? The answer of course is undeniably that it serves the needs of all three, but that striking a balance between the competing interests, particularly as resources are so finite, is certain to be a continual struggle. Whatever its purpose though, as (Kidd & Wardman, 1998) suggest, careers advice must play a role in helping learners make appropriate choices.

Furthermore, as (Cawston, Thraves, Truss, & Bassett, 2009) suggest, if A-Levels are going to remain the gold standard access qualification by which all others judged, then the role of the university sector in creating the school curriculum and setting standards must be widened. Or in the alternative, if academic and vocational systems at L3 are going to continue to diverge, we may need to consider the introduction of university entry exams, such as are in place in Finland (Ahola & Kokko, 2001)

It is impossible not to conclude this submission by saying the research carried out as part of this study seems to support the findings of (Shields & Masardo, 2017) we must remain mindful of further reform for the sake of reform because of the impact it has on learners, which was afforded due prominence by (Elwood, 2012)

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Appendix A – Master Table

						Accounting			Human Resources			Marketing				Analytics				Finance			Skills			Operations			Business Context				
						%	70	30	%	40	60	%	70	25	5	%	35	30	35	%	30	70	%	40	60	%	70	30	%	10	40	10	40
Student	BTE C Diploma Level 13	A Level Applied Business	AS-Level Applied Business	A-Level Business Studies	AS-Level Business Studies	Overall Module Result %	Examination %	Class Test %	Overall Module Result %	Course work %	Examination %	Overall Module Result %	Examination %	Course work 2 %	Course work 1 %	Overall Module Result %	Course work 1 %	Course work 2 %	Course work 3 %	Overall Module Result %	In - classes 1 %	Examination %	Overall Module Result %	Course work %	Presentation %	Overall Module Result %	Examination %	Course work %	Overall Module Result %	Course work 1 %	Course work 2 %	Poster %	Presentation %
1				A	C	64	64	64	58	45	66	58	58	66	25	66	54	62	80	68	80	63	41	40	42	53	62	32	39	62	4	72	60
2				B		63	57	76	60	54	64	58	70	35	35	65	71	63	60	60	75	54	48	37	56	58	56	64	0	0	0	0	0
3	D					74	88	40	60	43	71	57	59	64	45	61	80	54	47	47	85	31	42	50	37	48	52	40	76	67	72	60	85
4						12	1	36	21	30	15	7	6	10	0	0	0	0	0	7	20	1	64	52	72	11	2	32	41	0	34	50	56
5		B				47	33	80	0	0	0	33	26	58	50	47	63	40	38	30	75	10	65	55	72	42	38	50	60	59	60	67	58
6	D*D*					93	93	92	60	57	62	49	55	43	48	70	77	73	60	68	60	72	63	60	65	68	70	64	70	70	73	67	68
7				B	C	65	70	52	54	47	58	28	23	48	55	66	80	61	57	75	90	69	70	68	72	74	72	78	71	60	80	74	64
8	DDD					44	30	76	51	52	51	39	42	37	38	56	69	45	51	45	55	40	51	68	40	33	25	52	63	60	54	74	70
9				B	A	97	98	96	63	56	67	72	80	62	72	74	66	92	66	70	85	63	60	57	62	45	47	40	75	78	84	78	65
10	D*D*D*					76	72	84	50	56	46	60	65	56	72	62	86	40	57	71	90	63	60	52	65	40	42	35	63	70	62	68	60
11				B	B	79	80	76	56	55	56	52	56	52	58	60	69	63	47	44	80	29	18	45	0	22	17	35	63	62	59	64	68
12				B	B	84	87	76	63	68	60	51	52	60	62	62	60	78	49	60	80	51	38	35	40	54	62	36	43	64	5	62	70
13				B		84	80	92	64	62	65	65	75	48	56	68	69	77	58	55	80	44	64	58	68	75	76	71	63	58	67	70	58
14				B	B	84	87	76	60	54	64	51	50	64	56	67	63	84	55	85	95	80	46	54	40	58	56	63	64	60	55	72	72
15	D*D*					31	24	48	37	32	41	18	10	45	42	66	66	74	58	42	70	30	47	69	33	27	10	68	55	40	54	60	58
16				A		27	38	0	28	0	47	28	40	0	0	0	0	0	0	76	100	66	72	70	74	65	71	50	70	66	58	59	85
17	D*D*					30	12	72	52	50	54	45	52	35	40	55	76	36	50	45	58	40	49	63	40	35	31	45	25	20	25	26	25
18				B	B	80	81	76	60	68	54	57	60	60	63	80	71	100	71	58	80	49	37	32	40	63	63	64	57	40	51	58	68
19				C		48	52	40	41	15	58	47	54	38	55	61	66	53	63	47	60	42	54	40	63	53	54	52	56	67	50	40	64

20					A	B	76	76	76	64	63	65	63	65	71	60	79	86	95	58	60	60	60	60	55	63	68	80	40	42	80	68	64	0
21					D		58	53	68	70	71	69	48	46	62	62	60	66	53	59	66	70	64	58	68	52	55	56	52	70	68	80	76	60
22	DD	M					54	49	64	37	42	33	32	25	57	38	62	60	76	53	48	65	40	2	5	0	57	49	76	58	58	50	63	64
23	DD	M					30	16	64	43	54	36	34	38	30	63	24	50	13	7	15	50	0	62	58	64	26	11	60	6	64	0	0	0
24	D*D	*D*					30	12	72	36	52	25	41	40	53	53	56	90	83	0	0	0	0	61	57	64	0	0	0	0	0	0	0	0
25	D						23	17	36	45	16	64	39	45	28	35	17	20	0	28	17	55	0	24	25	24	53	42	78	58	50	53	58	65
26	D*D	*					92	95	84	50	57	45	55	60	50	61	75	80	75	69	53	60	50	58	63	55	41	31	64	12	54	16	0	0
27	D*D	*D*					86	90	76	41	38	43	59	63	58	35	54	43	64	55	67	80	61	42	45	40	60	55	71	57	58	54	58	60
28	DD						40	26	72	40	25	50	22	25	16	52	9	9	20	0	17	55	0	0	0	0	0	0	0	0	0	0	0	0
29	D*						44	41	52	54	56	52	48	50	52	38	42	40	33	53	24	45	15	42	46	40	45	31	76	67	60	67	62	70
30	D*D	*D*					19	13	32	40	50	33	14	0	57	47	41	63	23	33	28	55	16	60	41	72	22	14	40	52	43	40	55	65
31	D*						68	66	72	61	52	67	48	43	70	52	58	57	53	62	71	90	63	66	58	72	61	58	68	65	62	60	67	71
32	D*						92	99	76	65	50	75	45	46	53	55	74	74	90	60	67	75	63	40	39	40	63	61	66	68	72	65	70	70
33	DD	M					23	16	40	34	30	36	27	26	36	50	27	31	21	28	17	45	5	56	31	72	23	15	40	55	50	50	53	62
34	D*D	*					18	0	60	18	44	0	0	0	0	0	18	51	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	62
35	D*D	*D*					44	47	38	57	56	57	43	47	42	62	66	83	57	58	51	75	40	60	43	71	40	29	67	56	52	44	64	68
36	D						33	25	52	41	34	45	39	42	38	25	50	54	41	53	31	60	19	31	32	30	17	11	31	51	36	52	62	50
37							25	8	64	24	0	40	13	19	0	0	0	0	0	0	45	55	40	26	0	44	35	36	32	43	0	42	0	65
38	DD	M					76	80	68	55	56	55	53	54	62	52	57	46	58	67	47	60	41	30	44	20	40	38	43	64	46	70	70	60
39	D*						57	45	84	32	34	31	44	45	50	58	58	54	57	63	37	50	31	32	45	24	28	32	20	53	50	50	60	56
40	DD						32	18	64	36	37	36	31	28	44	50	4	11	0	0	48	65	40	50	52	49	9	7	13	50	30	50	57	52
41	D*						86	87	84	72	68	74	59	62	63	50	63	60	67	63	81	85	79	60	60	60	60	55	70	39	62	62	81	0
42	D						42	28	76	50	55	46	34	48	0	0	0	0	0	0	26	55	13	45	47	44	38	29	59	68	46	65	65	78
43	D*						57	50	72	38	41	36	40	40	47	40	70	77	65	66	50	45	52	45	37	50	35	41	20	54	50	50	54	58
44	DDD						31	20	56	51	51	51	41	40	50	38	30	24	12	50	46	60	40	40	40	40	31	23	50	61	68	62	66	58
45	DDD						20	0	68	0	0	0	34	30	52	38	4	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	D*D	*					71	65	84	56	55	57	48	56	35	42	52	54	45	57	47	60	41	50	53	48	25	9	63	60	58	60	66	60
47	D*D	D					41	31	64	36	0	60	30	27	45	0	0	0	0	0	43	50	40	50	20	70	20	13	35	51	55	42	0	72

48	D*D*					60	51	80	62	57	66	55	56	62	62	41	37	35	51	51	75	40	64	55	70	56	54	59	68	60	60	77	75
49	D*					66	67	64	61	57	64	59	60	66	40	70	77	74	60	65	75	60	70	78	65	63	58	75	70	60	71	70	72
50	D					79	77	84	62	60	63	59	62	62	40	70	71	80	61	52	70	44	36	46	30	63	60	71	63	58	60	63	68
51	D*D*					30	19	56	58	66	52	50	51	57	46	9	11	17	0	23	50	11	0	0	0	16	4	43	22	40	29	60	0
52	C				C	42	29	72	61	60	61	57	61	58	58	63	69	65	55	32	55	22	57	35	72	41	30	67	60	58	54	64	65
53					A	80	75	92	67	65	69	63	65	70	60	71	91	53	66	65	85	57	60	43	71	72	73	70	74	66	70	81	78
54					D	82	85	76	41	40	41	51	50	63	54	66	63	85	52	58	85	46	57	37	71	57	69	30	52	50	52	60	50
55					B	87	86	88	64	65	64	53	63	37	46	57	51	68	54	57	60	55	58	57	58	48	37	75	61	66	59	62	62
56					A	74	75	72	68	73	64	44	40	65	55	71	74	81	60	67	75	63	48	20	66	63	59	71	62	50	55	50	75
57					B	86	84	92	61	57	64	63	70	57	55	82	89	91	66	85	95	80	53	46	58	81	79	87	78	72	80	70	80
58		C				71	72	68	50	42	56	49	50	56	48	41	43	38	42	46	50	44	53	51	55	50	54	40	60	50	55	60	67
59					B	79	72	96	78	62	89	65	70	62	52	58	49	63	62	82	85	80	51	35	62	66	72	51	77	68	77	78	78
60					C	61	50	88	64	80	53	39	40	45	68	62	66	72	48	40	65	29	56	58	55	41	45	32	41	58	70	72	0
61					C	34	20	68	53	56	51	40	36	58	58	46	86	54	0	40	65	29	24	15	30	55	51	64	51	54	50	0	64
62					C	46	31	80	58	55	60	53	58	48	40	62	69	67	50	42	45	40	35	50	25	47	39	64	67	48	60	66	80
63					B	67	63	76	47	54	42	60	60	70	65	65	70	65	60	63	48	70	53	60	49	46	35	71	66	63	70	58	65
64					B	86	87	84	55	57	54	61	65	62	60	79	89	84	66	90	80	94	50	62	42	60	72	32	61	50	53	66	70
65					B	67	62	80	54	50	57	46	48	48	55	68	83	57	62	58	85	46	38	45	34	41	40	42	33	60	52	64	0
66					C	41	21	88	47	51	45	43	45	47	40	48	54	31	57	51	75	40	44	50	40	19	27	0	60	70	68	30	56
67					A	97	96	100	57	67	50	65	73	56	65	82	86	95	66	82	85	80	52	50	53	72	72	71	55	50	53	60	58
68					B	88	95	72	50	55	47	54	57	56	45	55	57	51	55	64	70	61	48	37	56	70	71	68	62	67	64	64	58
69					D	57	46	84	57	58	56	27	20	52	50	53	54	43	61	57	75	49	45	63	33	52	45	68	63	38	66	60	66
70					C	40	36	48	47	42	50	36	52	0	38	31	57	38	0	44	50	41	43	55	35	53	45	70	63	58	60	62	67
71					B	68	68	68	65	40	82	59	61	65	62	48	46	39	57	61	95	46	50	45	53	62	63	59	70	56	70	65	75
72					C	60	52	80	57	43	66	71	84	50	38	60	63	57	59	53	75	44	40	40	40	60	55	71	66	58	63	74	70
73	D*D*				E	40	57	0	54	40	63	49	50	55	32	64	77	65	50	30	60	17	47	12	71	34	35	30	48	70	25	50	66
74					B	55	50	68	60	54	64	54	53	66	58	41	54	46	25	40	65	29	30	23	35	65	71	50	57	58	59	0	70
75					B	85	82	92	52	50	54	51	55	51	38	63	80	53	55	71	80	67	46	27	58	43	48	31	56	42	55	50	63

76				A	B	30	16	64	47	42	50	40	57	0	45	0	0	0	0	55	75	47	37	55	25	28	24	37	7	68	0	0	0
77				C	C	27	16	52	40	41	39	11	16	0	35	6	14	3	0	21	35	15	46	50	43	21	4	62	57	60	59	58	55
78				C	C	70	71	68	58	60	56	54	58	54	45	51	37	62	55	76	85	72	44	35	50	44	48	35	26	64	50	0	0
79				C	B	60	61	56	62	52	68	64	68	67	64	55	51	57	58	42	45	41	57	37	70	57	52	67	61	56	58	55	67
80				D		43	29	76	51	58	47	52	55	52	58	61	69	63	50	37	55	29	34	40	30	35	25	59	60	60	58	56	64
81				C	B	80	76	88	65	55	71	57	64	50	55	70	71	72	67	53	75	44	67	65	68	74	75	71	68	66	59	70	76
82				B		79	79	80	70	73	68	67	71	68	67	52	60	46	50	72	80	68	31	40	25	66	67	62	64	68	60	58	68
83				D	D	53	54	52	53	43	60	50	50	60	50	67	66	78	58	84	95	79	58	51	63	57	44	87	67	52	66	64	72
84				B	B	71	72	68	61	53	66	54	52	70	60	77	94	85	54	66	60	68	70	69	71	58	53	68	76	68	74	80	80
85				C	D	61	53	80	74	77	72	51	52	60	60	55	57	61	47	75	90	69	66	60	70	60	69	38	72	62	72	78	74
86		B	B			23	6	64	42	46	40	40	33	67	61	50	68	30	48	12	0	17	56	50	60	30	22	47	55	0	44	58	80
87				A	C	90	87	96	78	80	77	63	70	54	62	78	94	91	52	64	90	53	38	40	37	62	71	40	68	60	68	60	71
88				E	E	46	44	52	60	64	58	66	73	58	38	60	69	44	64	50	95	30	46	50	44	51	48	59	65	56	74	78	55
89				C	C	66	55	92	70	68	71	70	76	68	30	66	77	65	56	65	80	58	50	45	53	66	77	40	63	58	66	65	60
90				D	C	77	75	80	46	40	50	44	48	40	48	60	66	38	72	57	65	54	70	68	71	40	57	0	55	50	54	50	58
91				A	C	53	39	84	72	75	70	60	65	57	50	53	66	55	38	52	80	40	71	72	71	40	41	38	67	60	78	58	60
92				C		89	89	88	68	51	79	62	68	57	55	78	86	74	72	87	90	85	77	85	71	71	72	68	63	58	53	70	72
93				B	D	54	46	72	50	51	49	46	45	56	48	65	71	65	60	54	65	49	58	40	70	34	32	40	66	60	74	58	62
94		B		B	C	50	51	48	26		44	56	60	57	67	59	60	49	67	51	70	43	60	65	56	60	56	68	76	70	67	75	86
95				D	C	45	40	56	74	72	76	65	70	64	62	48	37	57	50	58	90	44	62	72	55	73	68	85	74	54	78	65	76
96				C		43	39	52	55	48	60	65	68	68	62	50	54	36	57	48	60	43	50	50	50	44	34	66	60	78	48	65	67
97				C		92	92	92	70	62	76	61	70	47	65	77	74	86	71	84	90	82	70	68	71	81	87	67	67	58	76	68	60
98				B	B	90	91	88	75	67	80	63	65	68	55	83	94	94	62	92	100	89	50	50	50	84	92	66	68	52	67	78	70
99				B	B	85	90	72	47	55	42	60	66	55	56	60	77	43	57	46	60	40	68	70	67	63	81	20	61	46	57	67	68
100		A				70	74	60	70	83	61	54	56	60	52	75	86	69	69	62	60	63	70	68	71	42	28	75	60	44	59	64	63
101				B		80	76	88	58	54	61	40	40	48	38	48	29	50	64	57	70	52	47	37	54	50	48	55	57	50	58	60	56
102				C	C	79	78	80	76	84	71	68	75	60	69	73	74	63	81	53	70	45	74	78	71	70	71	67	68	60	72	72	64
103				C		50	39	76	50	60	44	58	65	50	45	47	43	28	67	38	85	18	56	42	66	32	28	42	61	50	60	50	67

104		C	B	C		77	76	80	67	53	76	51	56	49	35	64	74	52	63	72	90	64	70	68	71	74	76	70	67	55	58	76	76
105				C	B	41	36	52	56	55	57	41	35	64	48	66	67	73	58	30	50	21	58	55	60	0	0	0	0	0	0	0	0
106				B	B	51	50	52	54	60	50	42	44	46	35	38	29	38	46	23	75	0	21	0	35	50	41	70	55	33	52	58	62
107				B		48	33	84	58	62	55	52	51	66	35	51	71	64	20	54	85	40	30	14	40	46	50	38	66	60	64	74	68
108				B	B	88	91	80	73	56	84	58	67	44	42	72	80	86	53	79	85	76	55	50	58	76	80	68	71	70	64	76	78
109				B	C	42	31	68	56	30	73	39	40	43	55	43	34	37	58	48	65	40	45	46	44	52	47	62	56	43	48	54	68
110				A		66	57	88	75	68	80	57	60	60	52	67	60	91	54	70	85	63	43	45	42	53	62	32	79	68	78	72	84
111		C	B	B		56	44	84	50	52	48	43	43	52	38	64	66	64	62	46	60	40	10	25	0	47	37	71	30	44	46	68	0
112				D		60	62	56	35	40	32	56	58	60	40	44	17	52	63	56	60	54	50	45	54	38	30	55	56	50	48	58	64
113	DD			C	C	40	26	72	43	53	36	36	40	30	50	37	18	49	45	40	34	42	67	63	69	13	18	0	44	60	32	30	55
114				A	C	73	70	80	64	60	66	56	60	55	46	63	74	50	63	66	85	58	63	52	70	61	72	35	63	58	58	64	68
115				C	B	58	45	88	60	52	65	52	54	56	42	61	54	67	62	40	80	23	32	25	37	53	51	59	63	52	70	42	65
116				B	B	60	61	56	72	65	76	60	60	72	58	57	63	48	58	63	75	58	50	45	53	57	51	70	68	76	67	70	66
117				C		30	20	52	60	51	66	68	75	60	50	36	69	40	0	60	50	64	47	42	50	51	44	66	63	70	57	70	65
118				B	C	84	80	92	63	56	67	51	56	47	45	68	69	79	58	54	80	43	45	33	53	64	65	63	71	56	52	80	92
119				D	E	43	35	60	60	50	66	58	62	60	52	60	66	40	70	40	35	42	51	44	55	22	13	42	198	52	469	48	0
120				D	C	32	18	64	53	40	61	40	38	52	55	40	34	23	60	34	55	25	45	67	30	37	37	37	62	54	62	60	64
121				B	B	73	68	84	56	60	54	53	55	58	50	65	77	65	54	60	70	55	53	35	65	68	75	50	55	46	50	56	63
122				C	C	71	65	84	67	62	71	58	67	45	40	60	54	62	64	80	90	76	67	62	70	73	72	75	70	58	62	70	80
123				B		78	77	80	66	55	74	52	54	58	50	57	57	50	64	68	65	69	55	30	71	72	81	52	74	68	70	76	80
124				D		43	29	76	60	50	66	42	38	63	58	65	74	54	66	27	60	13	29	0	49	18	8	42	63	40	54	44	82
125				D	C	50	48	56	56	61	52	60	60	73	60	62	66	58	60	53	55	52	62	44	74	62	67	51	62	58	60	58	67
126				B	C	76	78	72	62	57	66	62	66	62	60	64	71	59	60	54	70	47	65	55	72	68	75	50	52	55	55	50	48
127				A	A	90	89	92	72	73	71	51	50	64	53	58	49	62	63	82	75	85	53	57	50	70	72	66	68	74	69	55	68
128				D	D	60	62	56	45	43	47	52	50	66	50	41	66	0	52	46	60	40	37	20	48	20	0	67	58	38	59	57	61
129				B		87	85	92	60	68	54	65	70	65	42	71	89	70	54	67	70	65	54	25	74	66	72	51	64	65	60	72	66
130				B	C	79	82	72	71	67	73	59	66	50	45	66	83	55	59	72	85	66	67	62	71	70	71	67	70	68	72	58	71
131				B	B	78	69	10 0	58	54	61	57	61	58	52	65	83	68	45	75	90	68	28	35	24	57	59	51	66	68	63	67	68

132					B	C	81	78	88	57	50	61	58	65	50	50	76	74	89	67	71	95	60	67	56	74	60	77	20	64	68	68	70	58
133					A	A	60	58	64	65	71	61	50	55	45	55	61	57	76	53	61	80	53	40	35	43	68	70	64	71	67	75	72	67
134					A	B	91	95	80	62	57	65	62	66	64	55	83	89	89	73	89	85	91	53	57	50	77	96	32	60	60	50	68	68
135					B		57	50	72	70	57	78	45	48	45	40	35	69	37	0	48	55	45	38	42	35	50	56	36	60	62	51	58	70
136					D	E	57	55	60	46	47	46	44	48	42	62	63	80	66	44	33	70	17	36	25	43	44	36	64	61	65	59	66	60
137					D	D	50	49	52	47	50	45	49	55	43	20	66	73	40	80	48	46	49	46	49	44	48	40	66	68	60	68	70	70
138					C		67	63	76	51	44	56	37	37	46	53	58	61	45	66	48	65	40	70	71	70	61	72	35	60	60	58	66	60
139						D	65	51	96	36	43	32	48	58	30	40	48	51	25	65	51	50	52	44	50	40	60	55	71	60	58	60	52	62
140					D	D	46	31	80	38	43	35	33	30	48	0	61	66	73	45	52	65	47	38	65	20	41	40	43	57	42	58	55	60
141					A	A	22	0	72	62	76	52	73	84	55	63	47	46	29	63	58	70	53	62	50	70	67	73	52	70	70	65	54	80
142					C		86	81	96	60	58	61	38	36	50	40	73	80	85	57	60	65	58	42	46	40	67	65	70	65	58	62	68	70
143					C		62	60	68	67	62	70	69	80	50	50	67	63	89	52	57	55	58	61	65	58	80	77	87	68	55	66	64	74
144					A		45	31	76	54	40	64	48	54	40	56	70	71	73	65	55	90	40	48	68	35	53	59	38	70	88	66	64	70
145					B	D	50	45	60	54	40	63	34	32	45	48	30	37	58	0	52	55	50	30	45	20	52	48	61	63	43	70	52	64
146					B		53	48	64	56	61	53	60	68	50	60	58	71	73	31	33	55	23	40	45	37	19	18	20	64	62	68	45	64
147					A		100	100	100	83	75	88	71	79	62	56	83	77	90	83	87	90	85	53	50	55	60	63	52	78	74	72	75	85
148					C	C	50	44	64	55	55	55	60	65	56	60	66	69	69	60	44	50	41	70	72	68	61	65	50	67	60	70	68	65
149					B	B	40	35	52	50	45	54	43	38	64	45	31	57	0	31	50	70	41	50	46	52	60	55	70	60	46	62	60	62