An Exploratory Investigation into Employability Skills Provision at Key Stage Five

by

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Declaration

This thesis is the sole work of the author, and has not been submitted for a degree at any other University.

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Abstract

This thesis endeavoured to determine how well the KS5 curriculum prepared students for the workplace notably, their understanding of the skills they need for the workplace and the frequency to which these skills are practised prior to leaving formal education. Specifically, it explored the depth of understanding of the concept of employability skills across KS5 teachers and students and the sources of information and training both received regarding employability. It also examined how frequently activities, that encourage employability skills, were integrated across different KS5 subjects and the form that they may take. Lastly, it evaluated factors that encouraged or hampered the integration of these skills, and their corresponding activities, into learning and teaching.

The research used a Convergent Parallel Mixed Method Research approach, underpinned by the theoretical perspective of Pragmatism. The Mixed Method approach encompassed two distinct processes - a quantitative strand involving a survey of 108 teachers and 527 students from three establishments and a qualitative strand involving semi-structured interviews with sixteen KS5 teachers from two of these establishments. A range of twenty-five KS5 subjects were included, covering A-Level and BTEC qualifications.

The findings indicated that there was pervasive confusion and lack of understanding, by both teachers and students, as to what employability skills are and what they entail. This fostered a lack of awareness of the importance of providing or gaining these skills. As such, it had a significant impact on how frequently employability skills, and corresponding activities, were integrated into learning and teaching. The findings also showed a wide variation in the frequency of skills provision across the KS5 subject range. A number of enablers to improving skills provision were identified, as well as, some particularly significant barriers to their successful integration. Significantly, the research found that the depth and breadth of employability skills could not be adequately achieved under the current KS5 system. This was the result of a combination of factors that included: the inherent nature of the subject, the method of assessment and the limited number of subjects a student typically studies at KS5. To fully ensure that employability skills are practised to their requisite depth, a fundamental reorientation of the English Upper Secondary System is required involving a broader range of subjects taken and a wider variety of assessment methods. However, the research did find that much can be done to improve many, but not all, of the skills necessary for employment under the current KS5 system.

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List of Abbreviations

ATC21S   Assessment and Teaching of 21st Century Skills Project

BCG   Boston Consulting Group

CBI   Confederation of British Industries

CEI   Central European Network

DeSeCo   Definition and Selection of Competencies

DfE   Department for Education

EPQ   Extended Project Qualification

HE   Higher Education

ICT   Information & Communication Technology

KS5   Key Stage 5

MMR   Mixed Method Research

OECD   Organisation for Economic Cooperation and Development

PISA   Programme for International Student Assessment

SPSS   Statistical Package for the Social Sciences

TIMSS   Trends in International Mathematics and Sciences Study

UKCES   UK Commission for Employment and Skills

USE   Upper Secondary Education

WEF   World Economic Forum

CHAPTER ONE: INTRODUCTION

1.1 Research Background

The depth and breadth to which employability skills practise should be included within the KS5 curriculum is part of broader discourse concerning the purpose of education. The purpose of education, including the role of employability skills practise within it, has been the focus of longstanding and intense debate within both academic and political discourse.

It is a question that has been considered extensively from early philosophers such as Plato, Socrates and Aristotle, to in more modern times by the likes of Dewey (1938), Alder (1982), DeMarrais and Le Compte (1995) and Pring (2010). It is an evolving and contextual issue with a wide spectrum of perspectives, influenced not only the prevailing socio-economic conditions, but by the multiple communities to which we belong (Marshall, 2017; Murphy, Mufti & Kassem, 2008).

Education can serve a wide array of purposes including promoting: 'economic prosperity; employment; scientific and technological progress; cultural vitality; social progress and equality; democratic principles and individual success' (Papadopoulous, 1998, p. 15). Unsurprisingly, there are divergent views about the relative value of these elements and the weight that should be attached to them. This wide spectrum of opinion is evident between, and within, stakeholder groups including politicians, academics, employers, teaching professionals, universities and communities (Pring, 2010). As Pring emphasized:

> There is inevitable disagreement about the aims of education, namely, between those who think it is about: preparation for the world of work; developing those qualities and virtues which make us distinctively human; personal happiness or human flourishing; greater social equality and preparation for citizenship; high academic standards and so on. (Pring, 2014, p. 24)

Emphasis on particular purposes have also evolved over time. Early philosophers 'emphasised the role of education as a moral enterprise and centred on concepts, such as ethics and democracy. Key questions related to whether education is for the benefit of the individual or society' (Marshall, 2017, p. 3). In recent times, the purpose of education has faced renewed scrutiny in the wake of significant socio-economic upheaval. Various stakeholders question what is appropriate for modern society faced with such a challenging landscape characterised by: intensifying international competition and globalisation; unprecedented technological change and substantial organisational reorientation.

Consequently, the role the education system plays in the economic prosperity of a nation has gained significant traction, clearly evident in recent educational policies (DfE, 2010; DfE, 2015). As the DfE (2015) stated in its speech on the purpose of education: 'Education is the engine of our economy, it is the foundation of our culture and is essential preparation for adult life'.

However, there has been intensifying criticism across stakeholders that the existing English education system is 'not fit for purpose'. Pring (2010), amongst others, have argued that the education system, as a whole, has comprehensively failed to provide the 'education for all'; the broader learning that enables persons to 'fully engage' with their lives, articulated many decades earlier in *The Newsom Report* of 1963. More specifically, and the central focus of this thesis, many public and policy reviews also contend that the education system is not adapting sufficiently quickly to provide the requisite highly skilled and 'well rounded' workforce necessary for the UK's economic survival or to allow people to flourish socially and economically within it.

As was concluded in the *CBI and Pearson Education and Skills Survey* (2015, p. 4), 'the short comings of the education and skills system drags us down'. Governmental Reviews such as *The Tomlinson Report on 14-19 Curriculum Reform* (2004) and *The Leitch Review of Skills* (2006), along with many others since, have recommended that substantial reforms take place at all levels of education putting skills development (both technical skills and 'attitudes and aptitudes') at the forefront, as part of a wider move towards the development of the whole person.

A plethora of initiatives and reforms have ensued, aimed at improving young people's employability skills. Yet, academic and educational policy literature has indicated that these have largely failed to embed employability skills into mainstream learning and teaching. Reasons posited include: system level issues; notably entrenched beliefs on the supremacy of academic subjects, didactic teaching methods and summative assessment. This is compounded by micro level issues: including confusion over what employability skills are; how they should be integrated and resourced; who should do so and how best to do it.

The literature, to date, has predominantly focused on identifying key determinants of successful provision. There is a general consensus that skills are not now acquired 'incidentally' through education, but need to be mainstreamed across the curriculum, as well as 'explicitly taught' through 'active hands on learning' and 'simulated work environments' (CEI, 2011; Robley *et al.,* 2005; UKCES, 2008, p. 23). The consistent use of group work, presentations, role play, problem solving and debating activities where learners have autonomy and teachers act as 'facilitators', has also been

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advocated. This is in conjunction with the need for regular idea exploration, creativity and reflection (OFSTED, 2012; Cotton, 2001; Turner, 2002) The teacher's role now is 'less the sage on the stage and more the guide on the side' (Ordonez & McClean, 2007, p. 223).

1.2 Research Motivation

The concern over the ability of the existing English education system to successfully prepare young people for the unique challenges they face living and working in such an intensive and globally competitive environment characterised by continuous technological disruption, has been a long held one. The concerns raised in the myriad of reviews over the last decade have echoed my own teaching experiences and served as the catalyst for this research project. As a teacher who has taught a range of subjects at KS5 including Business, Economics and Law; both A level and BTEC qualifications, I have grown increasingly concerned over the level of employability skills and knowledge of the workplace that my students have displayed. I have increasingly wondered why such skills development was not explicitly at the forefront of the KS5 curriculum, even though the literature was largely in agreement over its importance and the need for its consistent development.

This was enhanced further when I started to take part in enterprise initiatives and help with business-school engagement outside of my classroom teaching. Consequently, I began to research into how better I could integrate skills practise into my subject teaching and was interested to note that some activities were easier to integrate than others depending on the subject and the type of qualification I was teaching. This was also something that was confirmed in informal discussions with my colleagues from other subjects. Correspondingly, it became apparent that there were also significant inconsistencies amongst teaching staff in awareness of employability skills and what they entailed. This formed the foundation on which my research would be based.

1.3 Research Questions and Purpose

This research endeavoured to explore the depth of understanding and awareness of employability skills across KS5 teachers and students in England. Correspondingly, how frequently activities that encourage employability skills improvement were integrated across different KS5 subjects. This included the form these activities took and what might have enhanced or prevented their integration into learning and teaching. The research questions are as follows:

1. What do teachers and students understand by the concept 'employability skills'?
2. How frequently do specific activities that encourage employability skills improvement occur within subjects and what form do these activities take?
3. What enablers and barriers exist that impact upon the integration of these activities that encourage employability skills into learning and teaching?
4. What sources of information and training do KS5 teachers and students receive regarding employability skills?

The purpose of this research was to try and determine how well the KS5 curriculum prepared students for the workplace. This was in terms of their understanding of the skills they need for the workplace and the frequency in which they get to practise those skills prior to leaving formal education.

1.4 Structure of the Thesis

This thesis is structured into the following six chapters: Introduction, Literature Review, Methodology, Findings, Discussion and Conclusion. The Literature Review chapter will provide a comprehensive review of the theoretical and empirical literature pertaining to the concept of employability skills and the provision of employability skills practise at KS5. Subsequently, the Methodology chapter will detail the Mixed Method Research design adopted, as well as the theoretical perspective of Pragmatism that underpins the research design. The sampling strategy and data collection and analysis process will also be examined. The Findings chapter will present the quantitative findings from the KS5 teacher and student surveys and the qualitative findings from the KS5 teacher interviews. Following on from the Findings chapter, the Discussion chapter will consider the implications from the findings in relation to the research questions and existing literature. The thesis will culminate with a Conclusion chapter which will summarise the key research findings, as well as provide recommendations for areas of improvement and further research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides a comprehensive review of the theoretical and empirical literature relating to employability skills provision at KS5. The review commenced with a thorough investigation of the empirical and theoretical developments specifically relating to employability skills provision within education. This was later expanded to consider the broader theoretical concepts and empirical evidence pertaining to the nature of employability and employability skills, as well as wider contextual factors that may impact upon skills provision within the context of secondary education.

This chapter contains four main sections. The first section (2.2) examined the wider socio-economic context. This aimed to provide an understanding of the socio-economic factors that influence the demand and supply of skills. The second section (2.3) discussed the concept of 'employability' which is the underpinning construct for determining employability skills. The third section (2.4) provided an overview of key employability skills definitions and frameworks. The fourth section (2.5) considered the existing literature regarding effective practises to the learning and teaching of employability skills, as well as associated barriers that may restrict their provision.

2.2 The Wider Skills Context

To fully comprehend the nature and frequency of employability skills provision at KS5, it is important to understand the wider context in which it is situated. As a 'derived demand', the demand for skills is entirely dependent on what goods and services are produced, which in turn are heavily influenced by an array of economic and political drivers (Wilson *et al.*, 2014). Over the last 30 years, three drivers in particular: technological development, globalisation and international competition, and corporate strategic choice[1] have had a considerable impact on the shape and composition of the UK economy (Learning & Skills Council, 2007). Each of these drivers will be discussed in turn, specifically in relation to their influence on the 'level and profile' of skills demand.

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[1] These four drivers have been derived from reports by the Learning and Skills Council into skills demand. 'Skills in England' was published annually by the Learning and Skills Council between 2002 and 2007. It regularly reviewed the drivers of skill demand. See for example,
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/303566/2007nat-nessurvey2007keyfindings-may08.pdf

2.2.1 The Impact of Rapid Technological Development

The rapid pace of technological development, notably digitalisation, has fundamentally reoriented all aspects of modern life (House of Lords, 2014). In their widely-cited work *The Second Machine Age,* Brynjolfsson and McAfee (2014) identified three major trends which are fundamentally redefining work. Firstly, Artificial Intelligence (AI) - the shift from 'brain to machine' where computers take greater control of complex decision making tasks, for example cashierless shops and driverless transport. Secondly, the move from 'product to platforms', for example Airbnb and Uber. Thirdly, the shift from 'core to crowd', for example Wikipedia and You Tube Contributors.[2] Correspondingly, entirely new industries and occupations, such as video streaming and web design have become well established (WEF, 2016a). In 2017, UK digital tech businesses grew by 28%, over twice as fast as non-digital businesses, providing 1.64 million digital tech jobs (Tech City, 2017, p.9).[3]

However, such technological advancement has created significant challenges for employment. Most industries have seen a substantial increase in automation with global sales of automation systems rising to $200bn in 2016 (Accenture & WEF, 2016). As shown in Figure 2.1, automation will increasingly replace low skilled work with the Bank of England predicting 'that two thirds of current jobs are at risk of automation, with the lower paid generally most at risk' (Dromey & McNeil, 2017, p.16).

Figure 2.1: Share of Workers with High Automatibility by Education Level (Arntz *et al.*, 2016, p. 20)

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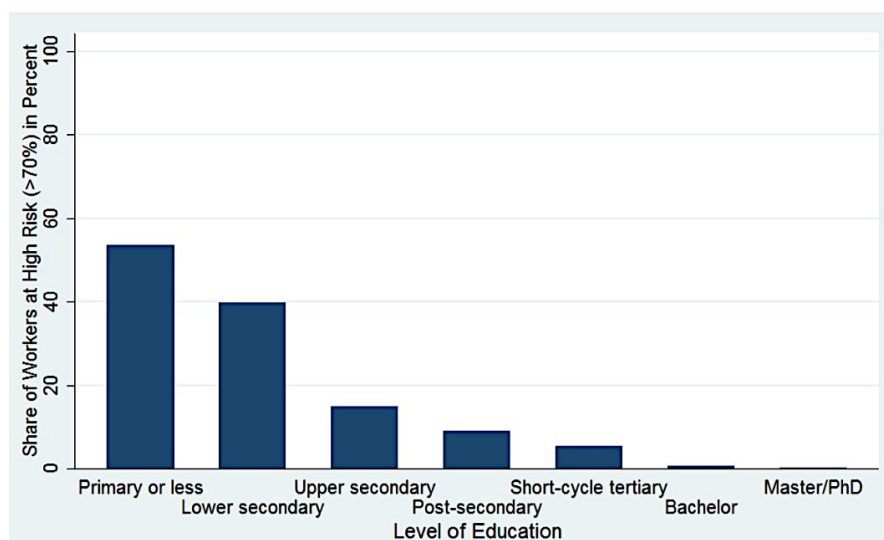
[2] The core is representative of 'centralised organisations' with clearly defined boundaries, such as corporations and central banks. The 'crowd' is the 'decentralised self-organising participants'. Digital technologies have lowered the cost of interacting, so where companies use to experiment and innovate internally because of high transaction costs, experimenting and innovating can be done by informal groups emerging from the 'distributed intelligence of a global crowd' (WEF, 2016, p. 16; Arntz *et al.*, 2016).

[3] According to the World Economic Forum's (WEF) *2017-2018 Global Competitiveness Index*, the UK is one of the world's digital leaders ranked 8th out of 137 countries (Schwab, 2018, p. 13).

Highly skilled labour is not immune either. Brynjolfsson and McAfee (2014) have asserted that as machines evolve to carry out more complex tasks their impact will climb further up the skills ladder. For example, legal services such as will writing can now be completed online without the need for a solicitor. However, 'High Tech, High Touch' jobs which require complex cognitive skills, such as problem solving, creativity and interpersonal skills are less easily substituted by automation (Wilson *et al.*, 2014).

Correspondingly, Dromey and McNeil (2017, p. 8) reasoned 'history suggests that jobs that are created will be more highly skilled than the ones that are lost'. Thus, whilst manual labour has been displaced by automation, the automatized process now requires more highly skilled expertise to enable and control the process (UKCES, 2014). Consequently, as the House of Lord's (2014) Report on UK's Digital Future concluded:

> Our evidence was unanimous, that employers are looking for an ever-widening skill set. In addition to high levels of numeracy and literacy, employers are looking for a mix of technical, creative and social skills. (House of Lords, 2014, p. 21)

Thus, the education system will need to be able to equip the future workforce with broad cross-sectoral skills that will enable them to respond to this disruptive change and more easily move across industries and occupations.

2.2.2 Intensifying International Competitiveness

Another key driver influencing the level and profile of skills demand is globalisation and intensifying international competition. The dismantling of formal and informal international trade barriers combined with rapid technological development has created global supply chains that allow the offshoring of low skilled work to lower wage economies, such as India and China (Bosworth, 2014). Since the 1970s, the UK has shifted away from low-skilled manufacturing, to about 10% of GVA, to a 'knowledge based economy' (Jacobs *et al.*, 2016, p. 10). Its competitive advantage now lies in knowledge-intensive businesses including: financial services, creative industries and R&D in agrifoods, aerospace, pharmaceuticals and chemicals (BIS, 2013). The UK has, to date, performed relatively well against its international competitors on global indexes such as INSEAD's *Global Talent Competitiveness Index* (CBI & Pearson, 2015). However, CBI and Pearson (2015, p. 6) have warned that if the UK wants to maintain its competitiveness it 'must strengthen its education and skills system to meet future demand and avoid being outpaced by international competitors'.

Figure 2.2: Revealed Comparative Advantage by Industry (%) for UK, German and Japanese Economies (with UK sector share of total UK exports in brackets), 2012 (Jacobs *et al.*, 2016, p. 10)
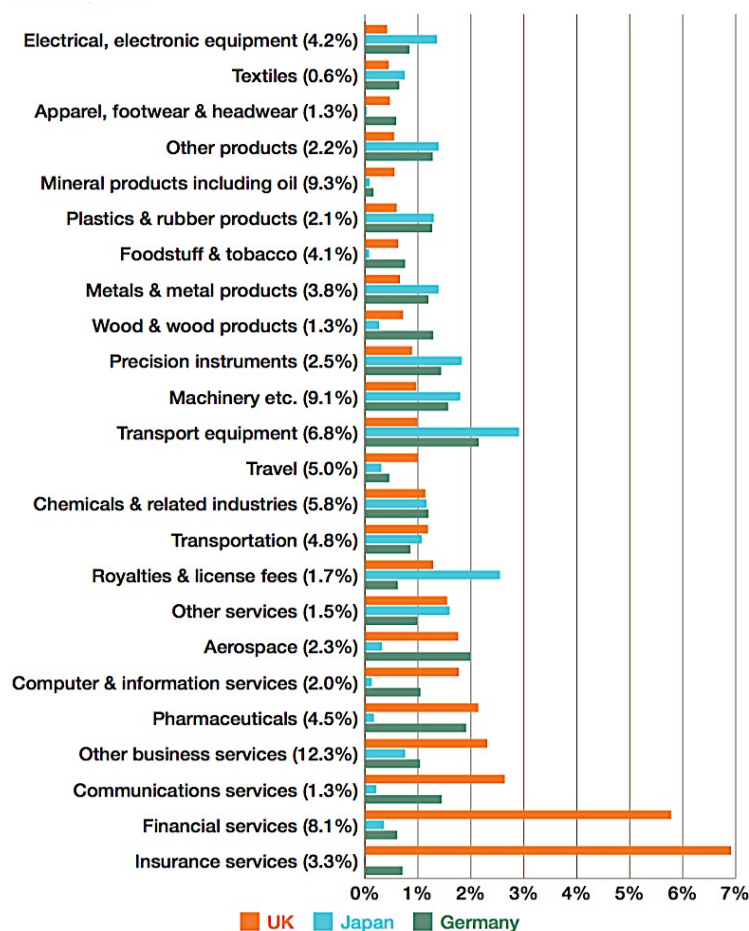
Successive governments have attempted a variety of initiatives to enhance the UK's innovative and productive potential. However, a number of factors have contributed to the UK persistently trailing behind key competitors in 'capability' for some time (Bosworth, 2014). As Figure 2.2 shows, firstly, there is an overreliance on a few labour-intensive industries, notably business and financial services, compared to the more diverse spread of competitors, such as Germany and Japan (Jacobs *et al.*, 2016).

Secondly, the UK's productivity is consistently below G7 and EU averages. In 2014, it was 35%, 30% and 27% lower than Germany, US and France respectively (ONS, 2014).

Figure 2.3: Gross Fixed Capital Formation as a percentage of GDP, UK, China, US and Euro area and OECD averages, 1970-2014 (World Bank, 2016)
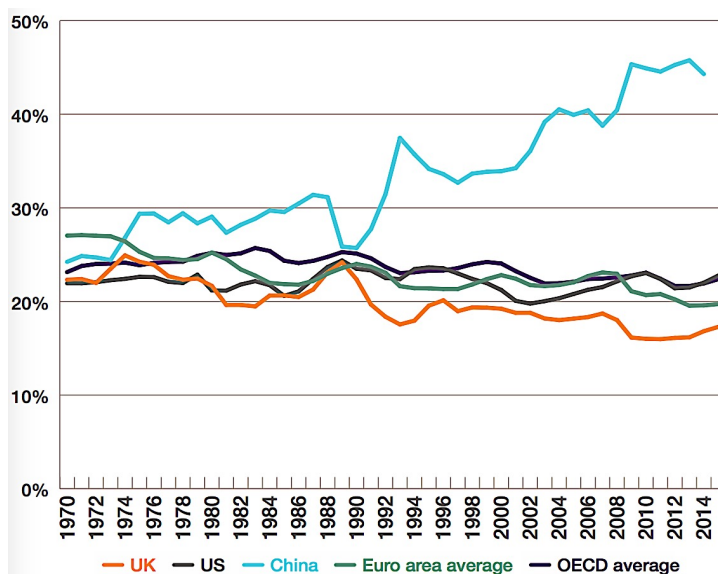
Thirdly, UK investment in the economy, as a proportion of GDP, is consistently below other advanced economies as evidenced in Figure 2.3. As the UK struggles to increase investment and improve productivity, international competition has intensified with the rise of emerging economies, such as China, India and the East Asian Tiger Economies.[4]

These economies, with substantial levels of state intervention, have invested

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[4] South Korea, Hong Kong, Singapore and Taiwan.

heavily in their skills base, including the proportion of workers with level 4+ skills, to ensure their skills supply matches global demand. The OECD has forecasted that China and India will account for 40% of all young people in education across G20 and OECD countries by 2020 (OECD, 2016). Consequently, this has enabled these economies to improve their capacity of the production of medium to high value added goods and services previously the domain of advanced economies, such as UK and USA, but crucially at lower prices (UKCES, 2014).[5]

2.2.3   *Corporate Strategic Choice and Occupational Change*

Figure 2.4: Changing Composition of Employment (+/- thousands) by occupation, UK, 2014-2024 (Dromey & McNeil, 2017, p. 7)
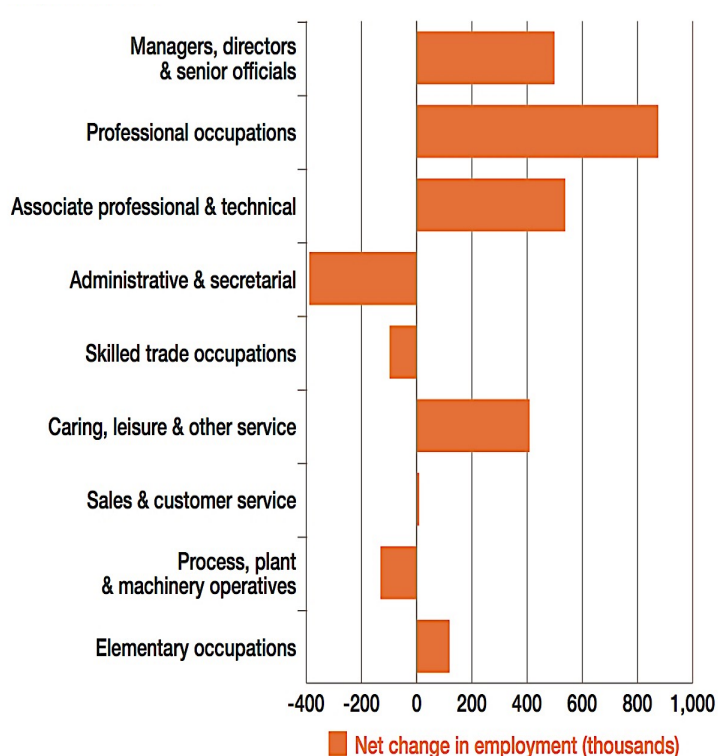
The shift towards a knowledge-based economy has fundamentally altered the way business works and what they require from the workforce, evident in the changing composition of employment shown in Figure 2.4. In 1971, 51% of all jobs were manual occupations (Hayward & Fernandez 2004, p. 120). In contrast, by 2022 almost half of all employment will be managerial or professional roles (CBI & Pearson, 2016, p. 13).

The comprehensive *CBI and Pearson Education and Skills Survey* (2016, p. 14) has predicted by 2021 almost three quarters of businesses (+74%) will require higher skills levels, especially leadership and management skills. There will also be a general need for upskilling of 'middle-skilled, middle-paying jobs'. However, the survey also indicated declining business confidence in the ability to recruit intermediate and higher skilled workers to fulfil future demand.

Historically, the UK has performed strongly on higher skills participation. The proportion of the UK qualified to tertiary (higher) level is projected to expand to 48% by 2020 (UKCES, 2014). However, as the CBI has warned:

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[5] For example, European and American investment banks have taken advantage of time differences and rapid internet connections to use skilled workers in countries, such as India to analyse data 'overnight' (Dromey & McNeil, 2017, p. 9).

strong overall performance on higher skills participation must not be allowed to mask the skills shortages already impacting upon key sectors of the economy, pointing to a mismatch between supply and demand. (CBI, 2013, p. 11)

STEM shortages, especially at higher levels are well documented (CBI, 2014; Davies & Cox, 2014). The most pervasive problems being inadequate experience and poor attitudes and aptitudes (CBI, 2014). If this trend continues, businesses may transfer operation overseas to countries with a more reliable supply of STEM skills (UKCES, 2015).

These trends have major implications for the education system. The 'knowledge worker' will need to be able to use 'logical abstract thinking to diagnose problems, research and apply knowledge, propose solutions, design and implement solutions, often as member of a team' (Ordonez & Maclean, 2007, p. 215). Furthermore, the move to more managerial and professional roles will necessitate more workers with leadership skills (Wilson *et al.*, 2014). However, the *UKCES 2015 Employer Skills Survey* reported that the density of skills shortages has remained worryingly consistent at around 23% and is predicted to continue to do so for the foreseeable future.[6] As the CBI and Pearson collaboration (2016) confirmed:

Our survey shows the strength of the drive towards a higher-skill, higher-value economy and the anticipated impact in terms of changing future skill mixes. However, that drive will not be possible if the right number of people with the right skills are not available. (CBI & Pearson, 2016, p. 13)

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[6] Density of skills shortages is defined by the UKCES (2015, p. 14) as 'the proportion of vacancies that were hard to fill because of skills shortages'.

Figure 2.5: Skills That Were Hard to Find Among Applicants (UKCES Employer Skills Survey, 2015, p. 5)

PEOPLE AND PERSONAL SKILLS THAT NEED IMPROVING

Skill	Value
ABILITY TO MANAGE OWN TIME AND PRIORITSE TASKS	47
CUSTOMER HANDLING SKILLS	39
TEAM WORKING	33
MANAGING OWN FEELINGS / HANDLING OF OTHERS	32
PERSUADING OR INFLUENCING OTHERS	31
MANAGING OR MOTIVATING OTHER STAFF	30
SALES SKILLS	25
INSTRUCTING, TEACHING OR TRAINING PEOPLE	22
SETTING OBJECTIVES FOR OTHERS / PLANNING RESOURCES	22
MAKING SPEECHES OR PRESENTATIONS	16
NONE OF THE ABOVE	25

■ MANAGEMENT AND LEADERSHIP
■ SALES AND CUSTOMER SKILLS

TECHNICAL / PRACTICAL SKILLS FOUND DIFFICULT TO OBTAIN FROM APPLICANTS

Skill	Value
SPECIALIST SKILLS OR KNOWLEDGE	64
SOLVING COMPLEX PROBLEMS	39
KNOWLEDGE OF PRODUCTS AND SERVICES OFFERED	37
KNOWLEDGE OF HOW THE ORGANISATION WORKS	31
COMPLEX NUMERICAL / STATISITCAL SKILLS	29
READING / UNDERSTANDING INSTRUCTING, REPORTS ETC	26
WRITING INSTRUCTIONS, REPORTS ETC	25
BASIC NUMERICAL SKILLS	24
COMPUTER LITERACY / BASIC IT SKILLS	22
ADVANCED OR SPECIALIST IT SKILLS	22
ADAPTING TO NEW EQUIPMENT OR MATERIALS	20
MANUAL DEXTERITY	15
COMMUNICATING IN A FOREIGN LANGUAGE	15
NONE OF THE ABOVE	7

■ OPERATIONAL
■ COMPLEX ANALYTICAL

BASE: ALL ESTABLISHMENTS WITH SKILL-SHORTAGE VACANCIES - UP TO 2 OCCUPATIONS FOLLOWED UP (3,244)

As Figure 2.5 indicated, the most prevalent existing deficiencies relate to complex analytical skills, but also to problems with workload management, teamworking, specialist skills and problem solving.

Intensifying international competition and rapid technological development also necessitates a much more flexible and responsive workforce. Since the millennium, business growth has been increasingly driven by SMEs and 'non-employing' businesses. Private sector employment is now roughly evenly split between SMEs and large employers (Manyika *et al.,* 2016). Independent work resulting from the evolution of digital communications and platforms, such as Amazon and Etsy has also risen significantly (Manyika *et al.*, 2016). *The 2016 IPPR Report* (Lawrence, 2016) has predicted

that by the 2020s there will be more workers self-employed than public sector employees. Accordingly, the notion of a 'job for life' has been replaced by the 'portfolio career' with greater job flexibility and insecurity (Manyika *et al.,* 2016; Skills Commission, 2014). Workers will have to retrain for different occupations over their working life. Employability skills are seen as 'important at all levels of an increasingly complex labour market with its dominant service sector and stress on employee flexibility and application of learning in new contexts' (Blades *et al.,* 2012, p. 6). However, as the Skills Commission (2014, p. 16) cautioned, 'the trend towards smaller networked organisations, which lack the scale and permanency of larger employers, presents a challenge for skills development'. As such, the government will need to reflect on how the education system will best prepare young people for operating in a such a dynamic and evolving labour market.

2.3   The Concept Of 'Employability'

2.3.1   *The Rising Importance of 'Employability' as a Concept*

To understand the concept of employability skills, it is first necessary to comprehend the underpinning concept of 'employability'. The concept garnered significant attention in the 1980s as companies and governments sought a more adaptable workforce to accommodate the increasingly competitive economic environment (Boltanski & Chiapello, 2007; Brown *et al.*, 2003). The concept was 'formally' adopted in the UK in the late 1990s, as a principal component of New Labour's 'Third Way' approach to economic and social policy (DWP, 2002; Haughton *et al.*, 2000). Its strategic purpose was to enhance worker's employability skills and thus their mobility, in the face of burgeoning levels of unemployment and skills shortages (Levitas, 2005).

Supra-national establishments, such as the E.U and U.N were similarly championing the importance of employability. It formed one of the four 'pillars' of the European Employment Strategy (revised in 2003)[7] and was a cornerstone of the U.N's approach in combating youth unemployment. (European Commission 2000; U.N 2001). Further interest flourished in the wake of the 2008 financial crisis, revitalising longstanding concerns over productivity and the ability of educational establishments to produce the requisite skills need to improve growth and retain competitiveness. (Arora, 2015; Artess *et al.*, 2016).

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[7] The strategy's main objectives were the promotion of an inclusive labour market that would eventually lead to full employment and the enhancement of both 'productivity and quality' at work (CEC, 2003).

2.3.2   Defining Employability

Even though the term is widely used, as Gazier (1998, p. 298) articulated in his extensive documentation of changes to the concept, it's 'a fuzzy notion, often ill-defined and sometimes not defined at all'. Correspondingly, numerous subsequent studies have cautioned against ascribing simplistic definitions to it (Harvey, 2001; Hillage & Pollard, 1998; Williams *et al.*, 2015). Even so, its ubiquitous nature means it continues to be ascribed a multitude of meanings, with different stakeholders creating their own individual versions to suit their particular contexts (Harvey, 2001; Nauta *et al.*, 2009; Pegg, 2012). As Artess *et al.* (2016, p. 10) confirmed, 'debates on the meaning of employability are not simply questions of academic interest'. Rather, there are a diverse array of stakeholders who have a vested interest in defining employability. Consequently, stakeholder disagreement over definition, development and provision endures (Tymon, 2013; Yorke, 2006).

Hence, when deciding upon a definition of employability, out of the multitude of definitions available, it is perhaps worth heeding the advice of Williams *et al.*

> In reality, one must first identify the perspective from which the term is being applied. A plurality of stakeholders take a perspective on employability, each holding a different approach and scope and serving to highlight different issues and domains of action in which they work. (Williams *et al.*, 2015, p. 2)

This thesis was primarily concerned with employability skills provision within the KS5 educational context. Therefore, any definition had to explicitly articulate the individual 'skills and attributes' aspect and be appropriate for the educational context. However, there was an acute awareness that there is a broader array of factors that will also influence a student's employability and this also needed to be acknowledged in the chosen definition.

One of the most respected conceptualisations of employability came from Hillage and Pollard's (1998) extensive analysis of employability literature of the period. For Hillage and Pollard (1998, p. 2), 'employability is about having the capability to gain initial employment, maintain employment and obtain new employment, if required'. This definition comprised of four components. Firstly, 'assets' - which consisted of an individual's knowledge, skills and attitudes. Secondly, 'deployment' - how these assets are then used, such as being able to adapt to the evolving labour market. Thirdly, 'presentation' - having the ability to secure employment, for example through qualifications and work experience. Finally, this is all dependent on 'context' - external forces such as labour market conditions and personal circumstances.

Hillage and Pollard's (1998) framework has come under some scrutiny over intervening years, especially for its weighting towards the individual aspects of employability rather than the external factors also at play (Dacre-Pool & Sewell, 2007; McQuaid & Lindsey, 2005; Wilton, 2011; Yorke, 2006). In developing the concept, McQuaid and Lindsay (2005) included three equally weighted and interconnected sets of factors. These were: 'individual factors' categorized as 'employability skills and attributes'; 'personal circumstances' which included household circumstances, work culture, access to resources and social capital, and 'external factors' which consisted of 'demand factors' (i.e. macroeconomic factors and recruitment factors) and 'enabling support' factors (i.e. access to and affordability of public services). For McQuaid and Lindsey (2005), as well as Dacre-Pool and Sewell (2007), Yorke (2006) and Wilton (2011) the emphasis should be on the interaction between internal and external components. They distinguish between the 'ability' to gain employment and 'actual' employment which may be determined by external circumstances, such as those listed by McQuaid and Lindsay (2005). This was affirmed by Wilton (2011, p. 87) who asserted 'it is possible to be employable, yet unemployed or underemployed'.

In the field of education and employability, one of the most influential is Professor Mantz Yorke (2006; Yorke & Knight, 2006). Yorke and his colleagues have developed definitions and models which have influenced others, such as Dacre-Pool and Sewell's (2007) *CareerEDGE Model* and national establishments thinking including the HEA and DfEE (Artess *et al.*, 2016). As this thesis is firmly rooted in the educational field, Yorke and Knight's (2006) definition of employability was deemed the most pertinent. They defined employability as:

> A set of achievements – skills, understandings and personal attributes – that make individuals
> more likely to gain employment and be successful in their chosen occupations, which benefits
> themselves, the workforce, the community and the economy. (Yorke & Knight, 2006, p. 8)

Part of the value of this definition was while 'achievements and attributes' are a prerequisite for employment they are not the only determinant of employment. This acknowledges the important role the 'wider economic context and situation of the individual' plays in gaining and retaining employment (Artess *et al.*, 2016; Dacre-Pool & Sewell, 2006; Edge, 2011). Two other aspects appealed about this definition. Firstly, that employability skills or capabilities are not just 'exclusively' developed in one setting, for example education, but are continually developed through an individual's life. Secondly, the explicit articulation that enhancing an individual's employability is not only beneficial to that individual, but has wider socio-economic benefits.

2.4   Employability Skills

2.4.1   No Formally Agreed Definition or Framework

It is perhaps unsurprising, given the previous section, that for many commentators providing a universal all-encompassing definition and an associated list of skills or competencies is not possible or practical (Blades *et al.*, 2012; Lanning *et al.*, 2008; Messer, 2018). This has been validated by several government and stakeholder reviews which indicate that no generic definition or framework could be 'fit for purpose' across all learning aims and contexts (Anderson, 2017; Blades *et al.*, 2012; Dewson & Eccles 2000; Lanning *et al.*, 2008).

One of the key areas of tension is the lack of agreed terminology amongst stakeholders. According to Blades *et al.* (2012, p. 5), employability skills with its focus on 'work readiness' is the term preferred by business. Yet in education life skills, core skills, key skills, generic skills and enterprise skills are more commonly used, with employability skills denoting a broader 'umbrella' term (Nunn, 2008). Employability skills is also by no means a term adopted globally. In the US, foundation skills or work competencies are more prevalent. Whilst, essential skills and key competencies are more popular in New Zealand and Australia respectively (Nunn, 2008). The use of the term 'skill' is not widely accepted either. Other terms, such as attributes, characteristics, values, competences, and outcomes are also prevalent in the literature (De La Harpe *et al.*, 2000, Lloyd & O'Sullivan, 2004; Margo & Grant, 2010).

Another tension is that employability skills is a 'socially constructed' concept, adapted and developed in response to the prevailing political and socioeconomic trends of the time. As Canning elucidated:

> In the 1980s, language education was central to any discourse on core skills, while in the 1990s, enterprise education became much more prominent. Both have subsequently been eclipsed by the softer skills of team work and improving own learning. (Canning, 2007, p. 17)

Anderson (2014) highlighted the recent move away from 'old world skills' to 'new world' 21st century skills.

> There is widespread agreement that new skills and competences are needed to succeed in education and the workplace. Skills needed in today's world are different from the skills that have underpinned the education systems of the previous two centuries. (Anderson, 2014, p. 47)

This has led to an expansion of the word 'skill' to include behavioural characteristics, which some in the literature have heavily criticised (Canning, 2007; Chell, 2011; Grugulis *et al.*, 2004; Pring, 2004). As Grugulis *et al.* (2004, p. 15) asserted, 'the concept of skill has become bigger, broader and much fuzzier around the edges. More than ever before, skill is a subjective, as well as, an objective phenomenon'. For some in the field such as Pring (2004), this is a gross misuse of language. Pring contended that:

> Skills usually refer to those specific competencies required for the successful completion of particular activities i.e. cycling or driving a car. They can be listed and trained in. As such, personal attributes should not be included under the banner of 'skills'. (Pring, 2004, p. 14)

However, others such as Haasler (2013, p. 236) contended that this widening of the concept to 'comprise the entire personality of a person' is part of the wider trend towards a 'competence based approach to learning' increasingly popular across Western Europe. Similarly, Tymon (2013), Fugate *et al.* (2004) and Harrison (2003) view this expansion as all part of the skills 'discourse' which as a social construction is both 'shifting and unstable'. What is evident is that there is a wide spectrum of skills that can be included under the employability skills umbrella from 'hard technical' skills, i.e. literacy and numeracy to 'softer' skills, i.e. self-management and teamworking (Grugulis *et al.*, 2004). Whilst debate still rages over what constitutes a 'skill', in practice the inclusion of 'soft skills' has been widely adopted and forms a significant basis of much policy on improving employability (Fugate *et al.,* 2004; Martin & Villeneuve-Smith, 2008; Tymon, 2013).

As Tymon (2013, p. 36) also highlighted, with the expansion of the employability skills concept so has the associated frameworks, 'with each skill offered, there is an associated list or framework with as many as 80 components!' There is widespread agreement on 'basic functional skills' (literacy, numeracy and ICT), but less of a consensus on the 'soft skills' element (Haasler, 2013). This can be seen in the skills lists table in Appendix A. Yet, as Impetus (2014, p. 2) argued in its report *Ready for Work*, it is imperative to have a common understanding of the skills that young people need for employment, but these were 'rarely communicated clearly and concisely'.

2.4.2   *Key Employability Skills Frameworks*
A comprehensive review of all the frameworks encountered during the literature review was out with the scope of this thesis, however, a number of key frameworks did emerge from UK and International Literature. Appendix A provides a summary of these dominant frameworks and can be viewed as a synthesis of contemporary thought on employability skills. Appendix A shows, whilst the terminology did vary, certain skills reoccurred consistently across most frameworks.

CBI Definition and Framework

One of the UK's leading research efforts into employability has been by the CBI, in conjunction with partners including Pearson (2015, 2016) and the NUS (2011). Their 2007 framework was the culmination of an extensive literature review, consultation with over 100 businesses, as well as input from school teachers and students (CBI, 2007). The CBI definition and framework has been endorsed by government and student bodies including the NUS, alongside being cited as having informed more current research into employability skills, for example the ATC21S project (CBI & NUS, 2011; Griffin *et al.*, 2012; Suto, 2013).

UKCES Definition and Framework

The UKCES published its report, *The Employability Challenge* in 2009, with its remit having been focused on the practicalities of developing employability. It entailed a meta-analysis of existing employability literature, research involving 200 organisations, 20 case studies and an advisory panel of 32 experts from government, business and education (UKCES, 2009). The resultant definition and framework is a synthesis of the 21 leading definitions identified by the report at the time. This included two of the most widely adopted definitions - the CBI 2007 definition and the Conference Board of Canada's *Employability Skills 2000+* framework, which had been adopted by the UK Sector Skills Councils (UKCES, 2009).

ATC21S Project

One of the most comprehensive multi-year international research ventures was the *Assessment and Teaching of 21st Century Skills Project (ATC21S)*, which ran from 2009 to 2012[8]. This was an international collaboration of policy makers, academics (input from over 250 researchers) and assessment organisations, including PISA. One of its primary objectives was to 'define the skills required in operational terms' for the 21st century. This was achieved through an extensive review of literature and an analysis of definitions and frameworks developed by eleven major organisations including the Lisbon Council, OECD and the CBI (Griffin *et al.*, 2012; Suto, 2013).

European Recommendation and Framework for Key Competencies for Life Long Learning

In response to the shift by many member states towards a 'broader competence based approach' to education, the European Parliament adopted the 2006 recommendation on *Key Competencies for Life*

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[8] This was initially set up in 2008 as a taskforce consisting of education experts from three major technology companies - Cisco, Intel and Microsoft. The initial objective was to 'review the range of problems, issues and opportunities in education, with a primary focus on assessment reform'. It then morphed into an international collaboration of relevant stakeholders (Griffin *et al.*, 2012) ATC21S - http://www.atc21s.org.

Long Learning and its associated framework. It was conceptualised to ensure a common understanding of employability and that member states' education policies provided 'all young people with the means to develop key competencies to a level that equips them for adult life' (European Commission, 2018, p. 6). It was updated in 2018, after a public consultation and a comparative analysis against other international frameworks, including the WEF Framework (WEF & BCG, 2015) and the OECD's *DeSeCo* Framework (European Commission, 2018).

The WEF 21ˢᵗ Century Skills Framework

The WEF 21ˢᵗ century skills framework, developed in conjunction with the Boston Consulting Group in 2015, formed part of a multi-year initiative: *New Vision for Education.* The initiative's focus was on 'skills gaps' and the ways technology may be able to provide readdress (WEF & BCG, 2015). A meta-analysis of research literature on skills in education of nearly 100 countries was conducted. Their research was distilled into sixteen skills under three broad categories: foundational literacies, competencies and character qualities (WEF & BCG, 2015).

OECD's Definition and Selection of Competencies (DeSeCo) Project / OECD Education 2030 Project

The *DeSeCo* project's central purpose was to produce a coherent conceptual framework of the key competencies necessary for young people to thrive in the modern world (OECD, 2005). It was also designed to inform and strengthen the assessment of these competencies through PISA. A meta-analysis of existing research was undertaken and perspectives sought from individual nations, experts and other stakeholders. This was consolidated into an agreed framework published in 2003 (OECD, 2005). In 2018, the OECD launched its *OECD Education 2030 Project*, which built upon the DeSeCo framework and focused solely on secondary education (OECD, 2018). The project enhanced the existing DeSeCo framework to include 'transformative competencies' that it believed would address 'the growing need for young people to be innovative, responsible and aware' (OECD, 2018 p. 5).

2.4.3   Choice of Definition and Framework

Even though there is no definitive consensus, the majority of definitions alluded to the same thing - that a combination of knowledge, skills and attitudes are needed not just for active participation in the labour market, but for modern society more widely. With this in mind, the CBI's (2007) definition of employability skills was chosen.

> A set of attributes, skills and knowledge that all labour market participants should possess to
> ensure they have the capability of being effective in the workplace – to the benefit of themselves,
> their employers and the wider economy. (CBI, 2007, p. 11)

It was felt that it was not too generalised, for example 'any skill needed for the 21st century', but also not overly prescriptive. Furthermore, it was the definition that seemed most appropriate for an educational context.

Similar concerns arose when choosing a framework. There was little agreement on terminology, for example skills and competencies seem to be used interchangeably. However, when scrutinised there was considerable overlap in the knowledge, skills and attitudes included across most frameworks. Additionally, for the purpose of this thesis the word 'skill' was chosen. Whilst its use has come under fire by the likes of Pring (2004) and, indeed, the word 'competency' might better reflect the current nature of 21st century 'skills', it became increasingly evident during the pilot study that the word 'competency' was not well understood and very rarely used in a school context. The term 'skill' was in common parlance in schools, therefore, a much more accessible term.

It should be reiterated that the expansion of the employability skills concept to include a wide spectrum of skills under its umbrella has created a duality within in it, evident both in policy and practise. On the one side, there are 'hard technical skills or functional skills' (literacy, numeracy and ICT) where there is; widespread agreement on their inclusion in skills frameworks, a common understanding on what each skill should entail, and a variety of well-established assessment methods developed to determine competency in these skills (Grugulis *et al.*, 2004; Haasler, 2013).

On the other side, there is the inclusion of 'softer' skills which encompasses a variety of attitudes and aptitudes or 'dispositions', such as communication, teamworking, creativity, self-management and problem solving. There is significantly less consensus here not only on which to include, but also what is the appropriate terminology, both as a group of skills and at the individual skill level (Fugate *et al.*, 2004; Haasler, 2013; Tymon, 2013). There are also significant issues pertaining to the competency assessment of such skills which has, to date, been very problematic (Blades *et al.*, 2012; Care, Anderson & Kim, 2016; Ercikan & Oliveri, 2016; Nickson, 2003). The issues relating to assessment of such 'softer' skills have been discussed in more detail in the section: *2.5.2 Barriers and Enablers to Employability Skills Provision at Education System Level*. Specifically, the sub section: *Specific Employability Skills Assessment Challenges*.

Correspondingly, the vast majority of frameworks encountered during the research included three 'functional' skills - literacy, numeracy and ICT. Whilst there was less consensus on 'softer' skills, common ones were evident in almost all lists examined, namely: communication, problem solving & critical thinking, creativity, innovation, teamworking and self-management. Others also appeared

very frequently: leadership, social and personal responsibility, positive attitude, resilience, reflectiveness and business and customer awareness. Three frameworks stood out as particularly suitable for the education field: the UKCES (2009), CBI (2007) and the WEF (2015) frameworks.

Figure 2.6: UKCES Framework (2009) Showing the Broad Skills Categories and How They Link Together
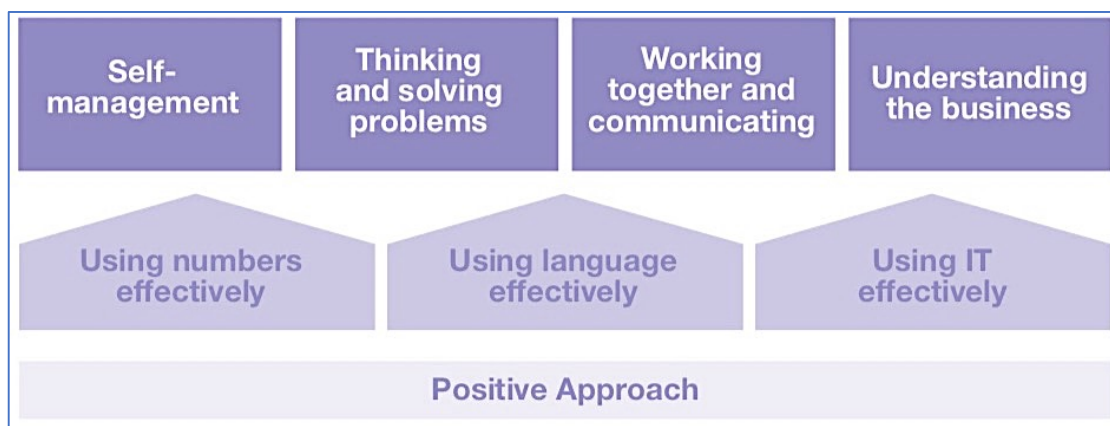
Whilst there was little to choose between the three, it was felt, after discussion with peers and from the pilot study feedback, that the UKCES (2009) framework was the most suitable for the secondary educational context of this thesis (see Figure 2.6 and Appendix A). It was very clear and had a wide coverage of skills, but was not too 'bogged down' with detailed lists of 'similar skills' (i.e. adaptability and flexibility). It was also grounded in a strong foundation of research, especially in relation to the UK.

2.5   Barriers and Enablers to Employability Skills Provision at KS5

The education system plays a pivotal role in providing opportunities for learners to develop crucial employability skills, so that they can thrive in the current highly competitive and rapidly evolving work environment. How these skills should be operationalised in learning and teaching has been the focus of much discussion both in academic and policy literature. Whilst there is much rhetoric at national level about 'goals' in employability skills provision throughout the education system, this may not accurately reflect the actual learning and teaching at the establishment level (Baker Dearing Trust, 2017; Binkley *et al.*, 2012).

Growing evidence has suggested that substantial barriers, entrenched from policy to practical level, have hampered the embedding of 'best practise' approaches. The literature has, however, provided

some direction or 'enablers' that may help overcome these barriers and promote the skills practise essential for the 21st century. The barriers and enablers to operationalising employability skills in learning and teaching at the establishment and system level, are discussed in turn.

2.5.1   Effective Practices and Barriers to Employability Skills Provision at Establishment Level

Much of contemporary research on employability skills has centred on identifying the most effective pedagogical practises. Whilst a broad consensus has emerged on these practises there are, however, some significant barriers that hamper its provision, both will be discussed in turn.

Skills Need to Be Explicitly Taught and Included in Formal Objectives

Drawing on her extensive review of 42 studies on employability skills, Cotton (2001, p. 7) asserted that one of the decisive determiners of effective provision is that 'employability skills are best learned when they are included amongst instructional goals and are explicitly taught'. This has since been corroborated by multiple national and international studies including Anderson (2017), Belt *et al.* (2010), Nunn (2008), Sahlberg (2007) and WEF & BCG (2015). Outdated thinking on how skills are acquired remains a constraint, notably, that skills are acquired incidentally through education or that some skills, namely aptitudes and attitudes, are 'inherent' in a person and cannot be taught (Belt *et al.*, 2010; Chell, 2011; Cotton, 2001).

However, a substantial body of research has asserted that employability skills can indeed be taught. Furthermore, understanding the relevance of what is being learned is critical to learners' motivation (YLEC, 2014; Yorke & Knight, 2007). Without clear reference to the importance of gaining these skills – through; explicit practise, inclusion in formal objectives, and consistent monitoring and reflection, it is unlikely that learners will fully engage in developing these skills or make the connection between skills learned at school and the working world. (Robley *et al.,* 2005). As Lanning, *et al.* maintained:

> We are also well versed in the very real benefits of embedding skills development across the learner's main programme of study … We are not starting from scratch and we have a rich body of experience and expertise to help us as we develop practise in the development of employability. (Lanning *et al.*, 2008 p. 4)

Lanning *et al.* (2008) evidenced BTEC, Core and Key skills programmes as examples of previous incarnations to learn from.

Skills Need to Be Mainstreamed Across the Curriculum

Mainstreaming across the curriculum rather than taught as discrete activities has been regarded as the most effective way of practising employability skills (Lexmond & Grist, 2011; UKCES, 2009). This was confirmed by WEF & BCG (2015):

> Best-in-class curricula aim to teach multiple skills at the same time. For example, teachers might use word problems to teach multiplication, directing learners to think critically and solve problems while developing both literacy and numeracy skills. (WEF & BCG, 2015, p. 15)

Embedding skills effectively into the formal curriculum requires them to be given the same standing as academic and technical skills (Suto, 2018). Thereby 'communicating to students that they are important and need to be learned' (Cotton, 2001, p. 8). However, as Demo's influential 2011 *Character Inquiry* evidenced, skills such as resilience, self-management and motivation are often overlooked (Lexmond & Grist, 2011). This is in stark contrast to the wealth of resources and initiatives on literacy and numeracy (Chell, 2011). Correspondingly, the House of Lords, in its 2014 *Review of Digital Literacy*, expressed concern that ICT was not given the same standing as other STEM subjects. Furthermore, even those skills that are taught as discrete subjects (literacy, numeracy and ICT), it may be that teachers lack confidence and expertise, especially when it is not their primary subject specialism (House of Lords, 2014).

This is an international issue. As the WEF and BCG (2015, p. 9) maintained, 'whilst there has been some effort to develop competencies and character qualities, these skills are not the primary focus of most educators'. Research has evidenced that long standing barriers, such as time pressures and excessive curriculum focus are the main restraints. In conjunction with concerns that time spent on employability skills would be at the expense of other competing objectives (Hargreaves & Fullan, 2012; Nieveen & Plomp, 2018).

Move Away from 'Indoctrinational Instruction' to 'Democratic Instructional' Approaches

To properly embed skills, it will require a significant reorientation of teaching practise away from traditional 'indoctrinational instruction' to more 'democratic instructional approaches' (Cotton, 2001; Gregson, 1992). Employability skills are imparted more effectively in approaches that privilege

> experimental and reflective learning styles with individuals and groups encouraged to explore and challenge ideas themselves, arriving at decisions and debate and questioning rather than receiving knowledge or facts passively. (Nunn, 2008, p. 29)

This builds on theories of learning by Dewey (1933) and Kolb (1984) who emphasised that effective learning requires a combination of practical experience and reflective practise. Furthermore, the literature has affirmed that a pedagogical approach centring on experimental and active learning is highly effective in developing many employability skills, especially communication, problem solving, self-management, teamwork and creativity (Cotton, 2001; Kolb; 1984). This is opposed to 'indoctrinational instruction' that involves didactic teaching and lecturing styles (Cotton, 2001; Gregson, 1992). Gregson described this as a

> process by which learners are given information in such a manner that they are discouraged or prevented from questioning its validity [and] includes pedagogical strategies that minimise student input. (Gregson, 1992, p. 63)

Central to 'democratic instructional approaches' is reflective learning. According to Nunn (2008, p. 29), reflection is a pivotal component in 'metacognition approaches to learning and teaching'. The assertion is that experiential learning is enhanced by the reflective evaluation of the success of their approaches. This encourages ownership and better informs future decision making (Pegg, 2012).

Group work and project work, in particular, are seen as critical pedagogical practises in their own right (Anderson, 2017). Group work can help encourage independence, teamworking, problem solving and communication skills. However, unless appropriate expectations are emphasised, such as respect and inclusiveness, group work can sometimes be counterproductive leading to 'free rider problems' or students 'going off task' (Nunn, 2008).

Project work is also viewed as a particularly effective vehicle for developing employability skills, notably self-management, problem solving, creativity, risk taking and teamwork (Suto, 2018). Anderson (2017) recommended that the *Extended Project Qualification* (EPQ) become a key requirement of post-16 study. This would follow other post-16 qualifications, such as the IB and Pre-U which include an extended piece of independent study. According to the IBO (2013), the extended essay, which is externally marked, is intended to promote 'high level research and writing skills, intellectual discovery and creativity'. However, some concerns have been raised over the possibility of excessive input from teachers and parents, as well as, the time and resource implications of compulsory project work like the EPQ, which can require a significant number of additional hours of extra study (Anderson, 2017).

The majority of employability skills frameworks explicitly referenced the importance of speaking and listening (see Appendix A). Presentations and debating, in particular, were seen as effective activities

to encourage confidence, self-management and critical thinking (YLEC, 2014). However, as YLEC (2014) noted, many teachers felt that verbal communication was often side-lined in favour of a very narrow definition of literacy which focused solely on writing ability. A Report by OFSTED (2013a) on writing and communication literacy referred to a 'diminished view' of what literacy entailed and urged schools to take a much broader view.

Context Matters

The literature revealed that there is a widely-held acknowledgement that the context in which learning takes place is a pivotal determiner of its success (Guile & Griffiths, 2001; Stazs, 2001). As Cotton (2001, p. 11) emphasised, 'active hands on learning in actual or simulated work environments is far more effective than decontextualized learning'.

The Baker Dearing Trust (2017, p. 15) also highlighted the importance of learners having 'authentic experiences'. Learners need access to such people with 'authentic' workplace experiences either through teaching staff with appropriate background experience, or access to the outside world in the form of; speakers, employer-linked projects and the integration of work experience into the curriculum. However, there is evidence to suggest that some teachers may lack up-to-date industry experience to provide the type of 'replicated authentic experiences' in their classrooms (Baker Dearing Trust, 2017). Anderson (2014) suggested all teachers should be given the opportunity to keep up to date with industry developments, for example through periodic secondments to industry. Others in the literature have proposed forging closer and more integrated links with local businesses (Mourshed *et al.*, 2014a).

Teacher as Facilitator

To create such an environment, it requires a significant change in the teacher's role. Teachers will have to become more of a 'facilitator' or coach rather than lecturers or 'order givers' (Chell, 2011; Cotton, 2001). As OFSTED (2004, p. 23) explained, 'an over-directed approach failing to allow this degree of learner autonomy and self-management' will lead to a failure in the provision of employability skills practise. Teachers will also need to 'hold and communicate high expectations', encouraging similar attitudes and behaviours that occur in the workplace, for example punctuality, self-management and a positive attitude (Cotton, 2001). Teachers would need to have more autonomy so that they have the flexibility to create the environments in which students can: practice simulations, undertake problem solving tasks, work in teams and bring real life examples to the classroom (Nunn, 2008; Stazs *et al.*, 1993).

However, the literature did caution that teacher autonomy can be counter-productive if it is not fully supported by the wider school context in terms of proper training and development, sufficient resourcing and curriculum time. This has been evidenced by OFSTED in their research on the implementation of related initiatives - PHSE (2007a) and Enterprise (2004b) in schools.

Whole School Focus and Collaboration

Critical to the success of embedding new pedagogical approaches is a whole school approach with strong senior level commitment. As Nunn (2008, p. 134) explained, 'establishment commitment is key to ensuring a particular initiative is taken on by individual members of the teaching staff rather than being crowded out by other initiatives'. This should ensure accountability for both teachers and management, but also provide support for adapting teaching through its proper resourcing and provision of the requisite development opportunities (Nieveen & Plomp, 2018; Smith *et al.*, 2007).

Collaboration across the school is critical to ensure a coherent approach and dissemination of good practise (Hodgson & Spours, 2014b; Lanning *et al.*, 2008). The literature has highlighted that implementing such pedagogical change may be challenging, especially as teachers work for much of their day in isolation from other staff (Nieveen & Plomp, 2018). Thus, any approach would require regular collaborative opportunities for staff to discuss and reflect together on new pedagogy and receive consistent feedback, for example as part a 'professional learning community' (Hord, 2004). However, such collaboration would need a school structure that enables this kind of culture. This will mean designated time and resources to ensure they are buffered from competing distractions (Nieveen & Plomp, 2018).

Lack of Confidence and Awareness and the Need for Continuing Professional Development

OFSTED's (2007a, 2007b) research into similar initiatives, such as PHSE and SEAL, have shown that implementation of new initiatives can be challenging, in part due to the resistance of teachers resulting from lack of confidence, awareness and skills ability. This was also an issue highlighted consistently in relation to ICT literacy. The House of Lord's *Digital Literacy Report* (2014) evidenced significant concern regarding the competence of teachers in using ICT outside basic tasks and the lack of resources and training to encourage its further use across the curriculum. Continuing Professional Development (CPD), properly resourced, was emphasised as central to ensuring teachers have the confidence and knowledge to embed such skills within their teaching (Hargreaves, 2003; UNESCO, 2005). Without teacher development, there is no curriculum development (Fullan, 2007).

2.5.2 Barriers and Enablers to Employability Skills Provision at Education System Level

Barrier: Fitness for Purpose in Light of Current and Future Socio-economic Pressures

A plethora of recent research have all sought to re-examine whether the post-16 upper secondary education system (USE) is 'fit for purpose'. This is in light of current and future socio-economic challenges and the effective creation of a universal USE through the raising of the participation age to 18 in 2015 (Anderson, 2014; 2017; Baker, 2015). This issue has also been dominating global agendas, as policymakers consider the most effective system to prepare young people for the future workplace (UNESCO, 2005).

International studies have pointed to a greater 'convergence of knowledge and practical skills' needed for effective navigation of the modern workplace and society (Le Metais, 2002; Sahlberg, 2007). As UNESCO's Director General Mr Matsuura (2002) affirmed:[9]

> The question of skills development for entry into the labour market is not simply an issue for technical or vocational secondary education, but also for general education – not least because solid, broad-based knowledge and generic skills, such as the ability to communicate and engage in teamwork, form the basis of all essential work tasks. (UNESCO, 2005, p. 13)

In contrast, the English USE has been increasingly perceived as a 'uniquely narrow and polarised' system which

> does not constitute a sufficiently holistic curriculum fit for the requirements of the modern age and are out of step in terms of breadth and time spent in study compared with most other high performing upper secondary education systems. (Spours *et al.*, 2016, p. 5)

It has also been regarded as becoming increasingly internationally disadvantaged, with its 'historical weaknesses' being exposed on the international stage through benchmarks, such as PISA and TIMMs (Ananiadou & Claro, 2009; Halaz & Michel, 2011). Students in most other successful education systems, and almost all those in Europe, study a broad array of subjects covering literacy, maths, social sciences, languages and core skills, regardless of their chosen future career path (Anderson, 2017; Dolphin 2014a; Wrigley; 2015).

Conversely, the A Level curriculum was initially designed to provide 'depth' in a few select subjects in preparation for Higher Education (HE) for a relatively small number of students. However, over

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[9] Declaration made at the 2002 UNESCO international conference - 'Secondary Education for a Better Future' (UNESCO, 2005, p.13).

the last two decades the HE and economic landscape has changed dramatically, with a much greater proportion of learners going onto HE. A Levels have morphed from 'a university preparation course for an elite group of learners into a general higher qualification' (Higton *et al.*, 2012, p. 27). There is growing scepticism from both HE and employer bodies that the system, viewed as a whole, is not equipping students with the broad array of skills needed for either pathway (CBI & Pearson, 2016; Dolphin 2014b, Higton *et al.*, 2012).

Additionally, forcing learners to specialise for post-16 study means learners are essentially determining their career paths at 15. Consequently, many abandon STEM or language subjects ruling themselves out of careers at an early age and further exacerbating the 'skills shortages and imbalances we see today' (Anderson, 2014, p. 32). Furthermore, England is again unique in not having some form of compulsory maths or native languages post-16 compared to its international counterparts (Wrigley, 2015). The impact of this is evident in persistent lower levels of literacy and numeracy attainment on international measures such as PISA (Kuczera *et al.,* 2016).

The English USE system is also 'exceptional' in the high degree of prescription and specificity of content in GCEs, further exacerbated by recent reforms under Michael Gove (Spours *et al.*, 2016). These reforms have been widely criticised as forcing the English system further into 'narrow academicism' - a consequence of Gove's much derided 'grammar school education for all' approach (Allen, 2015, p. 10). Consequently, other skills essential for participation in the labour market have been neglected (Allen, 2015; Baker, 2016). Anderson (2014, p. 44) concluded in *Making Education Work'* that 'young people should not themselves be held responsible for their lack of skills; it is a direct consequence of the academic focus of the education system'. Indeed, the narrowly conceived focus of recent reforms on academic attainment has seen 'discussion about the importance of including wider skills and competences almost entirely absent from government policy documents' (Hodgson & Spours, 2014a, p. 689).

This is exacerbated by deep routed historical and social biases that have privileged academic learning over vocational learning (Allen, 2015; Baker, 2016). The reduced role vocational qualifications have played within schools as pathways for the 'less academic' has hampered the ability to integrate employability skills into the USE more widely (Wolf, 2011). Correspondingly, employability skills training has been traditionally viewed as the preserve of vocational routes (Dolphin, 2014b). This is despite substantial research indicating that vocational subjects are superior to their A level counterparts in the development of employability skills such as creativity, innovation and risk taking

(Chell, 2011). Consequently, it has led employability skills to be 'guilty by association' and thus, 'missing from some classes and devalued in others' (Nunn, 2008, p. 39).

Enabler: Broaden and Lengthen the USE Curriculum

Schools and colleges do not function in a vacuum, central government policy plays a pivotal role in determining what is learned, the methods used and how it is all assessed (Nieveen & Plomp, 2018). This is especially true of the English system which is highly centralised in terms of design, organisation and funding (Unwin, 2010).

The direction of debate, internationally, is towards a broadening and lengthening of the USE curriculum with an explicit focus on skills practise and later specialisation into academic or vocational pathways (Halasz & Michel, 2011; Sahlberg, 2007; Unwin, 2010). The objective is to provide a 'solid foundation of knowledge in a cluster of essential generic competencies and non-occupation specific practical skills' so that learners have a diverse enough skills base to move between careers and industries (UNESCO, 2005, p. 113). Accordingly, this should be facilitated by modes of instruction that emphasise skills practice notably, project work, teamworking, formative assessment and thematic learning (Hodgson & Spours, 2014a; Sahlberg; 2007). High-performing countries like Finland, Canada and Singapore have moved to broader competency-focused curriculums - an approach which has also been gaining traction across Europe (Halasz & Michel, 2011; Sahlberg, 2007; Sundberg & Wahlstrom, 2012).

There has been a 'long standing subordinate discourse' regarding the broadening and lengthening of the English USE system (Hodgson & Spours, 2016). Anderson (2014), in his comprehensive review of the English Education System *Careers 2020: Making Education Work*, is one of an increasing number of reviews that propose a Baccalaureate style system characterised by a broad range of subjects, compulsory English and Maths and an extended research project (Baker, 2016; Dolphin, 2014b; Compass, 2014). Others go further, that the curriculum should be broadened and lengthened with academic and vocational routes integrated into a unified general 14-19 system (Allen 2015; Baker, 2016; Hodgson & Spours, 2016; Tomlinson, 2004). Impetus for a baccalaureate style system has been catalysed by the adoption of more unified systems within the UK, for example Scotland's Unified Credit Framework and the Welsh Baccalaureate (Gunning & Raffe, 2011; Ozga, 2011). The raising of the participation age to 18 has also increased momentum for an English USE system (Hodgson & Spours, 2015).

Regardless of the guise such a phase might take, there is a high degree of commonality in the reasoning behind it. Developmental studies have indicated that young people at 16 are not 'developmentally ready' either in the levels of skills they have or in making such impactful life changing decisions (Casey *et al.*, 2008; Nurmi, 2004). This has been reiterated by HE practitioners, who have voiced concerns that A levels force learners into 'narrow learning pathways at a time when they are not ready to make such significant choices – something which is not good for learners, universities or employers' (Higton *et al.*, 2012, p. 28).

A 'developmental curriculum' with a longer USE phase, it has been proposed, would provide teachers time and space to 'interpret the curriculum creatively and to organise effective learning methods' to develop wider skills and abilities (Compass, 2014, p. 20). With the removal of high stakes examinations, learners would then be able to develop the skills they need at their own pace by 'stage not age' (Hodgson & Spours 2016).

Barrier: Dominance of Summative Assessment

One of the critical factors in the level of skills practise is the dominant mode of assessment. As the Intel *et al.* Taskforce in its 2008 paper, *Transforming Education: Assessing and Teaching the Skills Needed in the 21st Century*, articulated:

> Whatever the formal curriculum says, whatever teachers are taught to do in class, whatever it is that learners want to learn, the paramount determiner of what is taught, how it is taught, and what is learned, is what is assessed. (Intel *et al.*, 2008, p. 6)

The English USE system is dominated by 'high stakes' summative assessment - a linear two-year study programme culminating in a raft of examinations (Anderson, 2017). This 'high stakes accountability system' determines not only the future of the student, but the 'success' of schools and teachers through ranking in league tables (Blades *et al.*, 2012). Inevitably, this will alter the paradigm of education. The emphasis becomes about 'knowledge accumulation' on discrete topics so that the best possible exam results can be gained, on which teachers' effectiveness and students' ability is judged (Intel *et al.*, 2008; Ordonez, 2007). This is to the detriment of 'mastery of knowledge' and the ability to apply it to an array of contexts, as well as wider skills development (Anderson, 2017; Higton *et al.*, 2012; Ordonez, 2007). As Ordonez illustrated:

> In chemistry, the purpose has shifted from gaining an insight into how nature works to mastering the periodic table or in history from an appreciation and understanding of one's heritage to memorising key figures, dates and places. (Ordonez, 2007, p. 225)

Correspondingly, 'teaching to the test' has a detrimental impact on a teacher's ability to develop learners' innovative behaviour and employability skills. As Chell explained:

> Teaching style is important in enabling the teacher to draw out young people so that they are encouraged to express themselves innovatively through assignments … whereas a tight focus on the national curriculum interpreted in an academic way may constrain experiential learning. (Chell, 2011, p. 620)

Growing evidence has suggested that these traditional summative assessments are unable to adequately measure the skills coveted in the modern workplace and the wider socio-economic environment (Pelligrino & Hilton, 2012). As the Intel *et al.* Taskforce clarified:

> People in the real-world work with others, use subject knowledge and a variety of technological tools and resources to analyse and solve complex ill structured problems or create products for authentic audiences. (Intel *et al.*, 2008, p. 6)

The consequence of this entrenched usage of summative assessment is that almost all parties, learners, teachers, parents and employers are wary of qualifications not gained through traditional assessment, viewing them as less rigorous, more subjective and open to manipulation (Blades *et al.,* 2012; Deloitte, 2010). As such, any alterations to assessment will face substantial barriers, not least changing such widespread and entrenched views.

Barrier: Specific Employability Skills Assessment Challenges

Some employability skills, especially attitudes and aptitudes, have often been declared as too complex, multidimensional, subjective and 'enigmatic' to allow for easy definition and objective quantification (Care, Anderson & Kim, 2016; Nickson, 2003). Much of the issue lies in the dearth of understanding about their development. This has hampered their integration into mainstream curriculums. For example, problem solving and teamwork encompass the complex interaction of a myriad of social and cognitive processes (Ercikan & Oliveri, 2016). Other skills, such as creativity, are highly context dependant both in application and observation. Whilst the assessment of the result of a creative activity may be conducted by viewing the quality of the result, the assessment of the actual skill cannot be easily achieved (Suto, 2013). Correspondingly, attitudes are highly subjective and can often only be measured through 'self-reporting' of the feelings and experiences felt by the learner (Blades *et al.*, 2012).

Consequently, those skills that are not easily assessable through established means, such as by written tests, are often downplayed or avoided in favour of skills such as literacy and numeracy that are more readily measured and tracked (Grugulis *et al.,* 2004; Nickson, 2003). The impact of not having reliable and trusted assessment methods for these skills filters down to the classroom level.

Assessment, rightly or wrongly, acts a driver of learning and teaching. The assessment of a particular subject area or skill is often viewed as signalling that that particular area or skill is 'valued'. Any assessment that is deemed lacking 'consistency,' 'validity' or 'reliability' is mistrusted (Care & Kim, 2018). The *IPSOS Mori 2012 Survey* gave examples of concerns raised over consistency of practical assessments in STEM subjects, with issues raised over coaching of learners and equipment availability. Humanities staff also highlighted concerns over the reliability of coursework both across subjects and awarding organisations (Higton *et al.,* 2012). This may go some way to explain the recent move by the Conservative Government towards more summative assessment and the removal of coursework in many subjects. As a result, many stakeholders have less confidence in the assessment outcomes of such methods. Correspondingly, research by Lloyd and O'Sullivan (2004) indicated that there was a desire to measure soft outcomes amongst teaching staff. However, lack of confidence, guidance and practical examples of appropriate approaches meant it was not carried out consistently and many remained wary of using such methods.

Enabler: Improving Assessment

Employability skills are often demonstrated through actions and behaviours, which requires the application of knowledge in realistic settings or the use of real life scenarios. This demands an 'interactive' pedagogical approach as opposed to 'transmission paradigms', with formative assessment such as project work and portfolios as the driving assessment methods (ARG, 2010; Gipps & Stobart, 2003). As Care and Kim (2018, p. 24) confirmed 'student centred pedagogies that rest on formative assessments are well aligned with concepts of skills development'.

Surprisingly, given their limited use in mainstream curriculums, there are a variety of established formative assessment methods already in use including project work, portfolios, case studies, performance observation and work-based assessments. However, subjectivity and rigor concerns are often cited as reasons for the enduring primacy of summative assessment. Nevertheless, there is evidence that awarding bodies and HE establishments do accept 'evidence gathered from non-traditional means and consider it, in some cases, more appropriate to measurement of soft skills' (Deloitte, 2010, p. 14).

Coursework has, until recent reforms, formed an integral part of many A level curriculums. Research by Higton *et al.* (2012) indicated that coursework when 'done well', i.e. without excessive parental or teacher input, was viewed as an excellent means of developing wider skills such as critical thinking, self-management and problem solving, as well as crucial field and laboratory skills in subjects such as Geography and Sciences. Similar benefits have been evidenced in relation to variations of the 'extended essay', discussed earlier (Anderson, 2017).

To help combat concerns over reliability and improve confidence in implementing them, Anderson (2014) and Blades *et al.* (2012) have proposed that a common assessment framework, incorporating detailed guidance and validated methods, should be implemented as part of a wider employability skills framework. This should be fully embedded into curriculums and subject to inspection - a role which could be covered by OFSTED. Undoubtedly, this will require sustained investment to enable comprehensive dissemination, appropriate training and further research into assessment of the more complex skills, i.e. problem solving and attitudes (Blades *et al.,* 2012).

Some progress has been made in attitude and behaviour assessment, utilising and adapting established measures from other fields including Psychology and Sociology. For example, the adaptation of *CORE (Clinical Outcomes in Routine Evaluation)*[10] and the *Rosenberg Self Esteem scale.*[11] Petrides and Furnham (2003) have also made significant strides in the area of 'Emotional Intelligence'. They take the perspective that many employability skills: creativity, problem solving and communication are intrinsically linked to personality characteristics and 'emotional intelligence'.[12] On this basis, Petrides and Furnham (2003) have constructed a self-report questionnaire which comprehensively covers personality characteristics linked to emotion, assessing self-perceived skills such as adaptability and the ability to negotiate. The questionnaire has been well validated internationally (Suto, 2018).

Barrier: Inconsistent Levels of Business Engagement

High profile organisations including AIR UK (2008), CBI and Pearson (2015) and WEF (2015) have provided compelling endorsements of the benefit of business engagement to student's educational experience. Yet despite the enthusiasm, successive governments have failed to adequately improve business engagement (Mann *et al.,* 2014).

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[10] CORE is a measure of psychological distress consisting of 34 items routinely used in psychological therapies (Blades *et al.,* 2012, p. 19).

[11] The Rosenberg Self Esteem scale (SES) is a frequently used measure, consisting of 10 items assessing self-esteem (Blades *et al.,* 2012, p. 19).

[12] This is defined as 'a constellation of behavioural dispositions and self-perceptions concerning one's ability to recognise, process, utilise emotion laden information' (Suto, 2018, p. 9).

However, there has been some caution expressed in academic quarters over the 'relative paucity' of quality research in this area and the imbalance of research originating from the public rather than the academic arena (Mann & Dawkins, 2014, Mann *et al.,* 2014). Nevertheless, there is a general consensus evident, that the interaction between business and educational establishments has a range of benefits for both parties. As the *CBI and Pearson Education and Skills Survey* (2015, p. 40) made clear, 'more extensive engagement improves young people's understanding of the skills and attitudes required at work and inspires them about their options'. For businesses, it can help enable better skills matching between businesses and future employees (AIR UK, 2008; Dolphin, 2014b; Lanning *et al.,* 2008).

However, there is still much scope for increasing the depth and breadth of business engagement (Belt *et al.,* 2010; Dolphin, 2014; OFSTED, 2013b). According to OFSTED (2013b), it estimated that three quarters of English secondary schools were getting unsatisfactory levels of business interaction. Alarmingly, Dolphin went further concluding that:

> Employment avenues for young people are not being closed off so much as never being opened. A systematic lack of interaction between schools and businesses is restricting the career options of young people in Britain. (Dolphin, 2014b, p. 10)

Business engagement can take a variety of forms: workplace visits, careers advice, mentoring, talks, workshops, enterprise projects and work experience (McCrone *et al.,* 2015). Whilst the *CBI and Pearson Education and Skills Survey* (2015, p. 8) reported that 73% of its respondents had links with schools, however, in practise this was limited to work experience placements (74%) and careers advice and talks (71%). There has been some evidence of increased growth of business engagement with schools to promote particular subject study, notably STEM subjects, but again provision has remained patchy (CBI & Pearson, 2015).

There is also an assertion in the literature that there is a lack of awareness and confidence amongst teachers about the present working environment. Many of whom struggle to keep up-to-date with such a rapidly evolving workplace (House of Lords, 2014). Some in the literature have proposed that many teachers are simply unaware of recent developments and as a result do not know how to enhance engagement effectively in their subject areas (House of Lords, 2014; IPSOS Mori, 2009).

Practical and logistical difficulties featured consistently in the literature as major barriers to improving engagement. The perception was that involvement can be costly, 'unduly onerous' and

the system 'unnecessarily rigid and complicated' (Skills Commission, 2014, p. 42). This appeared, from the research in the literature, to have a disproportionately adverse impact on SMEs. Whilst, SMEs were enthusiastic to develop engagement and take part in initiatives, they have often struggled to navigate the complex and bureaucratic processes and myriad of overlapping establishments involved (Evans & Rallings, 2014).

This is further exacerbated by the marginalisation of the school careers services. As the Skills Commission (2014, p. 43) highlighted, 'the removal of careers advice and guidance from local authorities has created a vacuum in which employers are now left to interact with schools in isolation from one another'. Similar financial and logistical difficulties restrain increased involvement of schools. Cost of visits and speakers can be expensive in a time of significant budget restrictions. Timetabling and competition for time out of class against content heavy curriculums has been a significant disincentive (YLEC, 2014).

Enabler: Enhancement of Business Engagement

The issue of increasing business engagement has been a long standing one. Successive government reviews, such as *The Davies Review of Enterprise Education* (2002), *The Tomlinson Review* (2004), *The Leitch Review of Skills* (2006) and *The Wolf Report* (2011), as well as research conducted by business groups including CBI (2015), IPPR (Dolphin, 2014b) and Baker Dearing Trust (2017), have all recommended a complete overhaul of the business-school relationship. However, little action has been taken to enact the coordinated and unified system that has been recommended for decades.

There is evidence of a plethora of successful individual initiatives, for example the *Business in the Community's Business Class Initiative*,[13] Employer-led *'See inside Manufacturing'*[14] and Birmingham Metropolitan College's *Professional Services Academy*[15] (Dolphin, 2014b). However, a coordinated and coherent system is needed that increases awareness of initiatives and enhances overall business engagement (Dolphin, 2014b; Evans & Rallings, 2014; Mann & Dawkins, 2014). Recommendations have included the creation of a policy level collaborative body involving employer bodies (i.e. CBI), school leadership representatives and other interest groups. This body would be responsible for a coordinated long-term nationwide strategy to promote business engagement (Anderson, 2014; Dolphin, 2014b; Mann & Dawkins, 2014).

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[13] The charity facilitated 200 local school-business partnerships in 2014.

[14] Employer led initiatives, such as *'See inside Manufacturing'* has culminated in companies i.e. Jaguar Land Rover to establish educational outreach centres where schools can visit and participate in training.

[15] This is a business-school collaboration set up in 2014 in response to local research into the needs of employers. In partnership with leading firms in the professional services industry, it is open to any student studying A levels in related subjects and those on vocational courses.

This could be in conjunction with a mid-level local collaborative system or 'hub' that would coordinate links and initiatives between local businesses and schools (Lanning *et al.*, 2008). Examples to follow already exist, such as training academies (*BRIT School*), long term volunteering (*Words for Work*) and the integration of part-time work experience into learners' studies (McKechnie *et al.*, 2014; Mourshed *et al.*, 2014b).

There is also a growing consensus of the need for reinvestment in the 'neglected' careers service. The careers service, it is suggested, could play a significant role as a 'broker' forging links between schools and businesses, especially in a hub style system (Evans & Rallings, 2013). The careers service could also be responsible for helping improve teachers' awareness of the current working environment (Dolphin, 2014b). Whilst some great networks have been noted, for example *The Computing at School* (CAS) network and *Teaching Alliances*, they have often been disjointed and small scale (House of Lords, 2014).

It has also been asserted that there needs to be greater involvement across the subject arena. Some subject areas i.e. STEM subjects have close links to business by virtue of the nature of their subject. However, other subjects, for example Languages and Humanities, do not have such explicit links with specific areas of employment and should be encouraged to create links and develop involvement with businesses (Evans & Rallings, 2013; Harvey, 2001).

What is clear from the literature is that a fundamental requirement for any successful proposal is financial investment. For the most part, this requires the government to allocate resources to the reform of the system. Without substantial and long term investment, it is unlikely that these enablers for increased business engagement will be sustainable.

2.6   Chapter Summary

This chapter provided an extensive overview of the existing theoretical and empirical literature pertaining to the provision of employability skills at KS5. It became evident from academic and policy literature that the wider socio-economic context is having a substantial impact not only the nature of employability itself, but also on the level and profile of skills the workforce will need. Correspondingly, there has been significant debate, in the recent literature, of how education can best prepare young people for work in this environment. As such, it has provided a useful empirical

and theoretical foundation on which to base this research into both teachers and students understanding of employability skills and the frequency of employability skills practise across KS5. It has also helped to provide a basis for comparison and further identification of ways to improve skills provision and highlight any barriers or restriction to it. The following chapter will provide a detailed discussion of the research methodology used to obtain the data for this thesis.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

The central purpose of this chapter is to justify the mixed method research (MMR) approach taken, and to discuss the theoretical assumptions that underpin this choice. According to Fitzallen and Brown:

> Deciding how the different schools of thought are acknowledged, represented, evidenced and reported in projects falls upon educational researchers. It is incumbent on them to convince the research community and other stakeholders, that the approach taken is best practice is terms of the facilitation of answering research questions and gathering evidence needed. (Fitzallen & Brown, 2016, p. 3)

The selection of an appropriate methodology was crucial in this regard. From a Pragmatic theoretical perspective, a Convergent Parallel MMR design was readily justified, both practically and theoretically, and was the most appropriate methodology to answer the research remit (Creswell, 2015; Teddlie & Tashakkori, 2006). This design combined a quantitative strand consisting of a survey of KS5 teachers and students at three establishments and a qualitative strand consisting of individual interviews with KS5 teachers from two of these establishments. Such a design draws from the strengths of both quantitative and qualitative approaches whilst minimising their respective weaknesses (Johnson & Onwuegbuzie, 2004). This should culminate in research that has a superior combination of depth and breadth in answering the research questions than would be achieved by a mono-method approach (Creswell & Plano Clark, 2011; Ivankova *et al.*, 2006; Johnson & Onwuegbuzie, 2004).

This chapter will provide a detailed discussion of the following:

- The underpinning theoretical perspective – Pragmatism.
- The methodological approach – Convergent Parallel MMR design.
- The sampling strategy – a multilevel sampling design.
- The research method strands employed – survey and interview.
- The choice of data analysis approach – Parallel Mixed Data Analysis Strategy.
- Issues pertaining to quality and rigor.
- Ethical considerations.

3.2 Underpinning Theoretical Perspective – Pragmatism

3.2.1 Defining the Concept of 'Paradigm'

The foundations for all research, regardless of the methods implemented, are built upon theoretical assumptions that are made about the world and knowledge (Creswell & Plano Clark, 2011; Della-Porta & Keating, 2008). Central to this is the concept of the 'Paradigm.' Whilst playing a pivotal role in methodological discussions, consensus has been lacking over both its meaning and relevance (Feilzer, 2010; Morgan, 2007; 2014; Shannon-Baker, 2015). Thus, it is pertinent to briefly outline how this term will be conceptualised before a more detailed examination of 'Pragmatism' ensues. As Shannon-Baker (2015, p. 320) asserted, 'one's conceptualisation of 'paradigm' ultimately affects its utility in research'.

The concept originated from Thomas Kuhn's seminal work: *The Structure of Scientific Revolutions* (1962; 1996). Kuhn can be considered as 'responsible for the popularity of paradigms as a way to summarise researchers' beliefs about their efforts to create Knowledge' (Morgan, 2007, p. 50). However, his breadth of usage for the concept; Masterman (1970) noted over twenty variations in Kuhn's work, and the consequential ambiguity over meaning, has culminated in a multitude of interpretations. This thesis used Morgan's definition of paradigm:

> Shared beliefs within a community of researchers who share a consensus about which questions are most meaningful and which methods are most appropriate for answering those questions'. (Morgan, 2014, p. 1049)

This definition utilised Kuhn's (1996) later postscript clarification on the concept's usage and was the definition most consistently used in discussions about MMR and Pragmatism (Bryman, 2004; Morgan, 2007). As Morgan attested:

> Any attempt to produce knowledge occurs within a social context ... Paradigms are thus social worlds where research communities exert a powerful influence over the beliefs we consider to be meaningful and the actions we accept as appropriate. (Morgan, 2014, p. 1049)

Some academics, such as Biesta (2010), Greene and Hall (2010) and Maxwell and Loomis (2003), have questioned the usefulness of the concept. However, it was felt that the 'conscious' adoption of the concept and a particular paradigm would, as Morgan's definition suggested, help provide a framework to guide decision making. Furthermore, it would afford 'the novice researcher' with a way to explicitly indicate the influences on their research (Johnson, 2011; Shannon-Baker, 2015).

3.2.2   Justification of a Pragmatic Perspective

For over a century and still evident today, fervent dispute has raged over what constitutes research validity. For some academics, assumptions made regarding epistemology, ontology, axiology and methodology is what justifies the validity of the research (Creswell & Miller, 2000). For such 'paradigmatic purists,' the paradigm subscribed to will determine the methods chosen, essentially an either-or choice between qualitative and quantitative methodologies (Feilzer, 2010; Hesse-Biber, 2015). This research does not subscribe to this dichotomous distinction, but instead adopted Pragmatism, often viewed as a 'middle ground' perspective. This perspective emphasises the central importance of the research question and advocates using a range of methods that will best meet the research purpose (Hesse-Biber, 2015; Shannon-Baker, 2015). To justify the adoption of Pragmatism, it is necessary to first discuss this persistent dichotomy and how Pragmatism is positioned within this ongoing debate.

Traditional Dualism – Positivism versus Constructivism

Historically, the paradigm debate concerning the validity of research has been 'dualistic and dogmatic' between Positivism and Constructivism (Pring, 2000). Positivism, to which many 'quantitative purists' subscribe, is represented in the works of Comte, Spencer and Durkheim (Pring, 2000). Ontologically, Positivism asserts a 'naïve realism' - where the world exists as an objective external reality that can be comprehended (Della Porta & Keating, 2008, p. 24). Epistemologically, the relationship between the observer and the object of research is 'objective, dualistic, distant and impartial' (Teddlie & Tashakkori, 2009b, p. 90). Axiologically, inquiry should be 'unbiased and value free' and methodologically, a hypothetico-deductive method should be employed where researchers test or empirically justify an a priori theory using 'techniques of observation and measurements, instruments of mathematical analysis and procedures of inference of the natural sciences' (Della Porta & Keating, 2008, p. 90). This is translated into large datasets and statistical analyses which are used to identify and isolate causes and effects in a single explanation (Pring, 2000).

Positivism came under much criticism during the 1960s and 1970s. Central issues surrounding problems of induction and verification and an over-reliance on operationalism were evidenced and Positivism was modified to Post-positivism (Pring, 2000). Nevertheless, some of these myths have persisted.

> Modern day positivists claim that science involves confirmation and falsification and that these methods and procedures are to be carried out objectively. However, they disregard the fact that many human i.e. subjective decisions are made throughout the research process and that researchers are members of various social groups. (Johnson & Onwuegbuzie, 2004, p. 15)

For example, there is subjectivism in deciding; what are the important research areas needing investigation, choosing the specific tests and items for measurement, interpreting the findings and deciding what is significant and publishable. As Johnson and Onwuegbuzie (2004, p. 16) concluded, 'the conduct of fully objective and value free research is a myth, even though the regulatory ideal of objectivity can be a useful one'.

Constructivism posits an alternate worldview. Its central tenet is that 'knowledge of the world is mediated by cognitive structures that result from interaction of the mind and the environment' (Tashakkori & Teddlie, 2009a, p. 72). Ontologically, Constructivists assert multiple constructed realities - 'ontological relativism'. Epistemologically, it has a subjective viewpoint where reality is co-constructed with participants. Axiologically, inquiry is value bound, biased and it is impossible to differentiate between cause and effect. The emphasis is not on discovering laws about causal relationships between variables, but on understanding human nature (Pring, 2000). Methodologically, explanations are generated inductively from data i.e. researchers start with participants' views and then develop patterns, theories and generalisations (Gorard & Symonds; 2008; Teddlie & Tashakkori, 2009b).

Constructivism is also open to criticism. Indeed, some qualitative academics, for example Guba (1990), openly admit that they adopt 'an unqualified or strong relativism, which is logically self-refuting and hinders the development and use of systematic standards for judging research quality' (Johnson & Onwuegbuzie, 2004, p. 16). Whilst research does often benefit from 'value bound' inquiry, there is concern that such inquiry can end up as 'one researcher's highly idiosyncratic opinions written in a report' (Johnson & Onwuegbuzie, 2004, p. 16). It has been contended that 'qualitative' researchers do not provide adequate rationales for their inferences and consequently, lack validity and representiveness (Gorard & Symonds, 2008; Pring, 2000).

Issues of Incompatibility and Commonality
Both sets of 'purists' ardently expound that their paradigm is the 'philosophically superior' and thus, inevitably advocate an 'incompatibility thesis' (Howe, 1988). This 'incompatibility thesis' posits that it is wholly inappropriate to mix quantitative and qualitative methods, because their underlying paradigms conflict: i.e. value free versus value bound, singular reality versus multiple realities (Curtis *et al.*, 2014; Sechrest & Sidani, 1995; Tashakkori & Teddlie, 2009a). As Guba (1990, p. 81) maintained, 'accommodation between paradigms is impossible… we are led to vastly diverse,

disparate and totally antithetical ends'. However, Johnson & Onwuegbuzie have criticised this dualism and highlighted the worrisome feature that:

> Such a relentless focus on the differences between the two orientations … has resulted in two
> research cultures … one professing the superiority of deep rich observational data and the other
> the virtues of hard generalisable data. (Johnson & Onwuegbuzie, 2004, p. 14)

Whilst these 'purists' continue to stress that 'paradigmatic integrity' in the conduct of research is paramount, many researchers aver that commonalities exist and these philosophical differences are reconcilable (Howe, 1988; Jang *et al.*, 2008). Sechrest and Sidani (1995, p. 78) asserted that 'both methodologies describe their data, construct explanatory arguments from their data and speculate about why the outcomes they observed happened as they did'. Indeed, both approaches attempt to test the validity of their data and try to minimise bias. Dzurec and Abraham (1993, p. 75) went so far as to suggest that 'the objectives, scope and nature of inquiry are consistent across methods and across paradigms'.

Mounting concern during the 1990s about the productivity of such debates, has led to a shift towards more practical research concerns and the belief that much of the hotly contended differences are overdrawn (Morgan, 2014; Pring, 2000). As Teddlie and Tashakkori (2009b, p. 15) elucidated, 'most researchers had become bored with philosophical discussions and were more interested in getting on with the task of doing research'.

3.2.3   *Pragmatism – A More Compatible Approach*

Pragmatism is a philosophical perspective that rejects the 'incompatibility thesis' and the 'dogmatic either or choice between Post-positivism and Constructivism' (Teddlie & Tashakkori, 2009b, p. 86). Its central tenet is 'Methodological Pluralism'. Research approaches are oriented towards the methods that will provide the requisite evidence to answer the research questions, given the objectives, context and resources available (Morgan, 2014). The emphasis is on 'action to philosophising by privileging inquiry questions over assumptive worlds' (Jang *et al.*, 2008, p. 222).

Epistemologically, Pragmatists favour a continuum between subjectivity and objectivity. As Teddlie and Tashakkori (2009b) elaborated:

> At some points during the research process, the researcher and the participants may require a
> highly interactive relationship to answer complex questions. At other points, the research may

not need interaction with the participants, such as when testing a priori hypotheses using quantitative data that has already been collected. (Teddlie & Tashakkori, 2009b, p. 90)

Axiologically, Pragmatists take 'an explicitly value-oriented approach to research' (Johnson & Onwuegbuzie, 2004, p. 18). Decisions on what to research and how to research is based on what is congruent with the researcher's value system (Creswell & Plano Clark, 2011; Hesse-Biber, 2015). Ontologically, Pragmatists maintain that there is an 'external reality', but deny that 'Truth' regarding reality can be determined (Hesse-Biber, 2015). Furthermore, they believe that there may be causal relationships, but that they may be 'transitory and hard to identify' (Teddlie & Tashakkori, 2009b, p. 90).

Whilst Pragmatism is one of the most popular paradigms for MMR, it is not without criticism. As discussed earlier, those academics of Post-positivism or Constructivism would reject Pragmatism on many levels because of its 'logical failing to answer many philosophical disputes' (Johnson & Onwuegbuzie, 2004, p. 18). Other academics have expressed concern about using Pragmatism as the underlying value system, because it doesn't specify which values or whose values are involved (Creswell & Plano Clark, 2011). Even with these contentions, many researchers have accepted 'compatibility' and go about mixing methods without concern for the paradigmatic disputes underlying their methodological choices. As Johnson and Onwuegbuzie concluded:

> Growth in mixed methods (i.e. pragmatist) movement has the potential to reduce some of the problems associated with singular methods … investigators are more likely to select methods and approaches with respect to their underlying research questions rather than with regard to some preconceived biases about which research paradigm should have hegemony in social science research. (Johnson & Onwuegbuzie, 2004, p. 23)

Indeed, in the real world of research continua of philosophical orientations rather than dichotomous distinctions more accurately represent the positions of most researchers (Biesta, 2010; Teddlie & Tashakkori, 2009a).

3.3 A Mixed Method Approach

Having rationalised the philosophical perspective that supports the choice of a MMR approach, it is now pertinent to validate the methodology itself against the use of a mono-method approach.

MMR has grown in prominence in the social sciences as an alternative to the traditional mono-method approach (Jang *et al.*, 2008). Formally defined, MMR is an approach

> ... in which the investigator: collects, analyses, and interprets both quantitative and qualitative
> data (closed and open- ended information), integrates or combines the two approaches in various
> ways, and frames the study within a specific type of design or procedure. (Creswell, 2015, p. 5)

The central premise is that quantitative and qualitative methods are insufficient when used in isolation to adequately address many research questions. MMR provides a more comprehensive and robust analysis, taking advantage of both methods strengths, whilst offsetting their weaknesses (Ivankova *et al.*, 2006).

Quantitative research can be regarded as deficient in its ability to adequately gauge the context in which it is situated. The categories used by the researcher may not adequately mirror the participants' understanding and their viewpoints are not directly articulated (Gay, 1996). Indeed, the knowledge gained may be too 'abstract and general for direct application to specific situations, contexts or individuals' (Johnson & Onwuegbuzie, 2004, p. 19). There are also issues of 'confirmation bias', in that the researcher may 'miss out on phenomena occurring, because the focus is on hypothesis or theory testing rather than theory or hypothesis generation' (Johnson & Onwuegbuzie, 2004, p. 19).

Here the strengths of qualitative research may offset such weaknesses. Qualitative methods are able to describe the complexity of the issue under scrutiny and also identify relevant contextual factors (Cohen *et al.,* 2011). Data is centred on the participant's own 'categories of meaning' and should result in more detailed understanding of the participant's personal experiences (Creswell & Plano Clark, 2011; Gay, 1996).

Qualitative research also has weaknesses that quantitative research can offset. The knowledge gained is often unable to be generalised to other people or other settings due to limited samples and the involvement of the researcher (Creswell & Plano Clark, 2011). The results are often regarded as 'biased' due to the researcher's own personal interpretation of the results. It is also very time consuming and labour intensive (Gay, 1996). Quantitative research can counterbalance such concerns with the ability to generalise research findings to larger groups and assess cause and effect relationships by constructing situations where there is sufficient control over the variables (Cohen *et al.*, 2011). Data collection is often quick, providing precise and quantifiable data that can be analysed easily through the use of statistical programmes (Cohen *et al.*, 2011). The subsequent results are more objective due to the independence of the researcher from the participants (Gay, 1996).

MMR allows the researcher to be practical, using the most suitable methods to answer the research question. As Creswell and Plano Clark affirmed:

> It is also 'practical' because individuals tend to solve problems using both numbers and words, they combine inductive and deductive thinking and they employ skills in observing people, as well as, recording behaviour. (Creswell & Plano Clark, 2007, p. 10)

Another significant advantage is 'that it enables the researcher to simultaneously ask confirmatory and exploratory questions and, therefore, verify and generate theory in the same study' (Teddlie & Tashakkori, 2009b). With the use of both methods, in this instance - a survey in conjunction with semi-structured interviews, the qualitative method gave depth whilst the quantitative method gave breadth. More insightful understanding may be generated, as well as enhancing the generalisability of the results (Onwuegbuzie & Johnson, 2006).

MMR is not without its critics. As previously discussed, paradigmatic purists are rigid in their assertions that research should always be carried out within associated paradigmatic boundaries and should not be mixed due to their differing philosophical assumptions (Della Porta & Keating, 2008). MMR is often expensive and time consuming, especially, for the solo researcher. The researcher has to carry out both quantitative and qualitative methods of data collection and analysis, as well as how to mixed them appropriately. This can be very complex and confusing (Onwuebuzie *et al.,* 2007). As Creswell and Plano Clark evaluated:

> These issues are important but they are not insurmountable. … by using a combination of qualitative and quantitative data gathering techniques, investigators can clarify subtleties, cross validate findings and inform efforts to plan, implement and evaluate intervention strategies. (Creswell & Plano Clark, 2007, p. 10)

Consequently, the overall value obtained from mixing methods should outweigh such deficiencies.

3.3.1 *Convergent Parallel Mixed Method Design*

Once the researcher has justified the selection of a MMR approach, the researcher has the somewhat daunting task of selecting the optimal MMR Design. The choice of research design is critical because 'it guides the methods and decisions that researchers must make during their studies and sets the logic by which they make interpretations at the end of studies' (Creswell & Plano Clark, 2007, p. 58).

However, with the rapid rise of the MMR field there is a plethora of research designs to choose from (Leech *et al.,* 2010). Various typologies have been developed endeavouring to simplify the decision-making process. Notable examples include typologies by Creswell (2015), Creswell and Plano Clark (2011), Greene, Caracelli and Graham (1989), Hunter and Brewer (2015), Onwuegbuzie and Johnson (2007) and Teddlie and Tashakkori (2006). However, it is not feasible for any one typology to be exhaustive because 'the actual diversity in MMR studies is far greater than any typology can adequately encompass' (Maxwell & Loomis, 2003, p. 244). However, Johnson (2014) make a salient point; that whilst researchers shouldn't limit themselves to one specific design typology, they do provide a useful starting point from which to build upon.

For this research, the design chosen - a Convergent Parallel MMR design was adopted from Creswell's (2015) revised typology of MMR designs. Quantitative and qualitative data collection and analysis was done concurrently with merging and mixing taking place after the initial data collection and analysis, at the level of interpretation and inference (see diagram below).
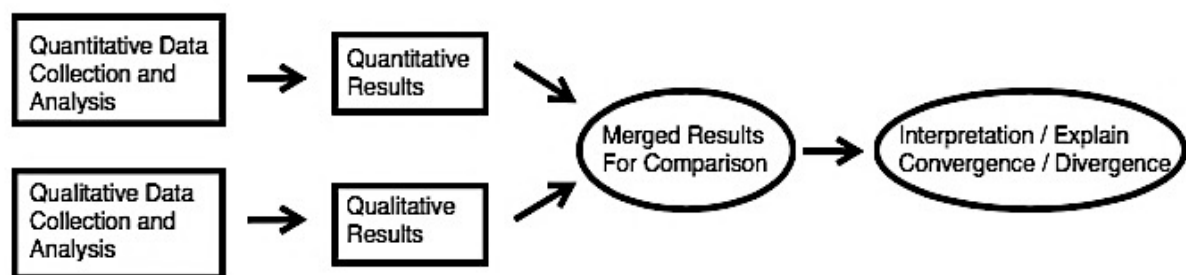
Adapted from Johnson (2014, p. 70)

This design, in its various guises, has proved popular in MMR. The thesis's objective was to obtain different but complementary data on the same issue (Creswell, 2015). The rationale being that the strengths of the quantitative survey strand, with its large sample of KS5 teachers and students, would complement the strengths of the qualitative interview strand, with its smaller sample but richer detail (Creswell, 2015). It was also felt that this design most faithfully followed Johnson's fundamental principle of MMR:

> To thoughtfully and strategically mix or combine qualitative and quantitative research methods, approaches, procedures, concepts, and other paradigm characteristics in a way that produces an overall design with multiple (divergent and convergent) and complementary strengths (broadly viewed) and non-overlapping weaknesses. (Johnson, 2014, p. 14)

'Complementary strengths,' to which Johnson (2014) referred, included all the purposes for mixing methods identified by Greene *et al.* (1989):

- *Triangulation (convergence, corroboration)*

- *Complementarity (elaboration, enhancement)*

- *Development (one method informs the other)*

- *Initiation (find contradictions, perspectives)*

- *Expansion (expand the breadth of study)*

Carrying out such a design was not without its challenges, especially for a solo researcher. Two sets of data involving two different groups of people had to be collected at each establishment. However, each establishment had designated a person of contact who was invaluable in facilitating the distribution and collection of questionnaires and the organisation of interviews.

3.4   Sampling Design

As Cohen *et al.* (2011, p. 143) emphasised, 'The quality of a piece of research stands or falls by the appropriateness of methodology and instrumentation, but also by the suitability of the sampling strategy that has been adopted'. Consideration of sampling issues, such as the sampling scheme, sample size, access and representiveness should be addressed early on in the research design to ensure that methods adopted are maximised (Cohen *et al.*, 2011; Lieber, 2009). Accordingly, a multi-level sampling strategy was adopted, incorporating purposive and probability sampling techniques. As secondary establishments are 'multifaceted and hierarchical systems' with many interrelated levels, 'multiple vantage points and data sources are necessary to better understand the complexity of these educational settings (Sharp *et al.,* 2012, p. 48).

Traditionally, researchers have chosen the sampling strategy that aligns with the paradigm they subscribe to. Of the two main methods of sampling; probability (random) sampling is associated with the 'quantitative paradigm' and non-probability (purposive) sampling is linked with the 'qualitative paradigm' (Cohen *et al.*, 2011). As Teddlie and Yu (2007) elucidated:

> There is a classical methodological trade-off involved in the sample size differences between the two techniques: purposive sampling leads to greater depth of information from a smaller number of selected cases, whereas, probability sampling leads to a greater breadth of

> information from a larger number of units selected to be representative of the population.
> (Teddlie & Yu, 2007, p. 83)

However, the erroneous assertion that one must chose a particular sampling strategy due to its association with a particular paradigm is a false dichotomy and is 'misleading and simplistic' (Onwuegbuzie & Leech, 2005). Indeed, whilst this dichotomy might be prevalent in methodology textbooks, in practise there are a myriad of studies where this was not the case (Onwuegbuzie & Leech, 2005). Sampling strategies should be viewed as existing on a continuum with probability and non-probability sampling at either ends of the spectrum and MMR situated in the middle (Teddlie & Yu, 2007). Both strategies can be combined as appropriate and to varying degrees necessary to answer the research question. As Teddlie and Yu (2007, p. 87) maintained, 'combining the two orientations allows MMR to generate complementary databases that include information that has both depth and breadth regarding the phenomenon under study'.

Sampling decisions are inherently more complex in MMR because both quantitative and qualitative elements have to be considered (Onwuegbuzie & Collins, 2007). This is compounded by a dearth of literature on MMR sampling (Sharp *et al.,* 2012). More recently, researchers such as Sharp (2012) have attempted to readdress this disparity, but there are few detailed exemplars to guide the novice researcher. Following Sharp's (2012) lead, a detailed outline of the four-stage multimethod sampling strategy will be given. This involved using different sampling techniques at four different levels of the research. This strategy is particularly suited to contexts in which

> ... different units of analysis are nested within one another such as schools and hospitals. It is an appropriate strategy to use in studies that are interested in answering questions related to two or more levels or units of analysis. (Teddlie & Yu, 2007, p. 89)

The research questions, listed below, were related to three units of analysis and involved four levels.

1. What do teachers and students understand by the concept 'employability skills'?
2. How frequently do specific activities, that encourage employability skills improvement, occur within subjects and what form do these activities take?
3. What enablers and barriers exist that impact upon the integration of these activities, that encourage employability skills, into learning and teaching?
4. What sources of information and training do KS5 teachers and students receive regarding employability skills?

These three units of analysis were student, teacher and school and the four levels involved were schools, subject, teacher and students. Initially, the secondary establishments were purposively selected from one geographical area, as I wanted to situate the research in my local area. It was acknowledged that this would mean that generalising the research to the wider UK population would not be obtainable, but this was a necessary trade-off for greater insight into the establishments chosen within a particular region.

A maximum variation sampling technique was employed to select these establishments for the second level of sampling. This type of purposive sampling involved selecting cases from as diverse a population as possible (Cohen *et al.,* 2011). A diverse range of school types, including sixth from colleges, secondary schools and private schools were contacted. Initially, eight schools agreed to participate out of the 34 contacted. However, 5 dropped out just prior to data collection and a sixth pulled out midway. Fortunately, another establishment fitting the criteria agreed to participate at short notice.

The third level of sampling occurred at year group level involving the quantitative strand of the research – surveying A level / BTEC teachers and students. A homogenous sampling scheme was felt the most appropriate for this sampling level. Homogenous sampling 'involves choosing settings, groups and / or individuals based on similar or specific circumstances' (Onwuegbuzie & Collins, 2007, p. 285). Initially, it was considered that all KS5 teacher and students should be included – i.e. those taking vocational courses such as Hair and Beauty and Construction Diplomas, as well as A levels. However, in practise this made the number of variables under consideration too vast for the scope of the research and it was decided to limit the sample to those taking or teaching A Levels or BTECs. The questionnaires were given out to the entire teacher and student population and were completed on a voluntary basis.

The final level of selection involved a qualitative strand nested within the previous quantitative strands. A quota sampling scheme, where 'the researcher identifies desired characteristics and quotas of sample members to be included in the study' was felt the most appropriate for selecting KS5 teacher interviewees (Onwuegbuzie & Collins, 2007, p. 287). As it was important to have representation from across the KS5 subject spectrum, a quota sampling scheme would ensure a range of teachers were interviewed from as many different subject areas as possible.

Finally, it is important to briefly mention the decisions made in relation to obtaining the appropriate sample size for each level of the sampling strategy. Whilst there is no definitive answer for the

correct sample size, consideration needs to be given to the research's purpose, nature of the population, accuracy, response rates, variables and types of methods used (Cohen *et al.,* 2011). Gall *et al.* (1979) suggested that as a general rule, the sample size should be large where there are many variables and divisions into subgroups. This research had 25 subject areas and two different groups of respondents. Therefore, at each establishment all KS5 teachers and students who taught or took A level or BTEC subjects would be surveyed. Based on guidelines suggested by Guest, Bunce and Johnson (2006), sixteen teachers were interviewed. This was a greater number than the twelve recommended by the guidelines. It was hoped that this would provide the necessary breadth and depth for each strand.

3.5   Quantitative Strand – Teacher and Student Questionnaires

3.5.1   *Justification of the Use of a Questionnaire Method*

A self-report method of a questionnaire in which 'people are asked to respond to the same set of questions in a predetermined order', was deemed the most effective data collection method to meet the research objectives detailed earlier (Gray, 2004, p. 187). A significant attraction of a questionnaire, was its ability to elicit responses from a large sample with limited resources (Newby, 2014). As a solo researcher wanting to sample a large number of KS5 teachers and students across multiple sites, a questionnaire could be quickly and conveniently disseminated across this large sample. According to Denscombe (2014, p. 167), questionnaires are at their most productive when:

- The information required is fairly straightforward, relatively brief and uncontroversial.
- There is a need for standardised data from identical questions without requiring face-to-face interaction.
- The respondents can be expected to read and understand the questions.
- When the social climate allows for full and honest answers.

Accordingly, the information gathered was on employability skills which was not controversial and the questionnaire was designed to be straightforward and brief. The key objective for the quantitative phase was to gather standardised data across teachers, students, subjects and establishments. As all the respondents were over 16 and the questionnaire had been pre-tested, it was felt that the questionnaire would be adequately understood. The questionnaire would be completed anonymously without the presence of the researcher, encouraging a climate of trust and openness by removing any possible 'reactivity effect' (Gorard, 2010). Examples of the teacher and student questionnaires can be found at Appendix B and C respectively.

However, questionnaires are not without weaknesses. A trade-off occurs for improved response rates resulting from anonymity and confidentiality. The questionnaire may not be filled out as intended or by the intended respondent. It also does not allow the respondent to ask for clarification of a question's meaning (Oppenheim, 1992). Nor, because of its standardisation and inherent inflexibility, will it allow for respondents to clarify responses or the researchers to probe for deeper investigation of responses through questioning (Gray, 2004). However, this was somewhat mitigated by pretesting the questionnaire to minimise any misunderstanding over terminology and meaning. The questionnaire was also only one phase of the MMR strategy employed. The interviews would allow for deeper investigation of salient issues where the questionnaire could not.

3.5.2   *Questionnaire Design*

The success of a questionnaire is dependent on the response and completion rate and the validity those responses (Denscombe, 2014). A questionnaire is essentially a 'one shot' attempt to gain data from a large sample. Consequently, it was imperative that consideration was given to its design and the question choice to maximise response and completion rates and ensure the validity of responses. As Denscombe explained:

> When designing a questionnaire, the researcher has to walk a tightrope between ensuring coverage of all vital issues and ensuring the questionnaire is brief enough to encourage people to bother answering it. (Denscombe, 2003, p. 96)

Another significant factor influencing design is how the data will be analysed (Gorard, 2010; Smyth, 2016). According to Gorard (2010, p. 92), 'questionnaire design is the key to survey analysis ... consideration of analysis is more like the first rather than the last stage of research design'. Accordingly, an analysis plan was developed in the initial stages of the questionnaire design process to ensure that each construct yielded the requisite data and minimised extraneous questions that might induce respondent fatigue and reduce response rates (Smyth, 2016). The layout of both questionnaires closely followed the research questions and were identical in all areas where comparison of teacher and student data would occur in later analysis.

There is a continuum of options for questionnaire format - with structured formats at one end and unstructured formats at the other. Cohen *et al.* gave

a simple rule of thumb; the larger the size of the sample, the more structured, closed and numerical the questionnaire may have to be, and the smaller the size of the sample, the less structured, more open and word based the questionnaire may be. (Cohen *et al.,* 2011, p. 381)

As all A level teachers and students would be sampled, the questionnaire was predominantly a structured format involving closed questions using rating scales (see Appendix B & C). Following recommendations on improving layout quality from Curtis *et al.* (2014), Gorard (2010) and Oppenheim (1992), both questionnaires were kept to four sides of A4. The questions were grouped into matrices around subjects, enabling the same kind of responses to be given to multiple questions on one topic. This minimised duplication of instructions and was more economical with space. A clear navigational path commenced with general questions on employability, narrowing down into more specific questions on the frequency of activities and potential barriers to conducting those activities (teacher questionnaire only, see Appendix B). The layout was kept clear with spacing between each matrix. Instructions were kept short with key words emboldened. Skip and filter questions were kept to a minimum.

3.5.3   *Question Choice*

Both questionnaires began with an exploratory open question[16] designed to provide data for the initial research question - *what do teachers and students understand by the concept 'employability skills?'* Open ended questions are useful if 'the questionnaire is exploratory, or if there are so many possible categories of response that a closed question would contain an extremely long list of options' (Cohen *et al.,* 2011, p. 382). As highlighted in the Literature Review, there is no universally agreed list of employability skills, so the response category needed to account for the diversity of skills teachers and students may list. To aid data analysis, a specified response of a maximum of nine skills was asked for.

The main body of the questionnaire was focused on answering the research question – *how frequently do specific activities, that encourage employability skills improvement, occur within subjects?* It was imperative that the question format was one that could be readily quantified and codified so that frequencies could be compared across respondent groups and subjects. A rating scale was used as it combined

> ... the opportunity for a flexible response with the ability to determine frequencies, correlations and other forms of quantitative analysis, they afford the researcher the freedom to fuse measurement with opinion, quantity and quality. (Cohen *et al.*, 2011, p. 387)

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[16] Open questions 'have no definitive response and contain answers that are recorded in full' (Gray, 2004, p. 194).

However, as with all closed questions[17] they do not allow for the elaboration of responses as open questions do. Oppenheim (1992, pp. 190-195) gave several warnings when using rating scales. Firstly, the intervals may have different meanings for different respondents. Secondly, there may be an end aversion bias, where respondents avoid the extreme ends of the scale. Thirdly, there may be the potential for 'error of central tendency' - where respondents gravitate to the middle interval. To try to mitigate this, an even number of intervals was used so that there was no middle value and extremes were carefully worded to not discourage use.

The final section aimed to ascertain the information and training teachers and students might have received regarding employability skills from various sources. Consequently, this section involved a combination of closed questions with the option of giving an additional comment. Again, to aid analysis, the question encouraged a structured response in terms of what support they had received. The option of an additional comment allowed room for a more detailed response.

The teacher questionnaire contained an additional section, which aimed to establish what barriers teachers might face to carrying out the previously mentioned activities. As this was also an exploratory question, an open question format was judged the most appropriate. The range of possible barriers that might be mentioned was large and flexibility was needed in the response category to account for that.

Prior to data collection, the questionnaire was peer-validated and pre-tested with a small sample from another secondary establishment, not included in the research. As a result of the feedback, some of the terminology was reworded, notably 'writing' was changed to 'literacy' and 'numeracy' was simplified to 'use maths'. More detailed explanation, based on UKCES definitions, was included for terms that had the potential to be interpreted in different ways, namely 'positive attitude' and 'self-management'. A couple of questions were also removed. The questionnaire was then retested and feedback was positive regarding the changes. Time taken to pre-test and redraft was not time wasted. It helped to mitigate any potential issues that the respondents might have had filling it in, enhancing its construct validity and improving response rates.

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[17] Closed questions are questions 'in which the respondent is offered a set of pre-designed responses' (Gray, 2004, p. 194).

3.6   Qualitative Strand – Teacher Interviews

Whilst the quantitative strand focused on breadth in answering the research questions, the qualitative strand's main objective was depth - to provide deeper insight into these questions. Semi-structured interviews were considered the most appropriate method given the research questions and factors including time, cost, access and researcher expertise (See Appendix D for the Interview Schedule).

3.6.1   *Justification of the Use of an Interview Method*

The interview has formed an essential part of the researcher toolkit since the early 20th Century and its popularity as a data collection method is widely recognised (DeFina & Perrino, 2011; Tierney, 2001). The research interview can be defined as:

> A two-person conversation initiated by the interviewer for the specific purpose of obtaining research relevant information on content specified by research objectives of systematic description, prediction or explanation. (Cohen *et al.*, 2011, p. 411)

According to Cohen *et al.* (2011, p. 411) the interview may serve three purposes:

- *As a means of information gathering to answer a research objective.*

- *To test hypotheses or illuminate new ones, or as an explanatory device to identify variables and relationships.*

- *Or used as a complementary method with other methods to follow up unexpected results, validate other methods or go deeper into motivations of respondents and their reasons for responding as they do.*

The interview in this research context fulfilled elements of all three of the above purposes, but was predominantly driven by what would be the most appropriate method to provide deeper insight into the research questions. It also acted as an explanatory device; assisting in illuminating patterns in activity frequency and barriers to those activities across subject areas. Furthermore, it functioned as a complementary method to help validate findings from the questionnaire data and to build upon the information gained by probing deeper into the types of activities undertaken and the barriers that might be faced in carrying out these activities. Together, providing more detailed and integrated data from multiple sources (Newby, 2014; Oppenheim, 1992).

The interview method had a number of advantages that counterbalance the deficiencies of the questionnaire method. Interviews have a higher response rate due to face-to-face interaction and provided certainty over the information source (Oppenheim, 1992). Misunderstanding over

terminology or question meaning can be dealt with immediately. Due to its inherent flexibility, the interview allowed for spontaneous and extended answers as the interviewer had greater control over the environment and could adapt the interview accordingly (Newby, 2014).

However, the interview method was also not without limitations. It was a very time consuming and a labour-intensive process (Denscombe, 2014). Whilst, one teacher was interviewed from the majority of subject areas, not all individual subjects could be represented as this would have taken too long. Inevitably, some insights would remain undiscovered and would hamper comparison in some subject areas. If the interviews cannot be conducted within a similar timeframe there is a danger that 'answers given by those later in the interview cycle might have been affected by conditions in the wider world' (Newby, 2014, p. 358). For this reason, the interviews were conducted in a short burst over several consecutive days. Issues of subjectivity and bias have been discussed earlier in relation to weaknesses of qualitative approaches in general (Creswell & Miller, 2000). Although, the complementary use of a quantitative strand, it was felt, would offset some of these concerns (Creswell & Miller, 2000; Tierney, 2001).

The strength of the interviewer-interviewee relationship is of pivotal importance, the quality of which can have a profound impact on the levels of disclosure (Knox & Burkhard, 2009). As Gay (1996, p. 262) elaborated, 'the interview requires a level of skill usually beyond that of a beginning researcher; it not only requires research skills, but also a variety of communication and interpersonal skills'. It was anticipated that my past experience of interviewing, although not extensive, would establish the required rapport and trust to avoid any 'Hawthorne Effect'.[18] A thorough explanation of the study's purpose and procedures to each interviewee also helped to create an open and non-threatening environment.

3.6.2   *The Interview Format*

The popularity of interviews across a diverse array of disciplines has culminated in a wide variation in interview strategy (Tierney, 2001). A continua of interview formats exist with structured formats at one end and unstructured formats at the other. The principal determinant in choosing the format is 'fitness for purpose'. As Cohen *et al.* elucidated:

> The more one wishes to gain comparable data – across people, across sites – the more
>
> standardised and quantitative one's interview tends to become; the more one wishes to acquire

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[18] Hawthorne Effect – Oppenheim (1992) mentions the lack of success early researchers had in interviews within industrial relations research, because many were conducted by the worker's superiors and created a power imbalance where they could not be open and honest.

unique non-standardised personalised information about how individuals view the world, the more one veers towards qualitative, open ended, unstructured interviewing. (Cohen *et al.*, 2011, p. 412)

I wanted to ensure that the data was comparable between interviews, but also wanted to allow for freedom of response. Hence, a semi-structured interview format was chosen as the most fitting for the above purposes.

Researchers of a more traditional constructivist perspective 'may be concerned that even the use of the most rudimentary interview guide will not allow for genuine access to the world views of members of a social setting' (Bryman, 2004, p. 319). However, many qualitative researchers including Barbour (2014) and Bryman (2004) have been critical of such a notion. Semi-structured formats can be preferable when the research focus has been decided and questions are needed to adequately direct the focus of the interviewee to those areas. Within a semi-structured format, the emphasis remains on the interviewee's point of view and still allows for flexibility. The researcher can respond to the participant's responses and adjust the emphasis as a consequence of any significant issues that arise, departing from the schedule if necessary to gain greater insight (Gay, 1996; Tierney, 2001).

3.6.3 Question Choice

To allow for sufficient triangulation of data and comparison of quantitative and qualitative strands, the interview schedule (see Appendix D) asked a series of questions of a similar nature to those in the questionnaires. Although, these questions were redrafted to be open ended to allow for extended responses. The question sequence was also the same as the questionnaires to ensure each area was covered. Arksey and Knight (1999, p. 87) cautioned when devising interview questions to:

- *Avoid prejudicial, vague and imprecise language.*
- *Try not to use leading or double barrelled questions.*
- *Avoid making assumptions and be careful when asking hypothetical questions.*
- *Don't assume that the participants have the required information.*

Every effort was taken to ensure that the questions avoided these pitfalls. The researcher peer-validated and pre-tested the interview questions beforehand with a small number of teachers and students from an establishment separate from the research. The feedback was positive and only minor adjustments were made to the interview format. Interviewees were also fully briefed

beforehand and encouraged to ask questions if they had any reservations or to gain greater understanding of the research or a particular question (Denscombe, 2014).

3.7   Data Collection

Prior to data collection, permission was sought from the gatekeepers of each establishment (establishments A, B and C). The parameters of the research were discussed, with two establishments consenting to both quantitative and qualitative strands (A & C) and the third (B) agreeing only to the quantitative strand. After initial discussions with the gatekeeper, a point of contact was nominated to help facilitate the data collection. Both strands of data collection were carried out within the same time frame for each of the two establishments (A & C). All data collection occurred during the period November 2016 to February 2017.

3.7.1   *Quantitative Phase of Data Collection*

Each establishment was given the option of choosing the method of questionnaire distribution; either paper-based or an emailed link to an online version. Both questionnaires for each of the distribution methods were identical. The most appropriate method for the greatest response rate was discussed with each point of contact and a method then chosen. For the teacher surveys, two of the establishments (B & C) opted for the questionnaire to be distributed via emailed link to the online version. The third establishment (A) opted for a paper-based version distributed via teachers' pigeon holes and then returned to the point of contact's pigeon hole. It was agreed that a paper-based version would be the most effective method of distribution for the student surveys. The points of contact for all three establishments felt that some students would not check their emails regularly and as all students had tutorial periods this would provide a 'captive audience'. The questionnaires were distributed to tutor groups, where they were completed and returned by the tutors to the point of contact.

3.7.2   *Qualitative Phase of Data Collection*

Teacher interviews were carried out at two of the three establishments (A and C). All the interviews were organised through the point of contacts who had been fully briefed about what was required including sampling and logistical concerns. Each set of interviews were conducted over a three-day period. All interviews took between 30-50 minutes, were audio recorded and were held in a private space. Before each interview, all interviewees were fully briefed regarding the purpose and the

format of the interview. Time was allowed at the beginning and end of the interviews for questions and my contact details given for any further questions interviewees may have had at a later date.

3.8   Data Analysis

Data analysis encompasses the 'organising, accounting for and explaining the data ... noting patterns, themes, categories and regularities' (Cohen *et al.*, 2011, p. 147). According to Onwuegbuzie and Combs (2011), MMR's innate complexity makes data analysis one of the most 'challenging' stages in the research process. The researcher has to employ both quantitative and qualitative data analysis techniques proficiently, but also integrate them appropriately. Despite the growth in MMR, there have been relatively few formal techniques or widely accepted frameworks created for conducting mixed data analysis. Although, leading MMR academics, notably Brannen & O'Connell (2015), Greene *et al.* (1989), Johnson (2014), Onwuegbuzie and Combs (2011) and Teddlie and Tashakkori (2003) have attempted to provide more integrated and interactive data analysis frameworks for MMR researchers to utilise. According to Teddlie and Tashakkori:

> The fundamental principle of mixed analysis involves the use of quantitative and qualitative analytical techniques that are utilised either concurrently or sequentially sometime after the data collection process from which interpretations are made either in a parallel, integrated or iterative manner. (Teddlie & Tashakkori, 2003, p. 5)

The type of data analysis strategy used will very much depend on the overall MMR design choice (Creswell & Plano Clark, 2007). As outlined earlier, the overall MMR design choice was a Parallel Convergent MMR design in which initially, the data was collected and analysed separately and in parallel (Creswell, 2015). Consequently, the data analysis strategy employed was a Parallel Mixed Data Analysis strategy. It is one of the most widely adopted data analysis strategies within social sciences especially, in educational research (Tashakkori & Teddlie, 2009b).

Parallel Mixed Data Analysis entailed two distinct and independent processes. The first process was the quantitative analysis of the survey data employing primarily descriptive statistics. The second process was qualitative analysis of the interviews. The qualitative data from the interviews was analysed inductively to produce themes. Initially, these two analyses were separate, contributing independently to greater understanding of the research phenomena under scrutiny (Jang *et al.*, 2008). Subsequently, these understandings then were then linked, combined or integrated in to 'meta-inferences' (Greene *et al.*, 1989; Tashakkori & Teddlie, 2009a). Meta-inferences are 'conclusions

generated through an integration of the inferences that were obtained from both strands of the study' (Teddlie & Tashakkori, 2009a, p. 266). Onwuegbuzie and Teddlie (2003) asserted that there are seven stages to mixed analysis: data reduction, data display, data transformation, data correlation, data consolidation, data comparison and data integration.

3.8.1   Stage 1 and 2: Data Reduction and Data Display

Each phase was analysed independently following the seven-stage process mentioned above. Prior to the first stage of data reduction, all questionnaire data were entered into SPSS. All the interviews were transcribed verbatim into Microsoft Word. All data were 'cleaned', which entailed the removal of any identifying features such as the interviewee's and establishment's names and aliases were attached.

The first stage of mixed analysis was 'data reduction'. This involved 'reducing the dimensionality of quantitative and qualitative data' (Onwuegbuzie *et al.*, 2007, p. 12). The quantitative data was split into two separate data sets, teacher and student. Numeric data analysis, according to Tashakkori and Teddlie (2009a, p. 19), falls into two main categories: descriptive and inferential statistics. Descriptive statistics 'summarise data into meaningful indicators that are easy to understand, compare and communicate'. Inferential statistics consists of 'tests of statistical significance and techniques for estimating population parameters, testing hypotheses or making predictions'. The research questions and choice of sampling strategy dictated that the quantitative data would produce descriptive rather than inferential statistics, as the research was not seeking to generalise to larger populations or to test hypotheses.

After transcription, the interview data were reduced into 'manageable and comprehensible proportions' through content analysis (Cohen *et al.*, 2011). Content analysis involves a

> process of coding and categorising, in which meaningful categories are created in which units of analysis (words and phrases) can be placed. These categories are compared and links made between them before conclusions are drawn from the text. (Cohen *et al.*, 2011, p. 559)

Content analysis is beneficial because the coding and categorisation is 'systematic, verifiable and transparent' and can be reanalysed and replicated at later dates (Cohen *et al.,* 2011, p. 559). The interview and questionnaire questions had been designed collectively to address particular themes centred around answering specific research questions. Correspondingly, these pre-determined themes were used so that responses from both strands could be readily compared during the latter stages of the mixed analysis. Additionally, the data was coded and categorised inductively as other

themes emerged out with the predetermined themes. This process was also guided by Spradley's (1979, p. 157) two key principles of qualitative analysis - 'the similarity and contrast principles'. In essence, the meaning of a 'symbol' can be discovered by finding out how similar or different it is to or from other symbols. Subsequently, the resulting data was 'displayed'. This refers to describing 'visually' the quantitative and qualitative data produced (Onwuegbuzie *et al.*, 2007, p. 12). A combination of graphs, charts and tables were used to display both sets of data.

3.8.2   Stage 3 and 4: Data Transformation and Correlation

Following the independent analysis of each strand, the next stage was 'data transformation and correlation'. 'Data transformation' occurs when 'one type of data is transformed or converted into another, permitting joint analysis of all data together' (Onwuegbuzie *et al.*, 2007, p. 12). Tashakkori and Teddlie (2009b) call this 'qualitizing' or 'quantising.' Correspondingly, 'data correlation' involves the qualitative data being correlated with the quantised data and vice versa, if necessary (Onwuegbuzie *et al.*, 2007, p. 12). During this stage, the interview data was quantised. Frequency counts were conducted of particular themes and responses, for example frequency of skills listed, types of activities and barriers mentioned. As Tashakkori and Teddlie (2009a) asserted:

> Transformation and reanalysis can provide additional understanding of the phenomenon under investigation by confirming / expanding the inferences derived from one method of data analysis (e.g. qualitative) through a secondary analysis of the same data with a different approach (e.g. quantitative). (Tashakkori & Teddlie, 2009a, p. 301)

However, 'the loss or possible distortion of information remains a limitation of concern' (Greene *et al.*, 2010, p. 322). This was given due consideration during this phase and in the later stages of data comparison and consolidation.

3.8.3   Stages 5, 6 and 7: Data Consolidation, Comparison and Integration

The penultimate stages of data consolidation and comparison was where quantitative and qualitative data was combined to create new codes, variables and data sets and then qualitative and quantitative strands were compared (Onwuegbuzie *et al.*, 2007). The questionnaire and interview strands were consolidated around the research question themes. This involved creating new data sets specifically focused on research themes. For example, the first consolidated data set focused on the research theme; teachers' and students' understanding of employability skills, and the subsequent consolidated data set were categorised by activity and subject. These strands where then compared, looking for similarities and contrasts within each of these themes (Jang *et al.*, 2008).

The final stage was 'data integration', 'where by the quantitative and qualitative findings are integrated into a coherent whole or two separate sets (i.e. qualitative or quantitative) of coherent wholes' (Onwuegbuzie *et al.*, 2007, p. 12). The inferences are then synthesized to form meta-inferences. In this regard, the meta-inferences were generated by integrating both strands' inferences along thematic lines, driven by the research questions. The endeavour was to provide more robust and superior inferences than either a quantitative or qualitative method could have achieved in isolation.

3.9 Ensuring Quality and Rigor

It is imperative that adequate attention is paid to ensuring research is of high quality and rigor. Collins (2015, p. 2) characterised this as 'research that is justified, the outcomes defensible and the findings are viewed as applicable by research consumers'. However, as Cohen *et al.* (2011, p. 198) warned, 'it is very easy to slip into invalidity; it is both insidious and pernicious as it can enter every stage of a piece of research'. Thus, appropriate selection of quality criteria and techniques throughout the research process was pivotal to ensuring outcomes were 'warranted' and inferences 'defensible' (Collins, 2015).

Ensuring quality in MMR is a complex process and remains a hotly contested methodological issue (Fabregues & Molina-Azorin, 2016; Ivankova, 2014). Debate has centred upon; how quality should be conceptualised in MMR, assessment of the quality of meta-inferences and practical application of quality criteria. These main concerns will be briefly discussed, before a more comprehensive validation of the quality framework employed. This serves as a summary of key issues and decisions, as detailed examination has been carried out systematically throughout the methodology section.

3.9.1 Quality Challenges in MMR

Ensuring quality in MMR is inherently more complex than in monomethod studies, due to the combining of quantitative and qualitative strands at one or more stage of the research process. Each strand will bring its own distinctive quality challenges (Onwuegbuzie & Johnson, 2006). Thus, an MMR researcher will need to not only meet the associated quality criteria of each component, but also address quality issues pertaining to the mixing of these strands.

There is significant diversity of opinion on what constitutes 'quality' which is not limited to the MMR community, but pervades throughout the social sciences. Often a researcher's philosophical

perspective will determine how quality is interpreted and assessed (Cheek, 2015; Dellinger & Leech, 2007). Consequently, there is no broadly accepted criteria for determining 'the methodological quality' of MMR and the resulting meta-inferences (Leech *et al.*, 2010). Frustratingly, there is even a lack of agreement on whether there should be some common criteria at all. For authors such as Dellinger and Leech (2007), Ivankova (2014) and O'Cathain (2010) a consensus on MMR quality criteria is important to establish a minimum set of standards and to foster clarity and structure within the field. Other authors such as Cheek (2015), Collins (2015) and Onwuegbuzie and Johnson (2012) maintain that quality is 'heavily context dependent', determined by the researcher's philosophical background and contingencies of each piece of research. Therefore, any criteria would be viewed as irrelevant by those that do not subscribe to the same philosophical perspectives that underpin the proposed criteria (Fabregues & Molina-Azorin, 2016).

This research subscribed to the more moderate position of Bryman (2014) and Creswell and Plano Clark (2011), where minimum agreement on quality standards is necessary, but acknowledges the complexity of the issue; that quality is shaped by the context in which the research and researcher is situated. As Bryman (2014) concluded, the desire to be comprehensive and all-encompassing of different perspectives within the MMR community has culminated in 'lengthy lists' of quality criteria that make practical implementation cumbersome and not widely applicable. As Creswell (2011, p. 278) attested, 'researchers are confronted by a baffling array of names and types of ways to conduct MMR'. Indeed, discussions have remained predominantly conceptual rather than practical and there is a dearth of empirical examples of how to operationalise quality criteria in MMR (Bryman, 2014; Ivankova, 2014; O'Cathain, 2010).

Consequently, a dichotomy may exist between the rhetoric of existing literature and the genuine practice of researchers. Yet it is imperative, according to Bryman (2014) and Ivankova (2014), that researchers are provided with 'methodological guidance' on how to assess and establish quality during the planning and execution of a piece of research, so as to improve its validity and safeguard the credibility of the meta-inferences determined. A few notable recent contributions from Bryman (2014), Bryman *et al.* (2008), Ivankova (2014) and Leech *et al.* (2010) have provided some much-needed guidance on the practical implementation of quality criteria in MMR.

3.9.2 *Application of Bryman's Quality Framework*

Bryman (2014) proposed a 'parsimonious' set of core criteria that is 'broad and flexible' to accommodate different research contexts. This was confirmed by Fabregues and Molina-Azorin's

(2016) metasummary of the most prevalent quality criteria in MMR. They identified a core set of quality criteria that was identifiable across MMR publications. As these authors concluded:

> This convergence of criteria strengthens Bryman's proposal, and also shows that, despite differences in author's perspectives on quality a set of shared criteria is identifiable across disciplines and geographical contexts. (Fabregues & Molina-Azorin, 2016, p. 12)

Each of Bryman's (2014) core criteria will be briefly explained, followed by a summary of how this research has served to address each criterion. More detailed justification has already been carried out within the relevant sections of the methodology.

1) *Need for the quantitative and qualitative components of a mixed methods project to be implemented in a technically competent manner.*

Despite the differences in conceptual approaches, most MMR authors concur that the quality of each component directly impacts upon the credibility of the overall meta-inferences (Ivankova, 2014; Leech *et al.*, 2010). Thus, researchers will need to observe the 'accepted' validity criteria for the respective qualitative and quantitative strands to avoid a cascade of erroneous conclusions that may detrimentally impact upon the final inferences (Ivankova, 2014). Consequently, separate procedures were adopted to assess the 'reliability' and validity' of the quantitative strand and the 'credibility and trustworthiness' of the qualitative strand.

Briefly, quantitative validity was maximised by the appropriate use of sampling techniques, choice of data collection method and statistical analysis techniques. The content validity of the questionnaire was established through peer-validation and pre-testing. Validity and reliability was also ensured by the standardising of the questionnaire and its administration process across all groups and establishments concerned. Credibility and trustworthiness of qualitative data was maintained through triangulation of different sources – interviews and follow up emails and the researcher's notes made during data collection and analysis. Detailed description of the qualitative data collection and analysis techniques and the decision-making process taken, also helped to ensure credibility and trustworthiness.

2) *Need for transparency*

Researchers need to be transparent about how they went about the research process i.e. how the quantitative and qualitative data was collected and the resultant data was analysed (Bryman, 2014). Each step of the research process has been detailed extensively earlier on in this section. In particular, the researcher has endeavoured to provide a detailed discussion of the integration of the

two strands at the data analysis level using Onwuegbuzie and Teddlie's (2003) seven stage framework for mixed analysis.

3) Need for mixed methods to be linked to the research questions

4) Need for a rationale for the use of mixed methods research

As Bryman (2014) articulated, it is important for MMR researchers to demonstrate how their research is directed by their research questions. There is also a need to justify the additional burden on participants of employing two different types of methods. A questionnaire was deemed to be the most appropriate method for providing the requisite breadth in answering the research questions relating to the frequency of activities employed and any associated barriers within subjects. The qualitative interviews were considered the most suitable method to provide depth in answering the research questions relating to examples of activities and barriers to the facilitation of these activities within subjects. The rationale was that the strengths of the quantitative survey strand with its large sample of KS5 teachers and students would complement the strengths of the qualitative interviews with its rich detail and elaboration of key issues.

5) Need to be explicit about the nature of mixed methods design employed

6) Need for integration

The choice of design was essential as it provides the backbone of the methodology and guides the decisions made throughout the research process. A detailed description and justification has been carried out earlier of the Convergent Parallel Mixed Method Design adopted from Creswell's (2015) revised typology of MMR designs. It is also important that a design is chosen to ensure that the two strands are brought together and integrated suitably so that

> additional insights can be gained from an exploration of the links between the two sets of data ...
> Unless there is some integration the potential of mixed methods research will be unrealised and
> the investigation will be mixed in name only. (Bryman, 2014, p. 127)

3.10   Ethical Considerations

Conducting research can pose a series of ethical dilemmas and it is imperative that researchers consider such issues, so that they conduct their research in an ethical manner (Denscombe, 2014; Oliver, 2010). As Cohen *et al.* emphasized:

> A major ethical dilemma is that which requires researchers to strike a balance between the demands placed on them as professional scientists in pursuit of truth and their subject's rights and values potentially being threatened by the research. (Cohen *et al.*, 2011, p. 75)

Ethical issues can arise from any phase of the research process from design through to data collection to the analysis and dissemination of findings (Frankfort-Nachmias *et al.*, 2014; Oliver, 2010). In accordance with the university requirements for conducting research, an ethical approval form was completed in line with BERA recommendations and the university's ethical approval guidance. The form was approved in March 2015 with two modifications:

1) Ensure that the coding frame for the data was stored in separate locations from the data.
2) Ensure that I do not destroy the data until the degree has been awarded.

A central tenet of research ethics is the principle of 'informed consent' (Denscombe, 2014; Oliver, 2010). Informed consent can be defined as, 'the procedures in which individuals choose whether or not to participate in an investigation after having being informed of facts that would be likely to influence their decision' (Diener & Crandall, 1978, p. 57). This 'informed consent' entailed four elements: competence, voluntarism, full information and comprehension (Cohen *et al.*, 2011, p. 78).

As the research would be conducted secondary establishments, consent was initially gained through the 'gatekeeper' (the Headteacher), as detailed earlier. The completion of questionnaires was entirely voluntary, which was explicitly stated at the beginning of the questionnaire along with my status and the research purpose. For the teacher interviews, participation was also voluntary. Each interviewee was given a written brief and signed consent form prior to each interview. All interviewees were also fully briefed again prior to recording and given the opportunity to ask any questions and discuss their participation at any time.

According to Oliver (2010), another critical aspect of research ethics is that participants are given the opportunity to have their identities hidden in a research report. Following guidance given by Frankfort-Nachmias *et al.* (2014) on ways of protecting identities; each establishment was coded and only basic descriptions used in relation to the size and type of organisation. The questionnaires were filled out anonymously and then ascribed a code, which did not bear any significance to the identities of the questionnaire respondents. With regards to the interviews, each interviewee was given code that did not relate to their identities and the recorded data was kept separately from all other pertinent data.

3.11   Chapter Summary

This chapter has presented a thorough account of the choice of a Convergent Parallel MMR design and the theoretical perspective of Pragmatism that underpins it. The chapter has also provided detailed explanation of the multi-level sampling strategy employed, as well as, the specific research methods of survey and interview that were used to obtain the data needed to answer the research questions. Issues pertaining to quality, rigor and ethics were also considered. The following chapter details the findings obtained from the teacher and student surveys and the teacher interviews.

CHAPTER FOUR: FINDINGS

4.1 Introduction

The objective of this chapter was to present the findings of this research with respect to the overall research questions:

1. What do teachers and students understand by the concept 'employability skills'?
2. How frequently do specific activities, that encourage employability skills improvement, occur within subjects and what form do these activities take?
3. What enablers and barriers exist that impact upon the integration of these activities, that encourage employability skills, into learning and teaching?
4. What sources of information and training do KS5 teachers and students receive regarding employability skills?

Each section of this chapter included an analysis of both quantitative and qualitative findings related to each of the research questions under scrutiny. A total of 108 teacher survey responses and 527 student responses were returned from three educational establishments. Sixteen teachers were interviewed from a cross section of subjects from two of these establishments (A &C). A breakdown of the survey responses and teachers interviewed can be viewed in Appendix E and F respectively.

4.2 What Do Teachers and Students Understand by The Concept of 'Employability Skills'?

4.2.1 Quantitative Findings

The first section in both questionnaires was designed to establish teachers and students' awareness of the skills needed for the workplace, by asking them to list a maximum of nine skills they thought employers wanted an employee to have. 104 teachers and 523 students responded to this question. The mean number of skills listed by teachers and students was 5.6 and 4.4 respectively. 73 different 'skills' were listed. This wide variety was, in part, due to the broad range of terminology used to articulate the same meaning, such as 'maths skills' and 'numeracy'. Subsequently, these responses were condensed into 30 categories based on similarity of meaning and using the employability skills frameworks, discussed in the Literature Review, as a guide.

Figure 4.1: Frequency of 'Skills' Responses by Teachers and Students, shown as a Percentage, to Question 1, 'In your view, what are the main skills which employers would want an employee to have? '
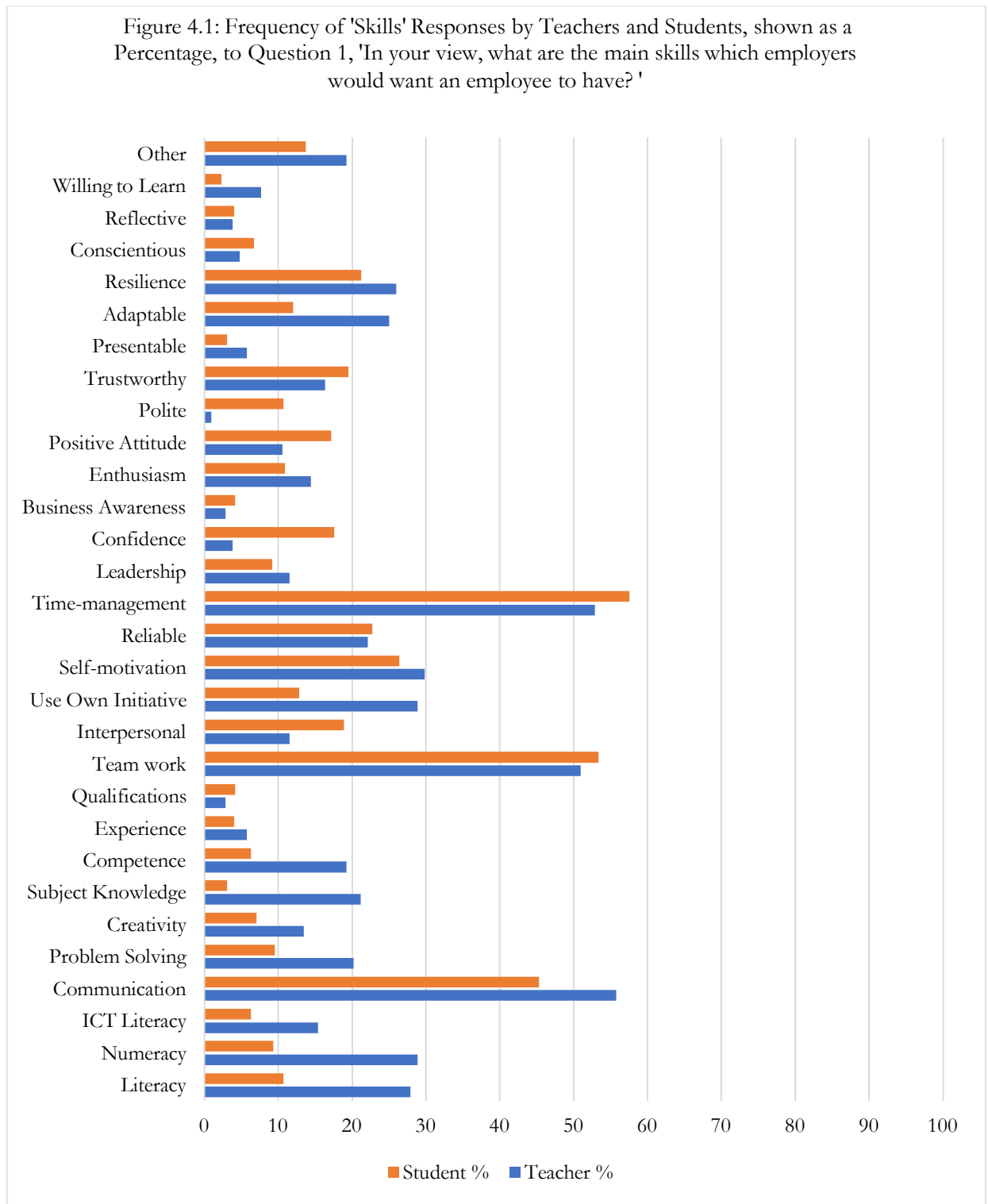
As Figure 4.1 shows, only two categories Teamwork and Time-management, were listed by the majority of both teachers and students. Although, Communication was also listed frequently by 56% of teachers and 45% of students. All other categories were listed 30% or less of the time. Correspondingly, eight categories were listed by 10% or less of teachers, although 14 categories were listed by 10% or less of students.

There was agreement on some categories between teachers and students (i.e. 10% or over of both respondents listed the skill included in the category, with 5% or less variation between them). There were eight such categories: Communication, Teamwork, Reliable, Time-Management, Enthusiasm, Positive Attitude, Trustworthy and Resilience. However, there were some categories listed by a noticeably higher proportion of teachers than students (over 10% difference). There were seven such categories: Literacy, Numeracy, Problem Solving, Subject Knowledge, Competence, Use Own Initiative and Adaptable. Conversely, only two categories Confidence and Polite were listed by a greater proportion of students than teachers (over 10% difference).

4.2.2 Qualitative Findings

The interviewees were also asked to list the skills that they thought an employer would want an employee to have. The responses were categorised using the same process as the survey data. The range of skills mentioned was slightly narrower than survey responses with 23 categories. The mean number of skills listed was 5.6.

Figure 4.2: Frequency of 'Skills' Responses by Interviewees to the Question, 'What skills do you think an employer would want an employee to have?' Shown as a Percentage.
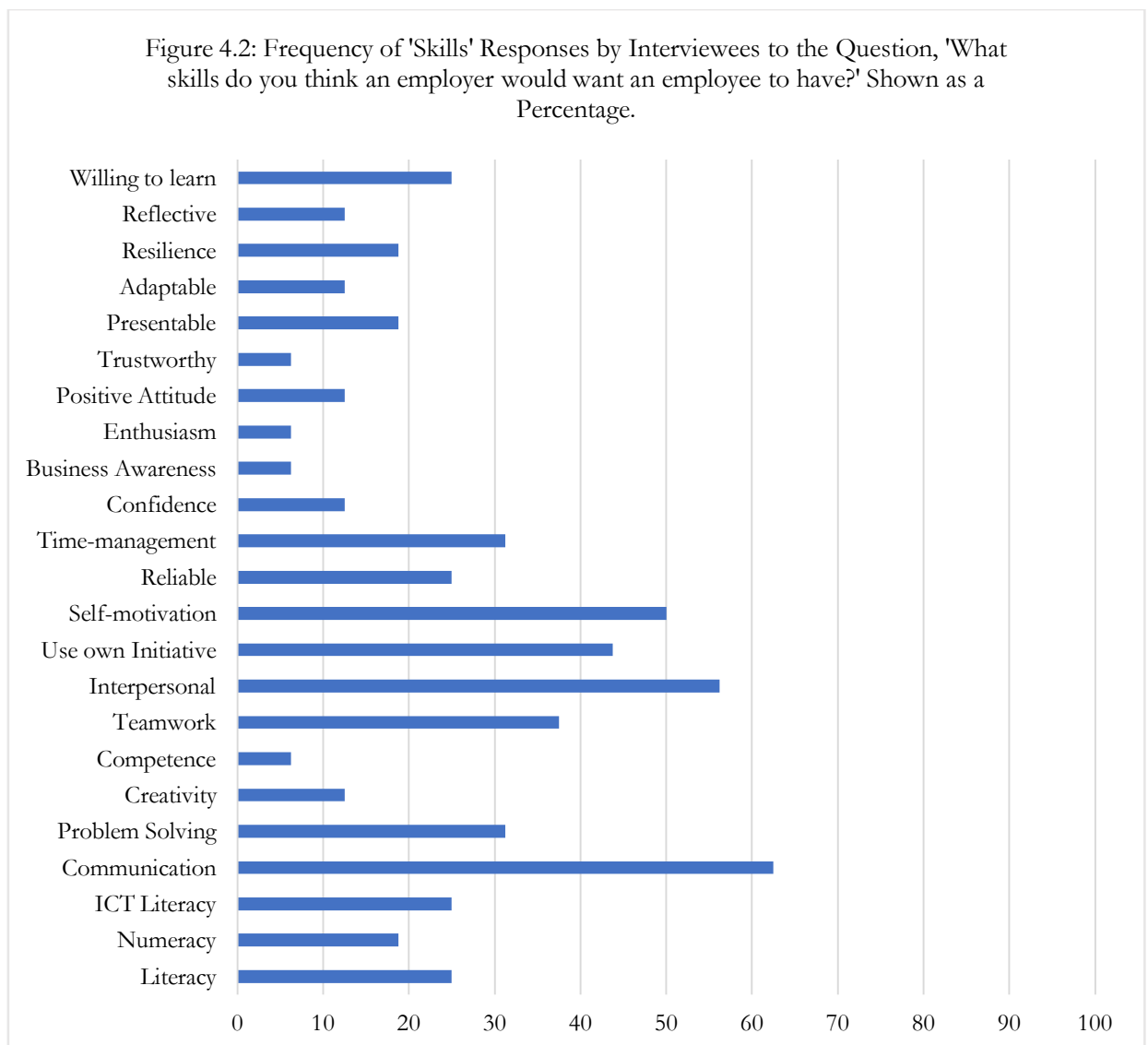
As can be seen from Figure 4.2, three skills categories Communication, Interpersonal and Self-motivation were mentioned by half of interviewees, with Communication mentioned by 63%. An additional four categories: Time-management, Use Own Initiative, Teamwork and Problem Solving were mentioned by over 30% of interviewees. All other categories were mentioned by 25% or less of interviewees.

Eight out of the sixteen interviewees referred to alternative terms for employability skills, specifically soft skills (3), transferable skills (3) and generic skills (2). The overwhelming majority of interviewees focused on referencing 'softer' skills, with only six interviewees referring to any of the three 'functional skills' (Literacy, Numeracy and ICT) and only one mentioning all three. Three interviewees made the explicit distinction between having qualifications and other 'soft or transferable' skills. As one interviewee (T2/Science) distinguished:

> There are two distinct categories, subject specific and technical skills required for specific jobs and a broad range of employability skills: key transferable skills often called soft skills. For most students, their first career job will have very little subject knowledge resembling what they have studied before, but will have a common core of employability skills that are vital for them to function in any sort of environment.

The UKCES Employability Skills Framework was also given to interviewees for comment, in terms of appropriateness of skills included and breadth and depth of coverage. Three quarters of the interviewees were very positive with comments including 'really good list', 'comprehensive' and 'brilliant'. As one interviewee (T2/Sports) stated, 'it covers the most general ones that you would look for, certainly the ones we would look to raise into the consciousness of students'.

When asked if there were any skills missing, two interviewees highlighted the lack of explicit reference to spelling and grammar (T2/Science, T2/English). T2/English warned that 'grammar skills had died at an incredible rate'. A quarter of those interviewed emphasised that Resilience or 'Grit' was not explicitly stated in the framework, especially in relation to work-life balance and mental health. One teacher (T1/English) commented, 'I think they have just lumped it together under the Positive Attitude category'. Two interviewees, T1/Art and T1/Sciences, also highlighted the need more explicit reference of Adaptability, specifically in dealing with different audiences and contexts, but also in changes of job and personal circumstances.

4.3 Frequency of Activities That Encourage Employability Skills Improvement Across KS5 Subjects

4.3.1 Explanation of Quantitative and Qualitative Findings

The main body of both questionnaires (Appendix B and C) was designed to establish the frequency of specific activities that encourage employability skills improvement within and across KS5 subjects. A 6-point rating scale (Never – Every Lesson) was used to determine how frequently these specific activities occurred during an 'average' week. 108 teachers and 527 students from the three establishments responded. The mean scores for both teachers and students was weighted to reflect the variety in numbers of each establishment and subject. There were no teacher responses for Economics, Geology and Health & Social Care.

The teacher questionnaire (Appendix B) also contained a subsequent section of exploratory open questions designed to ascertain any barriers teachers may have faced in integrating these activities into their lessons. The answers were coded into categories based on similarity of meaning i.e. 'time restrictions' and 'lack of time'.

The interviews followed a similar format to the questionnaires. Each interviewee was asked how frequently a specific activity occurred within their subject and the form these activities took. Correspondingly, interviewees were also asked if there were any barriers that hampered the practise of a particular activity.

The following sections are organised around each specific activity and will include quantitative and qualitative findings relating to: the frequency of the specific activity, the form that activity took and barriers to its provision and integration.

4.4 Literacy Practise Within and Across KS5 Subjects

4.4.1 Frequency of Literacy Practise – Survey Findings

Figure 4.3: Frequency of Literacy Practise Across KS5 Subjects
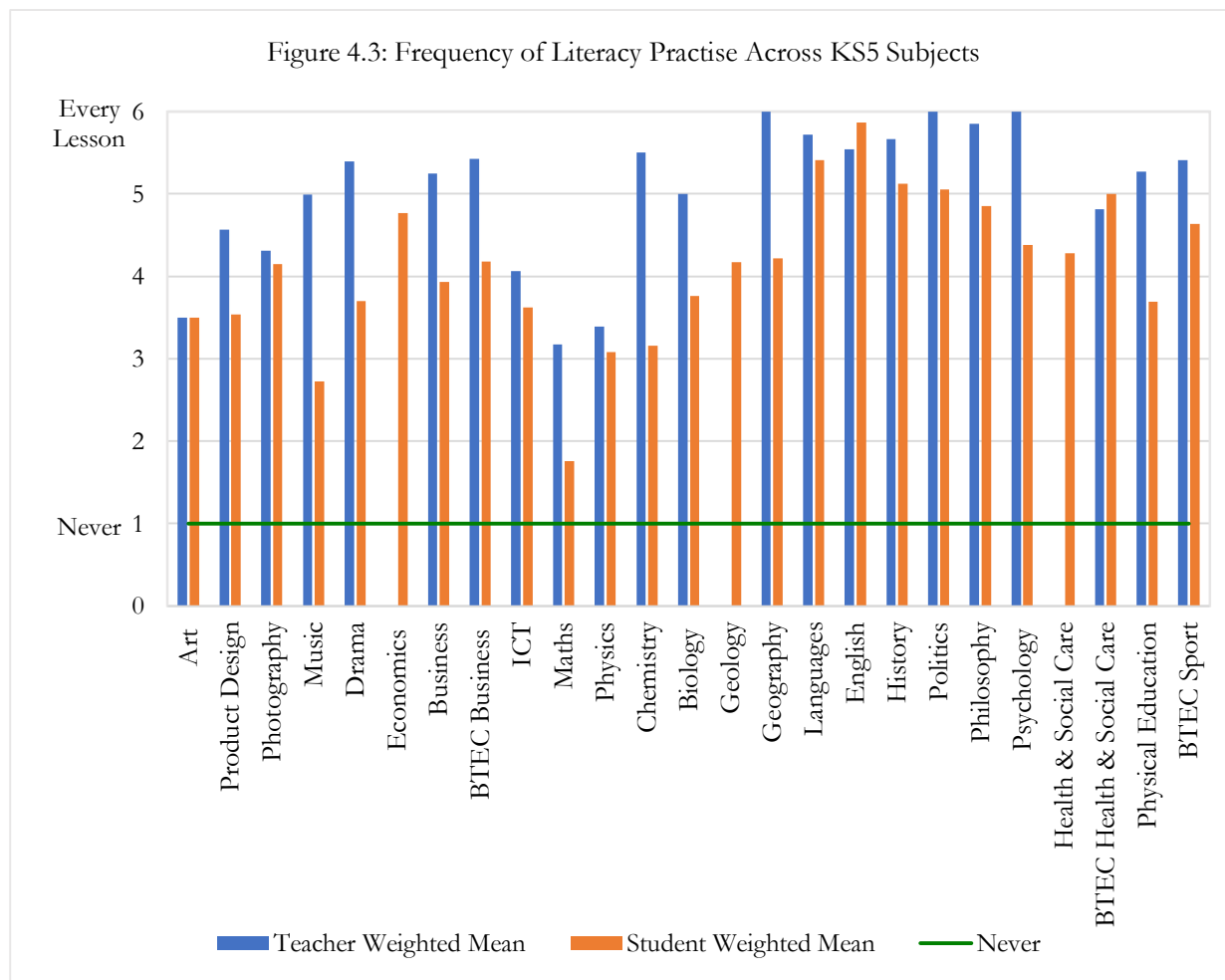
As figure 4.3 suggested 86% of teachers were more positive about the frequency of literacy practise than corresponding student responses. However, for 60% of subjects there was little variation, less than 1.5 intervals, in ratings between the two. Literacy practise occurred fairly regularly across most subjects, with 20 subjects rated as 3 or above by both teachers and students. In 11 of these subjects, both teachers and students indicated that literacy practise occurs frequently with ratings of 4 or more. The highest rating for literacy practise were concentrated in subjects where written work was an inherent part of their subject, such as English Literature & Language, Languages and Humanities or subjects with a significant written coursework element i.e. BTECs.

Only in two subjects, Maths and Music, were student mean responses lower than 3, although corresponding teacher responses were higher for both of these subjects. Interestingly, the only subjects where teacher responses were less than 4 were Art, Maths and Physics.

4.4.2 Barriers to Literacy Practise – Survey findings

Figure 4.4: Barriers to Literacy Practise in KS5 Subjects as Listed by Teacher Respondents
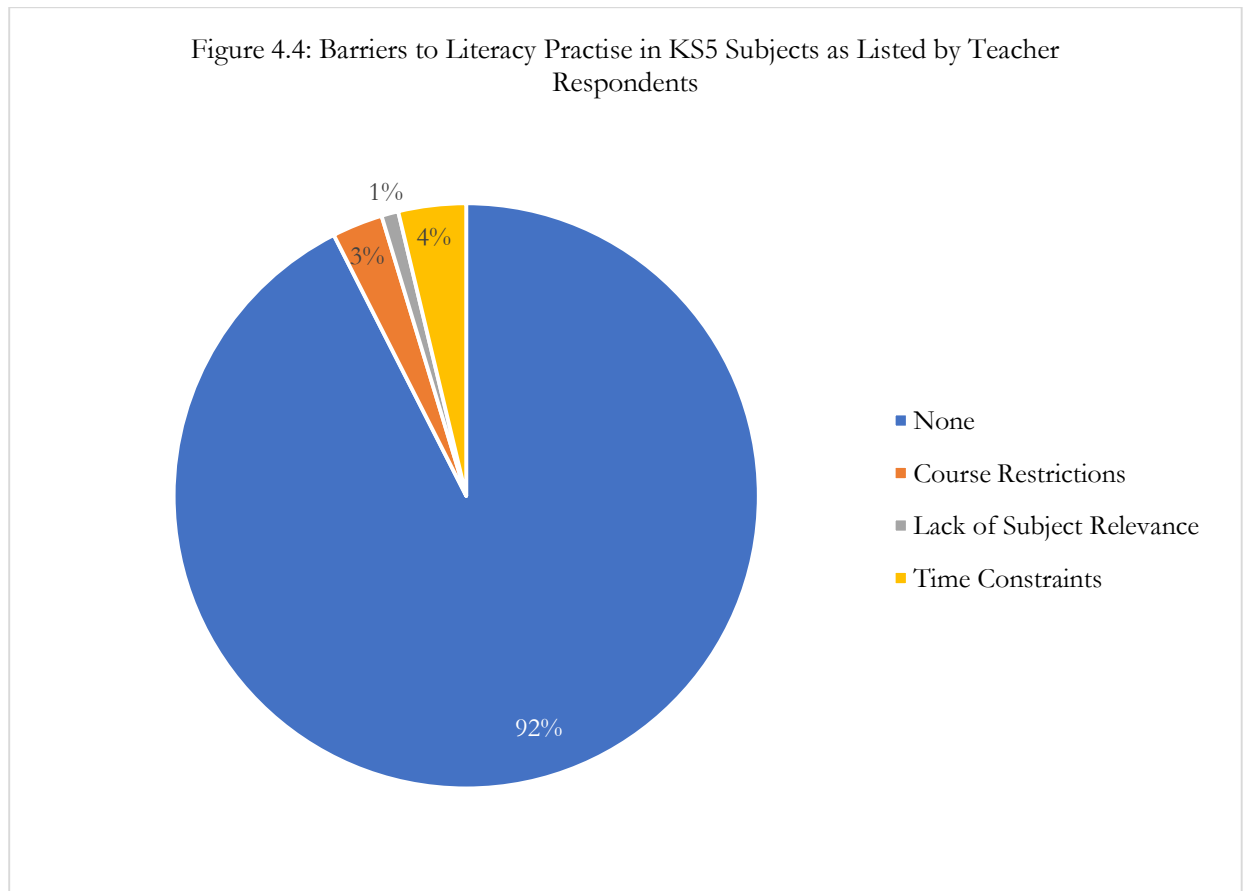
Figure 4.4 shows the barriers to literacy practise listed by KS5 teachers. It is obvious that for almost all teachers (92%) there was little in the way of restrictions to literacy practise in their lessons. Only three barriers were given by 8% of teachers. 'Course restrictions' was only mentioned by those teachers who taught Maths and Physics. 'Time constraints' and 'lack of subject relevance' was listed by six teachers, five of whom taught within Creative Arts.

4.4.3 Literacy Practise – Interview Findings

Almost all interviewees articulated that literacy was an integral part of their teaching, with the use of phrases such as 'strong focus', 'embedded in course', 'inherent in subject' and 'at core of everything'. As T1/Sciences explained, 'Literacy is becoming more woven through. It's a focus and now it's like breathing'.

A couple of interviewees indicated lesser amounts of literacy practise, although it was still a regular feature of their lessons. As T1/Maths explained, 'Literacy probably comes up more at GCSE because the questions are more 'wordy' and tend to be more mathematically specific at A Level'.

Similarly, T2/Sciences affirmed that literacy in Physics was predominantly verbal because 'written literacy as assessments will always predominantly be mathematical calculations'.

Most interviewees tended to focus on the written element of literacy. Verbal literacy was only explicitly referred to by T1/Maths, T1/Business, T1/Sport, T/2 Sport. As T1/Sport elaborated:

> It's not just the writing, but the speaking as well. We try and get them to present, to ask and answer their own questions. Getting them to present to their group. Talking about things to their group helps improve their confidence and the words they use.

For ten of the interviewees literacy practise was predominantly focused on preparation for written assessments, in the form of exam questions or coursework. The overwhelming majority of exam based subjects had extended answers, in which the quality of written communication (QWC) was assessed and needed significant practise. The importance of being able to structure a paragraph, develop an argument, analyse and evaluate were frequently cited as important elements of their literacy practise. As T1/Humanities explained:

> They have in my subjects to write extended answers, so they need to be able to structure it properly, organise their thoughts and communicate their idea … Especially at Year 13 they have got two and half hours, got to be able to communicate an idea, it needs a lot of practise.

Other subjects, such as Art and ICT, had a coursework element in the form of a project brief or report. BTEC subjects were entirely coursework based, and as such, these interviewees indicated that this was the central focus for their literacy practise.

Almost all interviewees highlighted the importance of the appropriate spelling of subject terminology and command words, again with reference to gaining higher QWC marks. As T1/Humanities confirmed, 'key words are important especially at KS5, they have to use correct terminology otherwise they won't get A or B grades'. Similarly, the understanding of key terminology and command words was imperative in aiding students' ability to 'read for meaning' as T2/Maths elaborated:

> You need to discuss language and what it means in the mathematical context. For example, the word 'evaluate'. You can get students who have made it through the whole of their GCSE and I'll ask them the question in my A2 Class, what does the word evaluate mean? It's surprising how many people go 'I don't actually know, I've always guessed!'

Common themes emerged as to the methods teachers used to improve literacy. Firstly, the embedding of technical language, through its consistent use from the outset of the course. As T2/Art commented, 'we use technical language from the start, talk about Art and Design in the way a designer would'. Likewise, T2/Sciences explained:

> There's a lot of technical language. Spend a lot of time looking at the prefixes to words, spotting commonalities i.e. Biology anything ending in 'ase' is going to be an enzyme. Embed those skills early.

The use of glossaries and check lists were frequently cited ways of embedding technical language, though no one method was dominant, as T2/Art confirmed:

> We use glossaries, getting students to understand the technical language. No one has come up with a perfect way to do them - some are in the back of assignment sheets, some write it up on the board when a technical word is used and then get the students to write it down.

Most interviewees spent a significant amount of time focusing on question analysis and essay structure, using formative feedback. This was through the annotation of student's work and /or the use of 'literacy toolkits' and formats such as PEE (Point, Evidence, Explanation). As T2/Science explained, 'We spend a lot of time on analysing sentence and question structure … Need to be able to critically analyse a question and choose the correct response'. As T1/Business elaborated:

> You can tell students to evaluate but what does that actually mean? You need to indicate words they should use. Normally get them to bold and underline words in their actual writing. I have a discourse mark and paragraph structure to try and work through, which they can try and emulate and use the higher order words.

Whilst it was evident that significant time was devoted to exam preparation, other techniques of improving literacy were also utilised including various writing formats (reports, newspaper articles and case studies) and writing from different perspectives. As T2/Humanities confirmed:

> I get them to imagine they are a certain individual or present at an event. They will write in a newspaper style and write from the point of view of a particular person. Say on the impact of the wall street crash, diary extracts, posters, lots of different formats.

Verbal literacy was also commonly practised through discussions, presentations and peer questioning. As T2/Sports expanded:

> Also, looking at the way they are interacting with each other in lessons. So, if they are presenting information to each other, thinking about verbal literacy and expressing themselves in a clear way.

The majority of interviewees indicated that there were few, if any, significant barriers to literacy practise. However, several teachers did express concerns over the poor levels of spelling and grammar. T2/English was particularly surprised over the poor grammar knowledge of students stating 'It's a major problem nationally, emphasis is taken away from grammar and yet literacy is an emphasis – the irony!' T2/Sciences didn't believe there were any particular barriers, except perhaps the lack of clarity on what constitutes literacy:

> I find with a lot of science lecturers, if you say to them right, how would you embed some literacy development in your teaching? Lots of them would say, 'Oh I haven't got time for that' or 'the topic I'm teaching just doesn't lend itself to it'.

4.5 Numeracy Practise Within and Across KS5 Subjects

4.5.1 Frequency of Numeracy Practise - Survey Findings

Figure 4.5: Frequency of Numeracy Practise by KS5 Subject
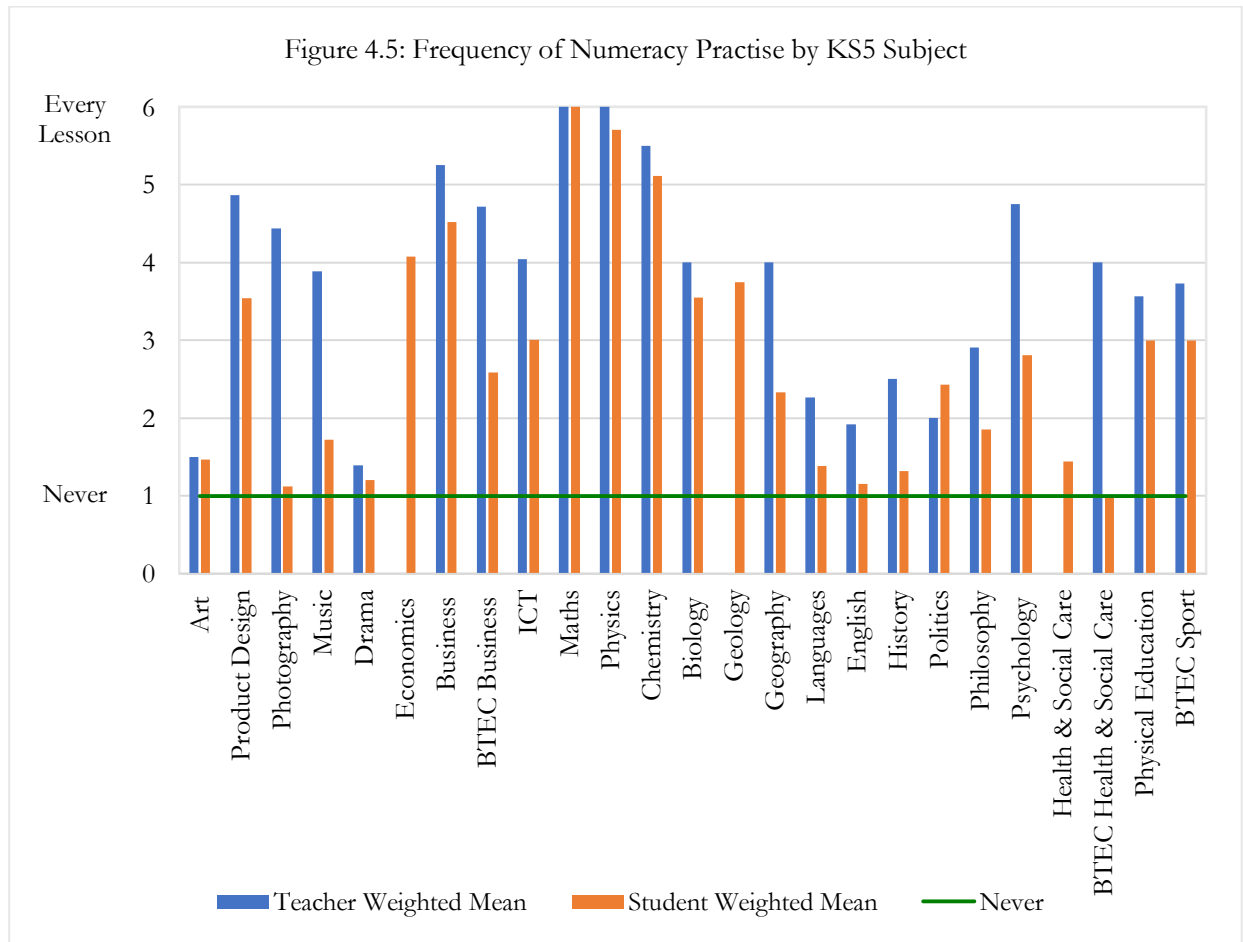
As figure 4.5 shows, in 20 out of 22 subjects, teachers were more positive about the frequency of numeracy practise than corresponding students. However, for almost 60% of these subjects, there was only a small variation of less than one interval between the two sets of respondents. There was a marked difference, two intervals or greater, between responses in four subjects Photography, Music, BTEC Business and BTEC Health & Social Care.

Figure 4.5 also suggests a significant variation in the frequency of numeracy practise across KS5 subjects. Teachers and students agreed that numeracy was practised almost every lesson, with ratings of 5 or above, in three subjects Maths, Physics and Chemistry and very frequently in Business. All of which have intrinsic mathematical elements inherent in their subjects. A further eight subjects were rated as 4 or above by teachers. Five of these subjects Product Design, ICT, Biology, PE and BTEC Sport also had similar student ratings of between 3 and 4, suggesting that numeracy practise did

occur fairly regularly in those subjects. Similar student ratings were evident for Economics and Geology.

At the other end of the spectrum, both sets of respondents agreed that numeracy was practised infrequently in seven subjects, with four of these subjects Art, Drama, Politics and English indicating very limited practise with ratings of 2 or below. Students also included a further six subjects, the majority of which were from Arts, Languages or Humanities subjects.

4.5.2 Barriers to Numeracy Practise – Survey Findings

Figure 4.6: Barriers to Numeracy Practise in KS5 Subjects as Listed by Teacher Respondents
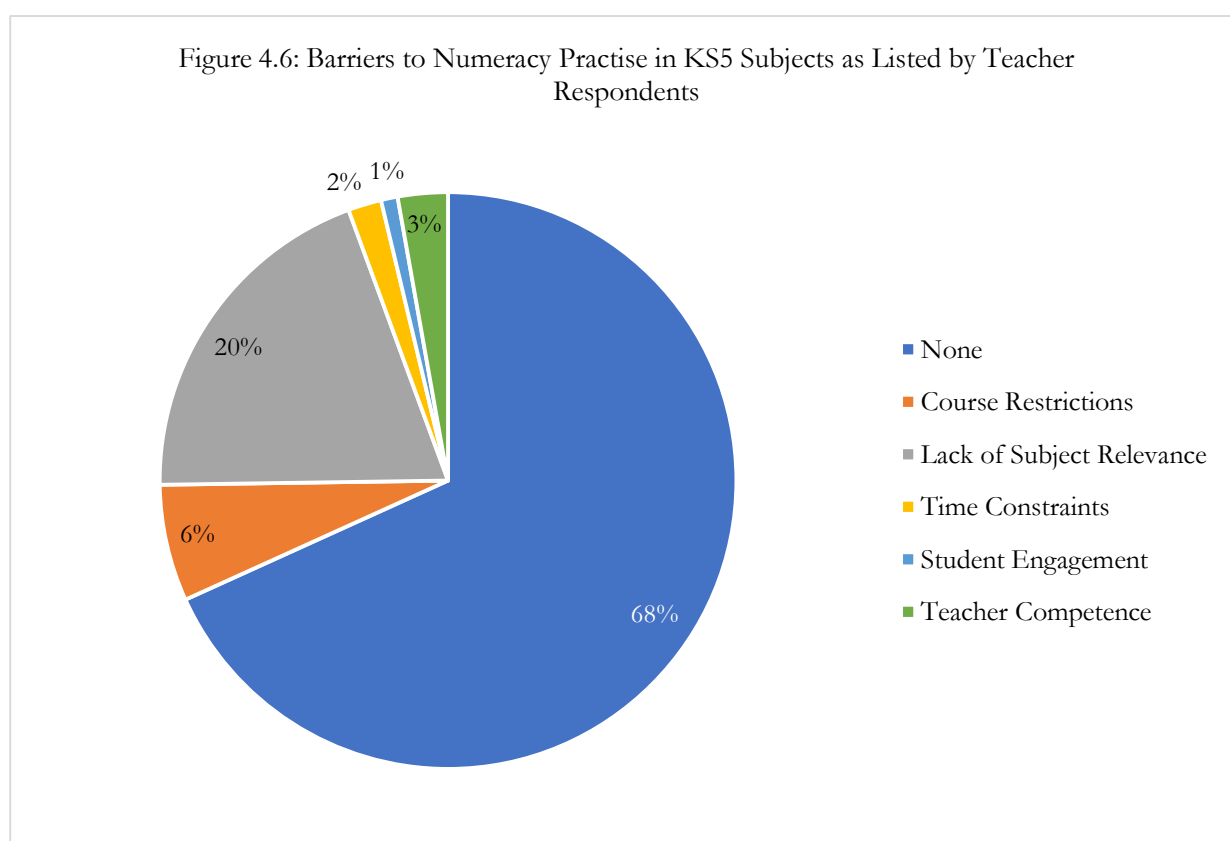
Figure 4.6 indicated that the majority of teachers believed there were no barriers to numeracy practise in their subject. Unsurprisingly, no barriers were listed by teachers in the following subject areas: Maths, Sciences and Business. Those teachers (26%) that listed either of the two largest barriers, 'course restrictions' and 'subject relevance', were from English and Languages (11%), Humanities (5%) and Sport (5%). 'Teacher competence' was also listed by 3% of teachers.

4.5.3 Numeracy Practise – Interview Findings

12 interviewees suggested that numeracy practise occurs frequently in their subject. Interviewees from Maths, Sciences and Business stated that it was an integral part of their course. As T1/Sciences explained, 'Whole of Maths and Science goes hand in hand. …You don't think about numeracy because its part and parcel'. For other interviewees, the intensity of numeracy practise varied by topic. T1/Business observed that

> getting application of number is easy in finance lessons, but easy to fall into the trap with marketing and just talk about the 7Ps, but much more maths involved i.e. how to grow market share.

Similarly, T1/Sports commented:

> It's not really relevant or regular all the time … topic based. At the start of the year when you do a lot of anatomy and physiology it would be very thick with numeracy and then the rest of the year it might be quite limited.

Three interviewees, T1/English, T2/English, T1/Health, believed that the nature of their subject meant that numeracy practise was 'sporadic' and 'superficial'. As T1/Health asserted, 'numeracy doesn't fit overall well, its superficial … by topic basis, wouldn't fit it in for no reason and the exam board doesn't really ask for it'. Correspondingly, T1/English commented:

> It's not something that happens regularly in my lessons … if it crops up its generally more by accident than on purpose. I don't see the point of shoehorning it in because someone has put it on an observation sheet.

There was an indication that for most subjects, out with Maths & Sciences, numeracy practise was mostly in the form of: data collection, analysis and interpretation, using raw data, data tables and graphs. As T2/Humanities highlighted, 'In History, we surprisingly do a fair amount. Look at tables, calculate data i.e. causality figures, economic figures and how this influenced historical events or an outcome'. For T2/Sciences:

> I think we are very fortuitous that in the Sciences, often using maths in a practical application. … Prime employability skills, essentially the concept of analysing two data sets side by side is the same, whatever the data is.

It was indicated by interviewees from both establishments that numeracy was an establishment-wide priority with dedicated numeracy teams and staff training days. T2/Art referred to a dedicated team whose remit was to see how numeracy could be better integrated into curriculums. T2/Business, for example, had been working with Maths colleagues on Business finance modules. Whilst, T1/Sports mentioned their department had redesigned their feedback sheet to include specific reference to numeracy, as well as literacy.

For a few interviewees T1/ICT and T1/Humanities, 'time' was stated as a constraint to further numeracy practise. Several interviewees, T1/Business, T1/Maths, T2/Maths and T1/Sciences, expressed concern about the general level of students' maths ability, especially mathematical problem solving. As T1/Business commented:

> Think students are lacking the ability to apply maths to actual problems, especially when not given specific instructions … almost told too much, instructions are too explicit really to enable students to develop effective problem solving techniques.

Similarly, T1/Maths maintained:

> Even seen problems with basic problem solving skills, i.e. decorating and trying to work out how many tiles you need or how much wall paper. Down to basic facts like that and mixing together in the correct ratio.

Correspondingly, several interviewees highlighted the inability of some students to transfer mathematical techniques between subjects. As T1/Sciences elaborated:

> They are poor at transferring specific knowledge of a technique from one classroom to the next – student find skills transfer really difficult. I.e. graph drawing, spend a lot of time at GCSE constructing a graph, but as soon as you present the same problem in a Biology lesson with biological data they have a tendency to forget. They don't associate the maths skills they gain in GCSE Maths with the use of it elsewhere after.

This aligned with concerns raised by other interviewees, T2/Art and T1/ICT, that students were often unaware they were doing maths. As T1/ ICT stated, 'Students struggle to put numbers in context. Numeracy skills are not something you just do in Maths. The majority of children think that'.

4.6 ICT Use Within and Across KS5 Subjects

4.6.1 Frequency of ICT Use – Survey Findings

Figure 4.7: Frequency of ICT Use by KS5 Subject
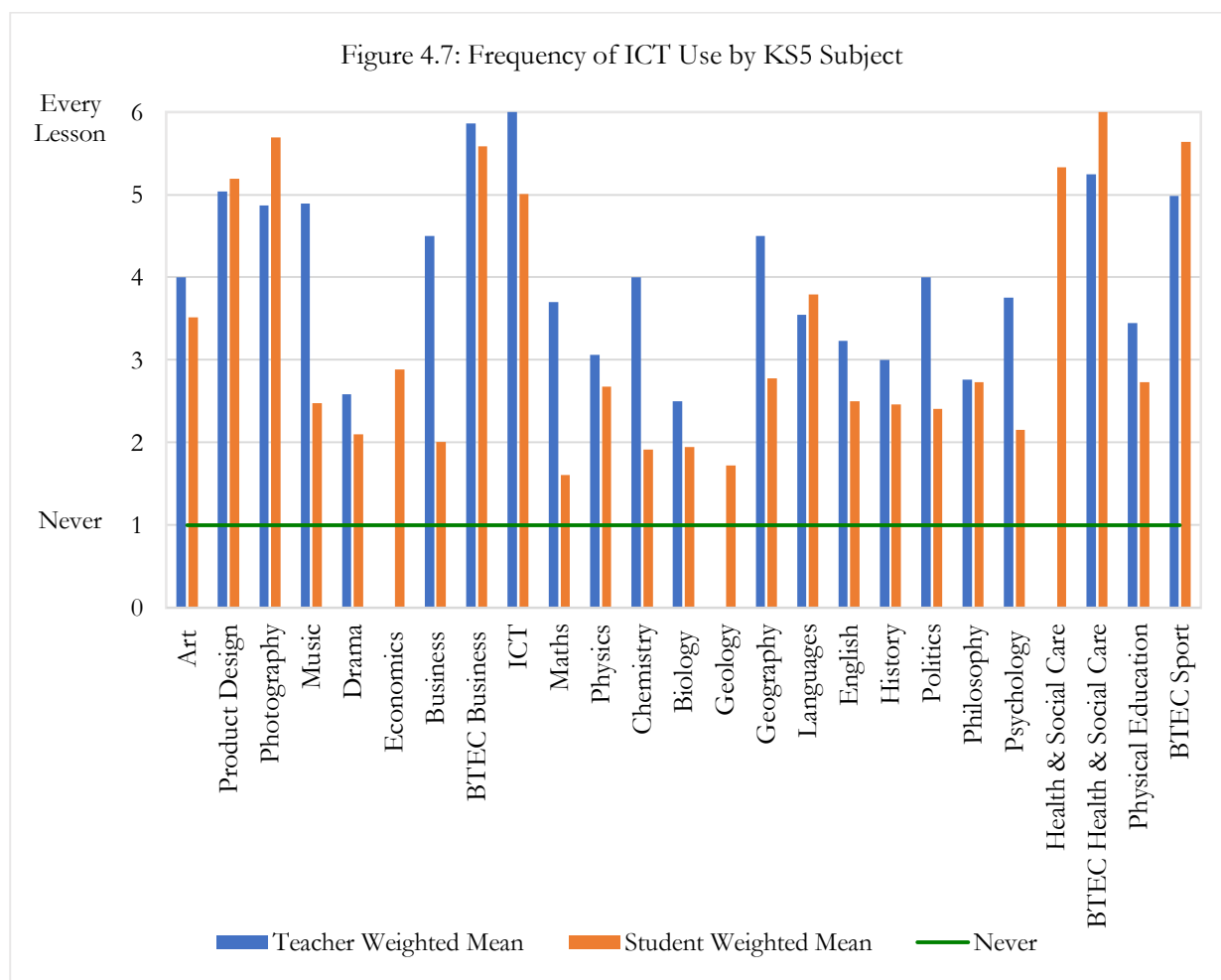
As figure 4.7 suggests, over three quarters of teachers were more positive about the frequency of ICT use in their subject than corresponding student respondents. However, there was little variation, one interval or less, between teacher and student respondents across the majority of subjects (15 out of 22 subjects). Four subjects, Music, Business & Accounting, Maths and Chemistry, had significant variations, two intervals or more, between teacher and student responses.

There appeared to be some divergence of opinion in terms of the frequency of ICT use within the classroom. Teachers rated the frequency of ICT use as very regular, ratings of 4 or above, in 12 subjects. Conversely, students only rated seven subjects as 4 or above, including Health & Social Care where there were no corresponding teacher responses. However, there was complete agreement between both sets of respondents over the high frequency of ICT use, ratings of 5 or above, in five subjects Product Design, ICT and all three BTEC subjects.

No teachers rated ICT use as rare, a rating of 2 or less, compared to students who indicated that in five subjects Business, Maths, Chemistry, Biology and Geology, there was very limited use of ICT during an 'average' school week.

4.6.2 Barriers to ICT Use – Survey Findings

Figure 4.8: Barriers to the Use of ICT in KS5 Subjects as Listed by Teacher Respondents
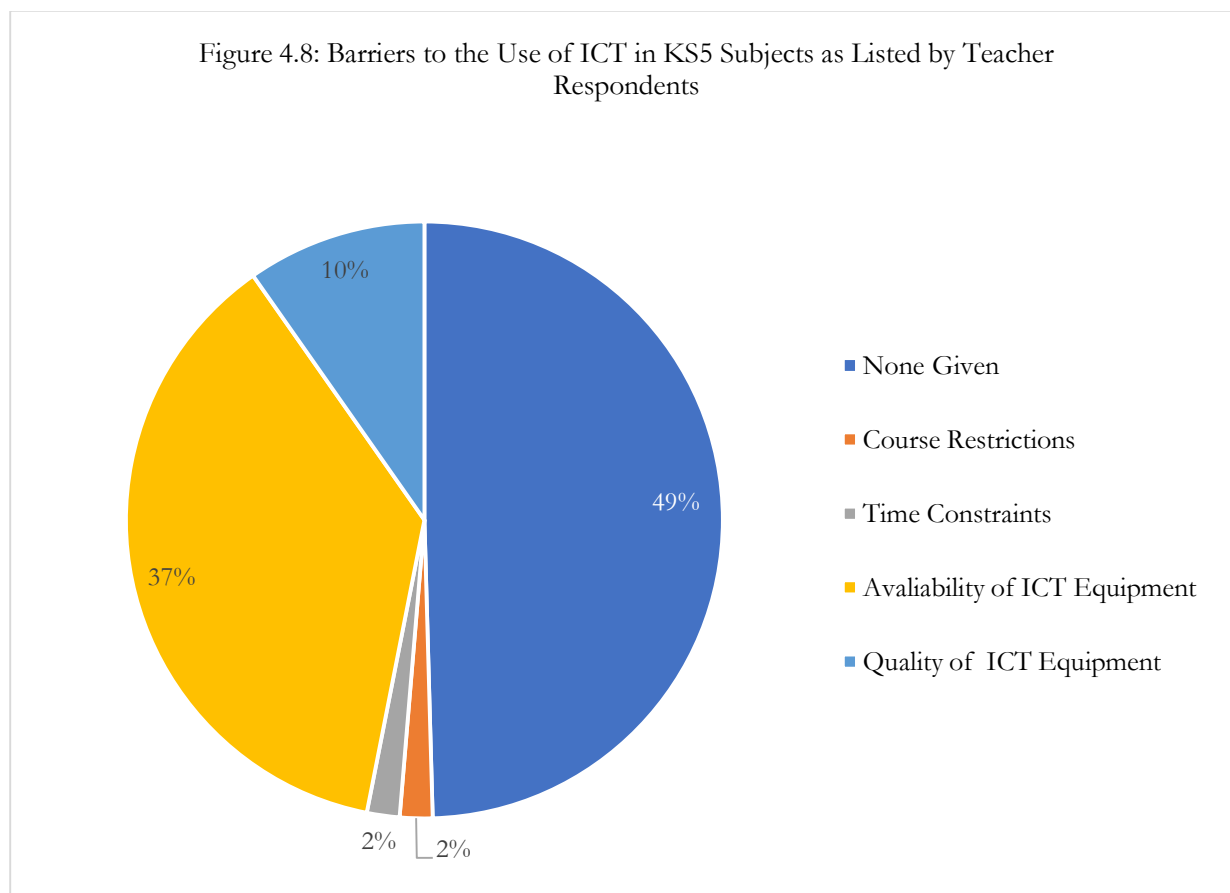
Of all the activities, ICT use had the greatest percentage of total barriers or restrictions listed by teachers. Just over half of all teachers listed a barrier to ICT use in their subject. Of the four barriers listed, by far the most problematic seemed to be the 'availability of ICT equipment', with 37% listing this as a barrier. This was followed by the 'quality of ICT equipment', listed by 10%. Those teachers that mentioned these barriers were not from a particular subject area, but were evenly spread across the majority of subjects. Although, there was evidence of more 'exam based subject' teachers listing 'availability of ICT equipment' as a barrier.

4.6.3 ICT Use – Interview Findings

There was a wide variation in the frequency of ICT use across subjects and between the two establishments. Interviewees for particular subject areas such as ICT, Art and BTECs suggested that the use of ICT was integral and used almost every lesson. All had consistent access to dedicated

computer rooms and the use of specialist programmes, for example Photoshop, Illustrator and SAGE. As T2/Art affirmed, 'can't do Art and Design without using computers, it's a natural part of the work'.

However, in one establishment, in almost all subjects where ICT was not viewed as a necessary prerequisite for study, the frequency of ICT use was described by interviewees as 'occasionally,' 'limited,' and 'very little'. In every instance, the reason given was limited access to ICT rooms. As one interviewee explained, 'It depends on the timetabling of ICT rooms, whether that class falls in a free period when it's not being used for timetabled lessons'. Similarly, another stated: 'We just don't have enough access to the IT rooms or computers … you can only book it ten days in advance and if somebody else has booked already you are stuffed!'

Several interviewees indicated that students did utilise other forms of available technology, for example smartphones for research tasks or the use of specific apps. T1/Sports used sports related apps which allowed students to video themselves doing a sporting action and then analyse body positioning. T1/Sports elaborated, 'They use their phones in lessons ... it works really well, gets them using IT and understanding in the real world what sports technicians are using'. Correspondingly, T2/Sports commented, 'Students use their phones for research obviously. Most students these days come in with something that they are going to use in the classroom, so it's just utilisation of that really'.

However, not all interviewees have found this transition easy, as T2/Humanities indicated:
'Kind of new to me, generation of no phones. Told to put phones away, now we are saying get your phones out!' Both Maths and Sciences interviewees mentioned the regular use of specialist devices, such as graphical calculators and 'data capture' hardware for use in practical work.

How ICT was utilised by subjects varied, but there were some common methods of usage. Thirteen interviewees mentioned the use of ICT, including smartphones, for research not only within lessons but as set homework. The use of Moodle was mentioned frequently in this regard. Teachers could upload resources from question solutions to video clips and articles. It was viewed as a useful means of providing additional materials for 'stretch and challenge' and links for homework.

Most interviewees suggested the use of ICT in their lessons, other than for research, was for word processing, presentations and data analysis. This mirrored the main programmes, Microsoft Word, Powerpoint and Excel, which interviewees cited as being used mostly frequently by students. Some

teachers admitted that much of their ICT use centred on its use as a 'teaching tool' rather than as a student-centred activity. As T2/ Maths confirmed:

> ICT is used more as a teaching tool as opposed to a practical activity for students. IT within the classroom, with students getting hands on, I would hold up my hands and say it's more minimal.

Access to ICT was, overwhelmingly, the main barrier to ICT use for one particular establishment, as discussed earlier. However, interviewees from both establishments noted the costs involved of purchasing new equipment. As T1/Sports noted, 'I would like the department to have a collection of iPads, so they can use them in class ... money and access is a major barrier – money to buy equipment'. Likewise, T2/English commented, 'In an ideal world iPads, because of the number of apps out there, but it's expensive'. Another issue raised by a couple of interviewees was their own confidence in using ICT and their lack of detailed ICT knowledge. As one admitted, 'I don't know many programmes, not skilled or trained in specific programmes at all'.

4.7 Group Work Within and Across KS5 Subjects

4.7.1 Frequency of Group Work – Survey Findings

Figure 4.9: Frequency of Group Work by KS5 Subject
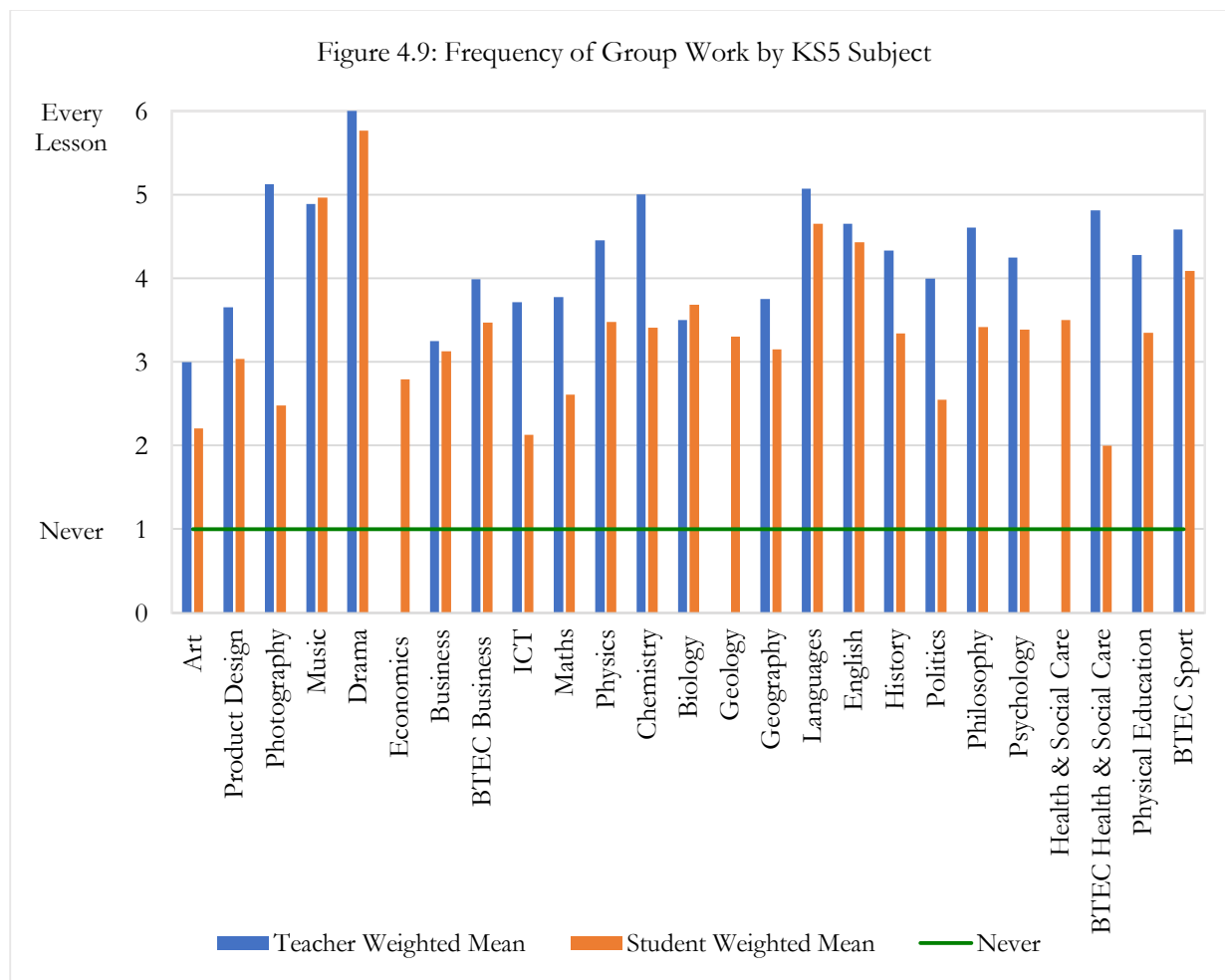
Whilst it was immediately evident that almost all teachers were more positive (90.1%) than the students regarding the frequency of group work in their subjects, the variation between the set of responses was limited, with 68% within 1 or less interval of each other. Only two subjects, Photography and BTEC Health & Social Care, had marked variation between the sets of responses of 2 intervals and above.

There was widespread agreement between student and teachers that group work occurred regularly in their subjects, with 16 out of 22 subjects rated as 3 or above. Teachers were more positive about the frequency of group work rating 15 out of 16 subjects as 4 or above, whilst students rated only five subjects as 4 or above. Both respondents were in agreement that in Music, Drama, Languages, English and BTEC Sport, group work occurred very frequently. Both teacher and student respondents also agreed that in Drama, especially, group work occurred in almost every lesson rating

it 6 and 5.8 respectively. Only one subject, BTEC Health & Social Care, was rated as 2 or less by students for frequency of group work.

4.7.2 Barriers to Group Work – Survey Findings

Figure 4.10: Barriers to Group Work in KS5 Subjects as Listed by Teacher Respondents

- None Given
- Course Restrictions
- Time Constraints
- Student Engagement
- Behaviour Concerns
- Group Dynamics
- Class Size
- Classroom Space
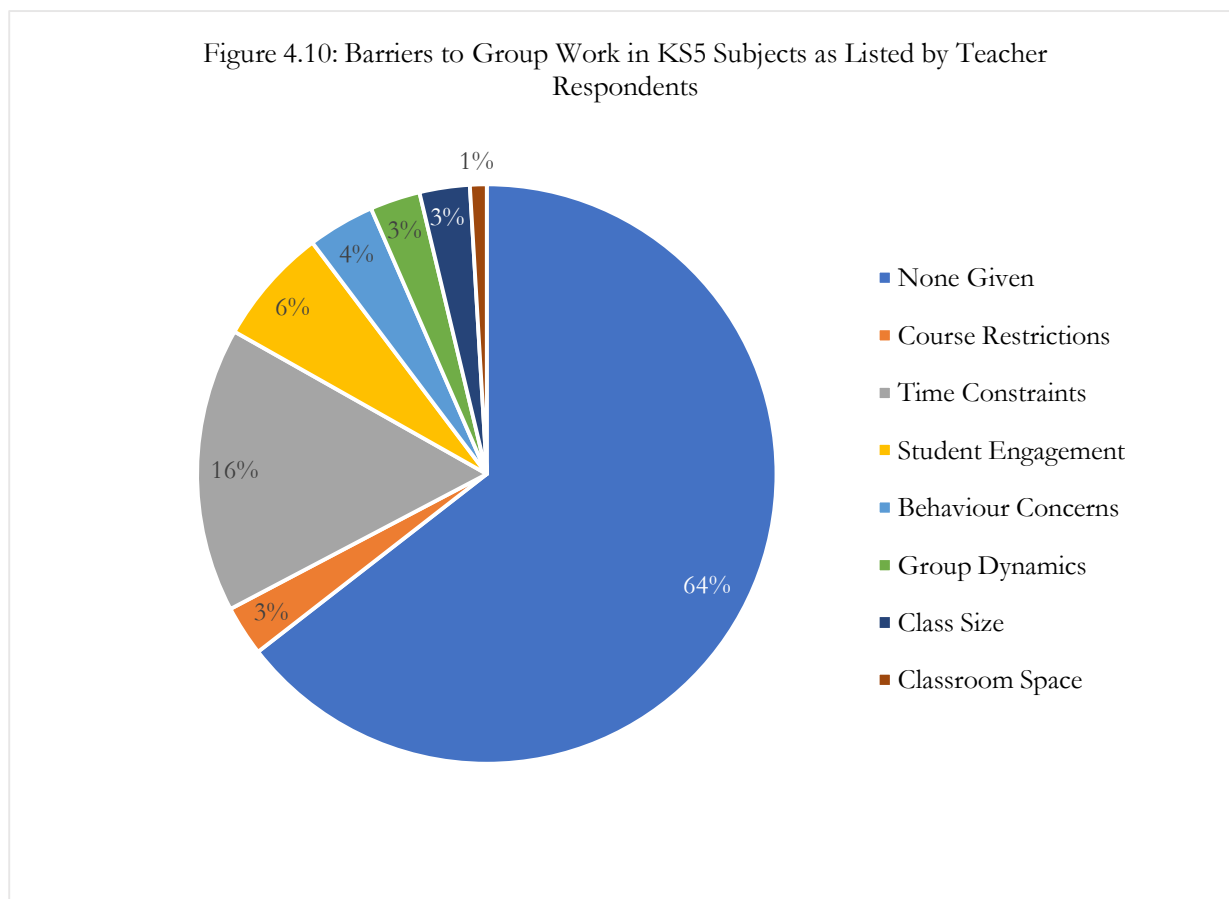
Whilst the majority of teachers indicated that there were no substantial barriers to group work in their lessons, 36% listed a broad range of barriers. 'Time constraints', listed by 16% of teachers, was by far the largest barrier of the seven mentioned. However, three barriers listed by 13% collectively, were related to concerns over student participation, namely 'student engagement,' 'behaviour concerns' and 'group dynamics'. A further two barriers, listed by 4% of teachers, were related to logistical issues, namely 'class size' and 'classroom space'. There was no discernible concentration of barriers in particular subject areas.

4.7.3 Group Work – Interview Findings

Twelve of the interviewees were overwhelming positive about the frequency of group work in their lessons, indicating that it was a consistent feature of their lessons. Only one interviewee (T1/ICT) indicated that group work was limited, whilst the remaining three asserted that the frequency of

group work varied by topic (T2/Business, T1/Maths, T2/Maths). Although, T1/Maths questioned what constituted group work:

> I was thinking of group work, as when you are formally giving them a task where they have to work together to provide an outcome, but actually at A level they work in a group more helping each other out … so in that sense they do group work quite a lot. Not because I've actually planned it that way it just naturally happens.

Many interviewees were very positive about the benefits of group work, for both HE and as a valuable life skill, highlighting its importance in improving students' ability to work with others, problem solve and communicate. As T1/Art, in reference to group critiques, commented: 'Really useful skills for university, talking about your work with others is really important, but good general skills to have'. Similarly, T1/Business affirmed, 'often use group work. … Group work is very valuable in terms of team skills, meeting deadlines, problem solving'. Correspondingly, T2/Humanities stated: 'It's part of the employability aspect, getting used to working with people you are not entirely comfortable with'.

Interviewees cited a wide variety of ways group work was utilised including:
- Research – 7 times
- Presentations – 6 times
- Discussion / debate of a topic - 6 times
- Problem solving – 5 times
- Practicals – 4 times
- Peer Assessment – 3 times
- Running an event / business – 3 times
- Group critiques – 2 times

Some of these ways of utilising group work were combined with other activities, for example a group would research a topic, present their findings and then discuss it as a class. As T2/Humanities described:

> Group work tends to be source or research activities. For example, have three groups: USA, Britain and Soviet Union. The group researches strengths, weaknesses and hopes post-World War Two and then presents it. Then get them to compare that with the reality of the situation. Getting them to think rather than absorb info, also opens the door for a bit of debate afterwards too.

Or as T1/Humanities cited:

> Might be a presentation or problem solving exercise, i.e. how to respond to a national disaster or
> a shopping list for an aid drop, working together as a team to get together a package.

When asked about the size of group work activities, the majority interviewees stated that it was usually as pairs or small groups. Several Interviewees did do larger scale group work, for example, whole class critiques in Art, or running an event or business in Sports and Business. But larger group work was very infrequent for most interviewed. Interviewees gave several reasons for limiting group size. For several interviewees, logistically it was difficult to do large group work due to class size, either too large or too small. As T1/Sports explained 'My sixth form group is quite small, so it naturally works just as a pair or small group anyway'.

For other interviewees, whilst they indicated that most students enjoyed group work, there were concerns raised about the equitable distribution of work between group participants. As T1/Humanities maintained: 'With more than three, the less resilient students don't put in the work with their role'. Correspondingly, T1/Sciences expressed:

> Students like group work, but need to think how we manage that and make the group effective
> so that you don't have a passenger - which is an issue. … Groups of five are manageable, groups
> of ten more of an ability for people to hide.

Several interviewees were keen to do larger group work, but time pressures were a defining factor in their infrequent use. As T1/Art concurred, 'group critiques are really good but time consuming. … Students really enjoy it, but class of ten can take a whole lesson which is the kind of downfall'.

4.8 Presentation Practise Within and Across KS5 Subjects

4.8.1 Frequency of Presentation Practise – Survey Findings

Figure 4.11: Frequency of Presentation Practise by KS5 Subject
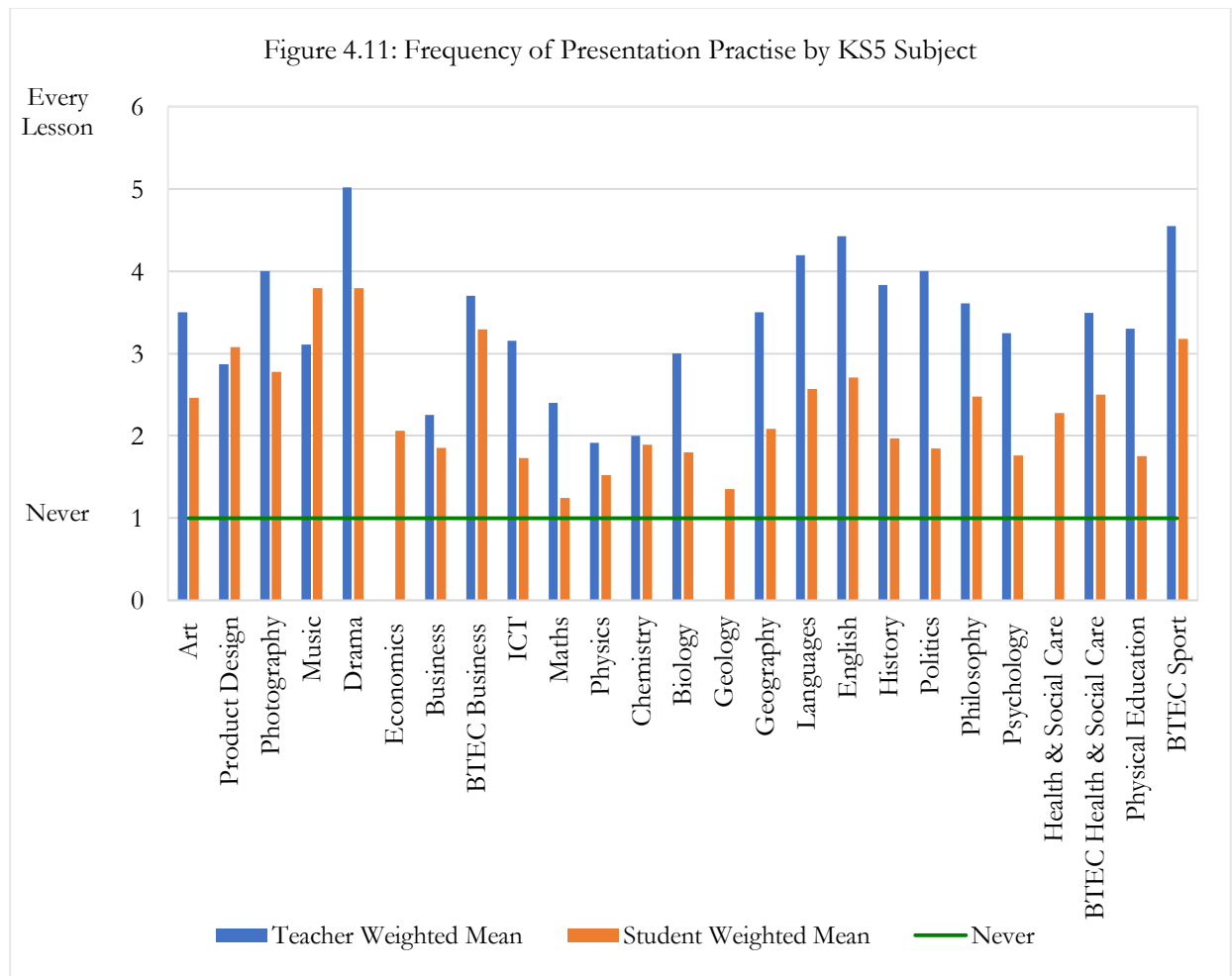
As figure 4.11 shows, in 20 out of 22 subjects, teachers were more positive about the frequency of presentation practise occurring in their subject than corresponding student respondents. There was some variation between teacher and student responses. Only one subject, Politics, had a variation greater than 2 intervals. Although, ten further subjects had a variation of between 1 and 2 intervals. Nine subjects had a variation of 1 interval or less.

There did seem to be significant disagreement between teachers and students as to the frequency to which presentation practise occurred within their KS5 subjects. There were only four subjects, Music, Drama, BTEC Business and BTEC Sport, where both agreed that presentation practise occurred fairly regularly, ratings of 3 or above. However, teachers rated an additional 13 subjects at this frequency level, with six of those rated as 4 or above. Students did not rate any subjects as 4 or above. Correspondingly, whilst teachers rated only two subjects, Physics and Chemistry, as having very limited presentation practise, a rating of 2 or below, students rated 12 subjects, including

Economics and Geology, which had no corresponding teacher responses, as having very limited presentation practise.

4.8.2 Barriers to Presentation Practise – Survey Findings

Figure 4.12: Barriers to Presentation Practise in KS5 Subjects as Listed by Teacher Respondents
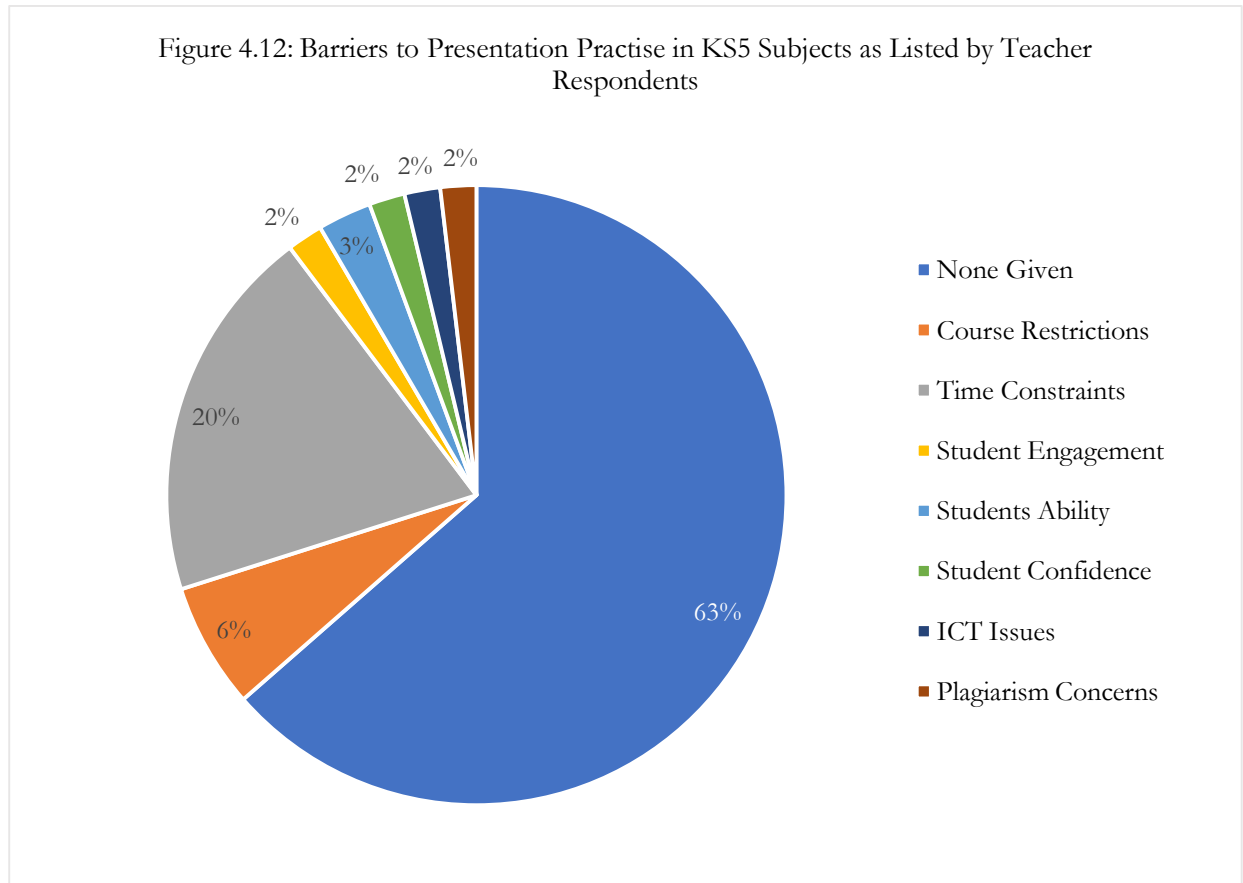
As figure 4.12 suggests, whilst the majority of teachers indicated no obvious barriers to presentation practise, 37% did list a wide spectrum of barriers. Again, as with group work, debate and project work, 'time constraints' was the largest barrier listed by one fifth of teachers. This was followed by 'course constraints' listed by 6% of teachers. Similar to responses relating to group work barriers, three of the barriers referenced concerns relating to student participation notably, 'engagement', 'ability' and confidence' of students. There appeared to be no discernible pattern relating to particular subject areas.

4.8.3 Presentation Practise – Interview Findings

The majority of interviewees indicated that the frequency of presentation practise was dependent on whether they were formal or informal presentations. This distinction made a significant difference to the frequency to which presentations occurred. As T1/Maths explained:

> A formal five minutes with your own prepared powerpoint that, in my mind, is what a presentation is. I probably don't do much of that if I am honest, but if you think of mini episodes of presenting that's much more what you are going to get in Maths … i.e. you come up to the front of the board and show everyone how to do it. In my questionnaire that I've filled out, I don't think of that as a presentation, but actually I suppose on reflection it is.

Informal presentations, where students presented research findings or views on a task, were a regular feature of lessons for most interviewees. For example, T2/Maths stated, 'You could have a group of tables of students working on a task together and present that at the end'. Similarly, T2/Art explained, 'We do it in all lessons … once a drawing lesson is finished, they lay their drawings on the floor, move two places to the left and tell me what they think about them'.

For most interviewees, formal presentations occurred very occasionally, usually once a term, topic or unit. This usually took the form of students researching a particular topic individually or in pairs followed by a formal presentation of their findings. As T1/English explained:

> With Year 12, especially, I've set them the same homework for weeks on end researching another aspect of the English language and they have had to present individually their findings to the rest of the class.

Similarly, T2/Sciences confirmed that students will research a topic and present in pairs i.e. different contraceptive methods with clear guidelines on content and length of the presentation. For several interviewees, this was also part of their formal assessment procedure (T2/Business, T1/Sports, T1/Health). For example, in T2/Business, BTEC Business students 'have to present a business plan to outside businessmen, get cross examined about it and feedback'. Likewise, in T1/Sports, 'We try to get people from outside, within the sporting remit from local sports partnerships to come and listen to the students' present'.

Whether formal or informal, presentations were predominantly done individually, in pairs or small groups. Several interviewees highlighted the importance of doing presentations. As T2/Humanities cited in reference to teaching History:

> Tends to be done for employability and social skills reasons. Let's me get a handle on their research skills - important for a historian. I'll ask questions through out and give feedback.

Correspondingly, T1/Business agreed:

> Do a lot of presentations, students share their ideas with a room of students so they get good at them and articulating their ideas. We do them in a calm and safe atmosphere so they can stand up and articulate themselves.

It was highlighted by a couple of interviewees, T1/Health and T2/Art, that students found it difficult and often hated doing it, but that it was still an important thing to do. As T2/Art confirmed:

> Can't really do Art and Design without presenting it … Students struggle at the beginning presenting their work. Quite a lot of them hate it, they don't like doing it, but it's important.

Conversely, several other interviewees, whilst understanding the benefit of presentation practise, felt constrained by time and course content load. As T1/ICT confirmed:

> Apart from the fact that students generally hate doing them? … I can see in broader employability terms its good, but in terms of banging through the course and getting everybody to pass, it's not.

Relatedly, T2/Sciences explained, 'Try to do them, but tricky at A level, significant time pressures and large volumes of content to get through'. T2/Maths agreed, 'In terms of curriculum content the pace with which you have got to move, sometimes, doesn't lend itself to being integrated'.

4.9 Role Play Within and Across KS5 Subjects

4.9.1 Frequency of Role Play – Survey Findings

Figure 4.13: Frequency of Role Play by KS5 Subject
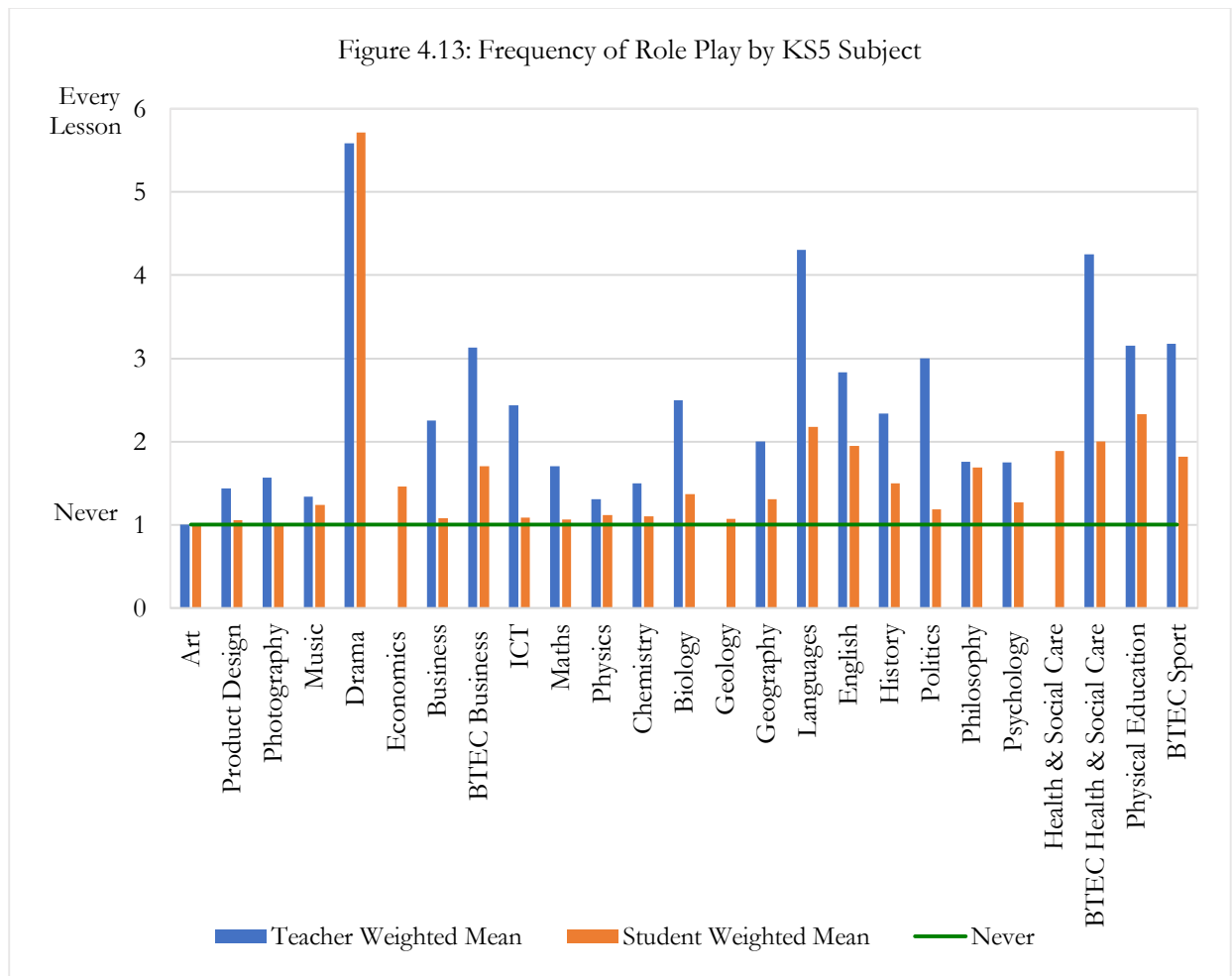
As figure 4.13 evidenced, teachers were more positive about the frequency of role play, in 20 out of 22 subjects, than corresponding student responses. However, the variation between teacher and student responses was limited with 59% of those responses within 1 or less interval of each other. There were only two marked differences in variation, of 2 or above intervals, in Languages and BTEC Health & Social Care.

It is evident that role play was done infrequently in over half of KS5 subjects, with 12 subjects rated as 3 or below by both teachers and students. 10 of these subjects were rated as 2 or below, suggesting that role play occurred very rarely. Students were more pessimistic about the frequency of role play in their subjects, rating 22 out of 25 subjects as below 2. This indicating that role play, conservatively, may be a rare occurrence in many KS5 subjects. There was only one subject, Drama, in which both teachers and students agreed that role play occurred very frequently in most lessons with a rating of 5 or above. Another two subjects, Languages and BTEC Health & Social Care, were

rated by teachers as having role play occurring frequently in their lessons, with a rating of 4 or above, but corresponding students were not in agreement rating it around the 2-interval mark.

4.9.2 Barriers to Role Play – Survey Findings

Figure 4.14: Barriers to Role Play in KS5 Subjects as Listed by Teacher Respondents
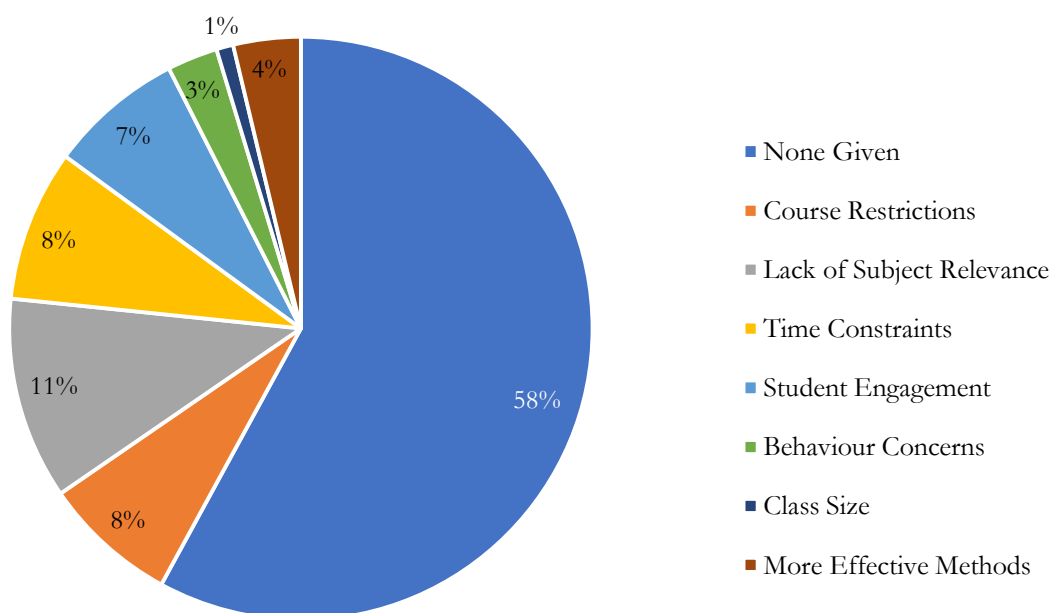
The majority of teachers indicated that there were no significant barriers to role play. However, role play was one of two activities, along with ICT, that had a relatively high proportion of teachers, over 40%, who listed barriers to its inclusion in lessons. There was a wide variety of barriers listed, but four barriers 'lack of subject relevance', 'time constraints', 'course restrictions' and 'student engagement' were the main barriers listed with percentages of a similar size. 'More effective methods' was only listed in relation to role play, but accounted for only 4%.

4.9.3 Role Play – Interview Findings

There was a broad spectrum of answers from interviewees regarding the frequency of role play in their subjects. Four interviewees, T1/Art, T1/Maths, T2/Maths and T1/Sciences, asserted that they never did role play, with 'subject relevance' being the main qualifying reason. As T1/Maths queried:

> No, if I'm honest it has never even occurred to me to do it. Just doesn't feel it naturally comes up. I don't know how a role play would go in Maths, how would you do it? I mean there probably is a way of doing it, but I am not doing it. I can't speak for everyone, but I am not aware of anyone doing it.

Similar responses were given by T1/Art, 'Can't see how I would do it in Art', and by T2/Maths, 'No, nothing leaps out in my mind'. A fifth interviewee, T1/ICT suggested it was an activity that occurred only very occasionally, with 'time pressures' being the driving factor:

> Very occasionally, but I tend not to. In A level, it would say be like a customer with a problem and the person solving that problem for them … It's more of a time-consuming constraint, if there were a lot more time then it would be possible to do things like that.

A further seven interviewees indicated that it was something that they did 'sometimes'. Several reasons were given for its relative infrequency. T1/Health commented that students could be very resistant to anything not directly related to the specification:

> Yeah, if the unit asks for it. Students are quite savvy on what is being asked for and they won't want to do anything that's not going to help them with the course. If it's not in the spec they won't do it.

'Course restrictions' were another main constraining factor evident from the interviews. As T2/Business commented:

> We do mock interviews … presentations of business plan, someone comes in and they get cross-examined, it's a formal process. But barrier is time; we are led by the specifications really.

For T2/Sciences, it was more dependent on the specific subject within the Sciences umbrella that constrained the use of role play:

> I think if I asked the physicists in my department, is there ever an opportunity to do this they would say, 'we can't do it, just doesn't work' … A lot of students I have, want to go into healthcare. So, I've set up quite a few problem-based learning activities where you phrase it as, 'this person comes into the clinic and this is the information you've got about them … work out the diagnosis, recommend the treatment'. We have tried to simulate as best we can, I think there is a lot more we could do with that, but we try.

Conversely, the remaining five interviewees, T2/Humanities, T1/Sports, T1/English, T2/English and T1/Business, indicated they did role play relatively frequently, as their subjects lent themselves more naturally to including it. As T2/English acknowledged, 'Yes, especially when teaching Drama text'. T1/Sports also affirmed, 'We do a lot of role play … i.e. play the client / trainer scenario'. In some subjects, role play or work place simulation was embedded within the specification. As T2/Sports, explained:

> One of the requirements / assessments [referring to BTEC] is there is a scenario in every assignment brief. … So, for instance, we can put them in the scenario where they are working in a leisure centre and then that becomes the scenario that runs through the theme of the units.

Many of the examples of role play given by interviewees centred around recreating realistic work place scenarios from: working as a health care professional (T1/Sciences), trainer or officiator (T1/Sports, T2/Sports), ICT professional (T1/ICT), presenting a business plan or setting up a business (T1/Business, T2/Business) or organising disaster relief and aid drops (T1/Humanities). Other forms of role play mentioned focused on the recreation of characters from a text or past historical scenarios. For example, acting out drama text or role playing particular figures in historical events to gain an insight into the minds of those people (T2/English, T2/Humanities).

4.10 Debate Within and Across KS5 Subjects

4.10.1 Frequency of Debate – Survey Findings

Figure 4.15: Frequency of Debate by KS5 Subject
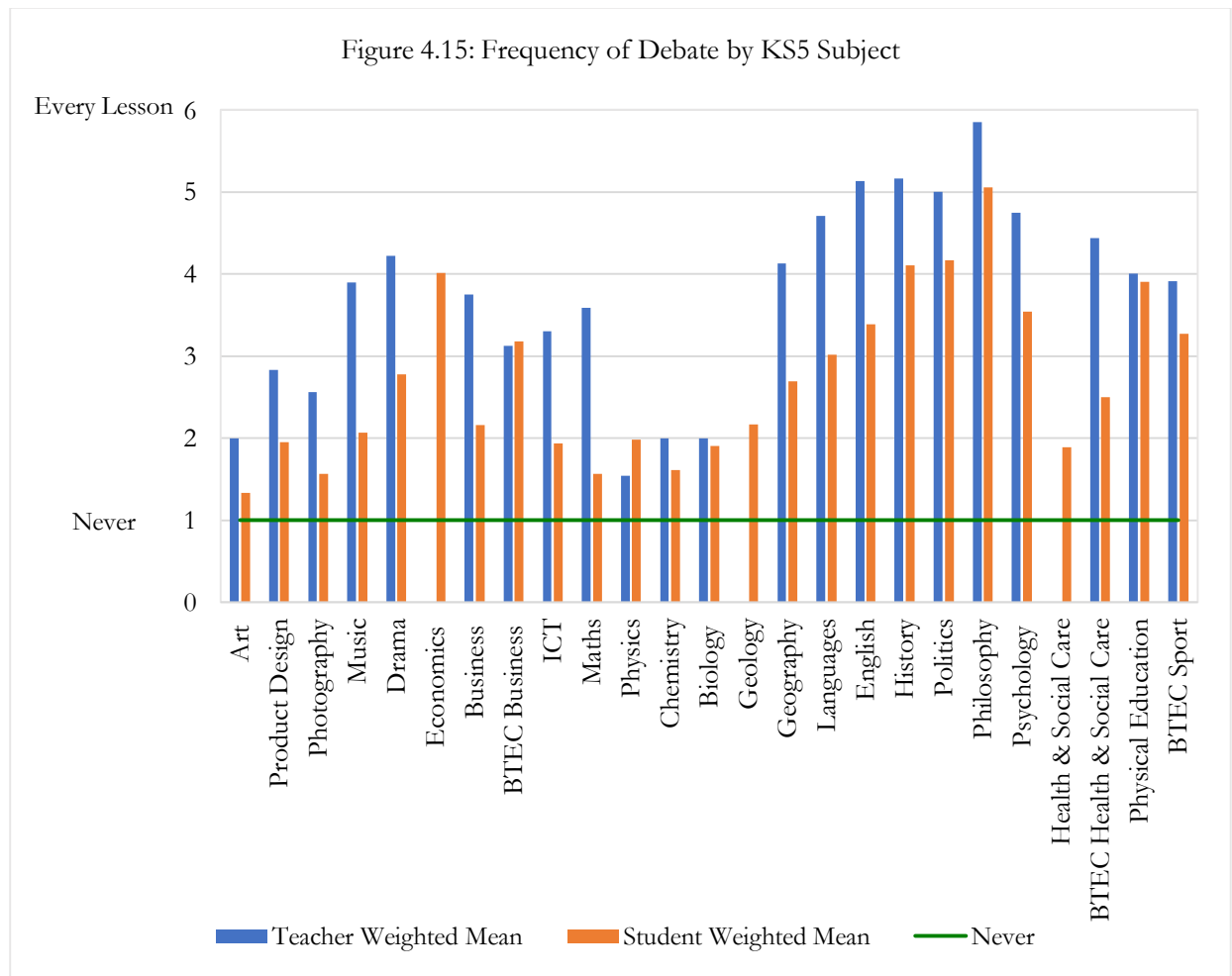
Figure 4.15 indicated that there was broad agreement between teachers and students about the subjects in which debate occurred most frequently, namely Languages, Humanities, BTEC Business and Sports. Correspondingly, there was also close agreement, one interval or less variation, in those subjects in which debate occurred least frequently, a rating of 3 or less, which were predominantly in Arts and Sciences subjects. However, students also indicated that debate occurred infrequently in an additional five subjects Music, Drama, Business, ICT and Geography, which rose to seven when including Geology and Health & Social Care, which had no corresponding teacher responses. Only regarding Maths, did teachers and students disagree over the frequency of debate. Teachers rated its frequency as 3.6 suggesting it occurred fairly regularly, whilst students were far more pessimistic and rated it as 1.6 suggesting it occurred rarely, if at all.

Teachers were far more positive, by at least one interval, about the frequency of debate in the majority of subjects. In 14 subjects, teachers felt debate occurred regularly with 10 of those subjects

rated as 4 or above and four of those subjects rated as 5 or above. The subjects in which teachers felt that debate occurred in most lessons, 5 or above, were English, History, Politics and Philosophy.

The student responses were markedly lower in this regard, with only five subjects where students indicated that debate occurred in more than half their lessons, ratings of 3.5 or above. This rose to six when including Economics, where there were no corresponding teacher responses. Four of these six subjects had a rating 4 or above, with Philosophy the only subject that had a rating of 5 or above. However, both teachers and students were in agreement that debate occurred very frequently, with ratings of 4 or above, in three subjects in particular History, Politics and Philosophy.

4.10.2 Barriers to Debate – Survey Findings

Figure 4.16: Barriers to Debating Practise in KS5 Subjects as Listed by Teacher Respondents
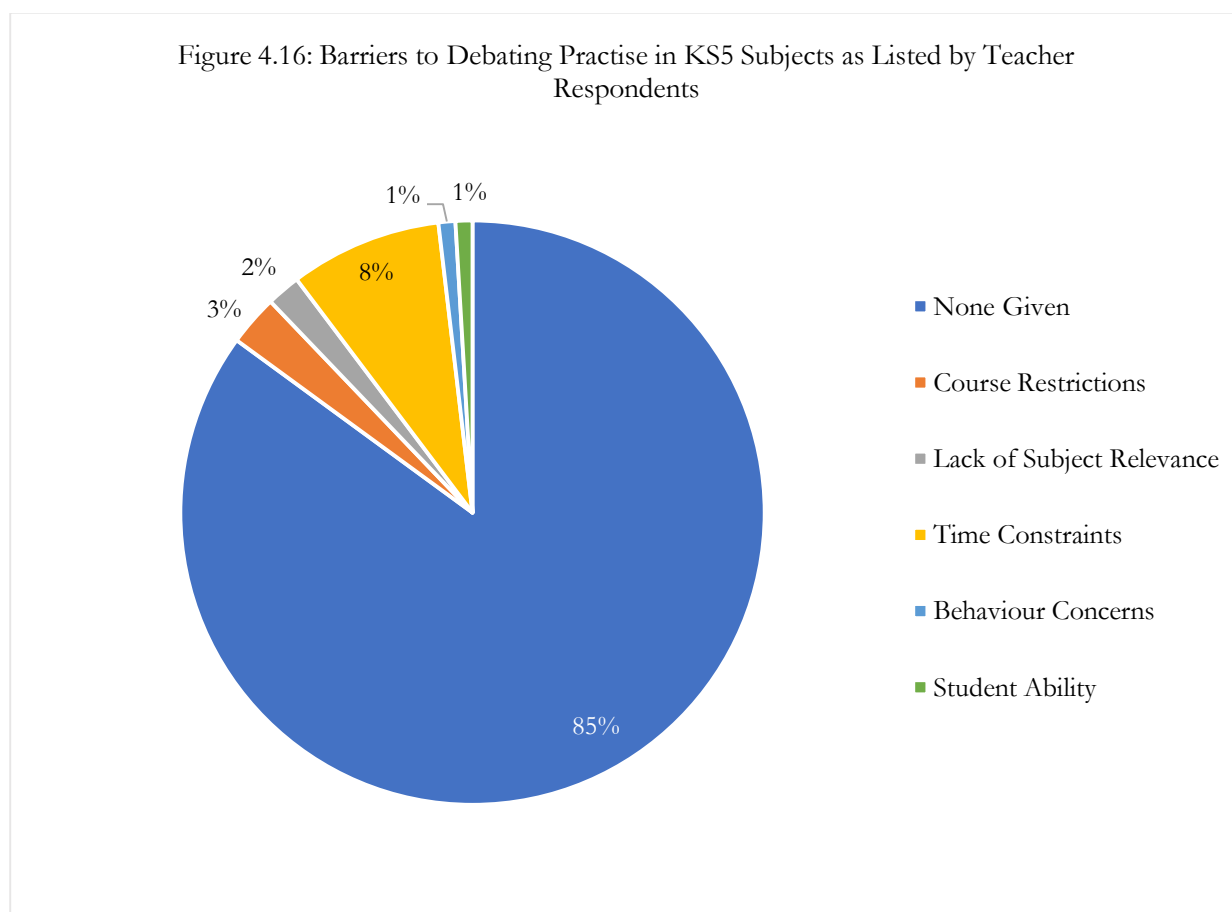
As with all other activities, excluding ICT, the majority of teachers indicated no major barriers to debate. Alongside literacy practise and the use of real life examples, debate was one of the activities that had the highest proportion of teachers (over 80%) who suggested there were no significant barriers to debating practise in their subject lessons. The barrier for debate that was mentioned the most frequently was again 'time constraints' at 8%, which was a recurring barrier mentioned in relation to many of the activities under scrutiny.

4.10.3 Debate – Interview Findings

Almost all interviewees were very positive about the frequency of debate in their lessons. Eleven interviewees suggested debate occurred 'very frequently', 'a lot', 'constantly' and 'almost all the time'. An additional four interviewees T1/Sciences, T1/English, T1/Maths and T1/Business stated that debate happened 'regularly', 'quite often or 'quite a lot'. Some interviewees suggested that it was an inherent part of their subject. For example, T1/Humanities commented 'Lots, especially with A Level Philosophy due to the nature of the subject'. Correspondingly, T2/English said 'At A level it does happen because of the nature of the course i.e. constantly discussing ethical dilemmas, characterisation etc'.

However, it should be noted that all most all interviewees took a broad interpretation of the term 'debate', often using the terms 'debate' and 'discussion' interchangeably. This was exemplified in the comments from T1/Art, 'There's a lot of discussion about artists' work and images, what they like and don't like etc. Also, debate / discussion about own work' and T1/Sports, 'We will debate / discuss a subject i.e. the relevance of using types of equipment or certain exercises'.

Half the interviewees made an explicit distinction between the frequency of 'formal debate' which occurred rarely and 'informal debate' or 'discussion' which occurred much more frequently. As T1/Maths affirmed, 'Formal debate for and against, probably not much at all, if any. But in terms of debating the ways to solve a question, probably quite a lot'.

Several interviewees highlighted the importance of discussion / debate, notably in trying to encourage students to formulate their own opinions and questioning skills. As T2/Humanities stated:

> Don't think you do job properly if don't try and stimulate debate. I play devil's advocate. At the start of the course, if we don't have opinions we only have one history book. Need to have opinions based on fact.

Correspondingly, T2/Business commented, 'trying to get them to think about using higher level questioning. Also, getting staff to use higher level questioning to get students to think about their own opinion and to apply it as well'. Similarly, T2/Sports explained:

> We do a lot of discussion. I personally don't do formal debating in my subject. Within PE we look at contemporary issues, so looking at getting students to arrive at opinions for themselves,

how they got to that process. For them to be able to substantiate where their opinions have come from and their beliefs.

Whole class debate / discussion on contemporary issues in their subject was a commonly cited method of encouraging debate. Examples given included: stem cell therapy in Biology, NHS budgets in Health & Social Care and the merits of the Exchange Rate Mechanism in Business. Other methods included; encouraging class discussion on problem solving tasks such as working on the most appropriate solution to a problem in Maths; in Humanities, the use of 'Hot Seating,' where students had to research and make a case for a particular point of view and in English, the use of ABC cards, where student have to either Agree, Build or Challenge in response to another student's point of view.

Several interviewees indicated that they would like to do more debate, but were hampered by 'course restrictions' and 'time pressure'. As T2/Sports stated, 'For me personally, I think with debate, and within the team, there is an urgency to sometimes get on through. Expectations of syllabus requirements and things like that'. As T1/Business noted:

> We don't see a great deal of formal debates because the driver for successful debates would be that they are included as criteria for examination results, if they are not they will always be a nice to have, which is a shame.

Similarly, T1/Sciences commented:

> We used to do an awful lot more of ethical, social implications of science and I think that has kind of dribbled by the way side a little bit, which is a shame. The learning outcomes of the A level courses have very little debate in them within science … An awful lot of the content we have to teach at A level is what is deemed to be factual scientific content and there is not much debate about it.

4.11 Project Work Within and Across KS5 Subjects

4.11.1 Frequency of Project Work - Survey Findings

Figure 4.17: Frequency of Project Work By KS5 Subject
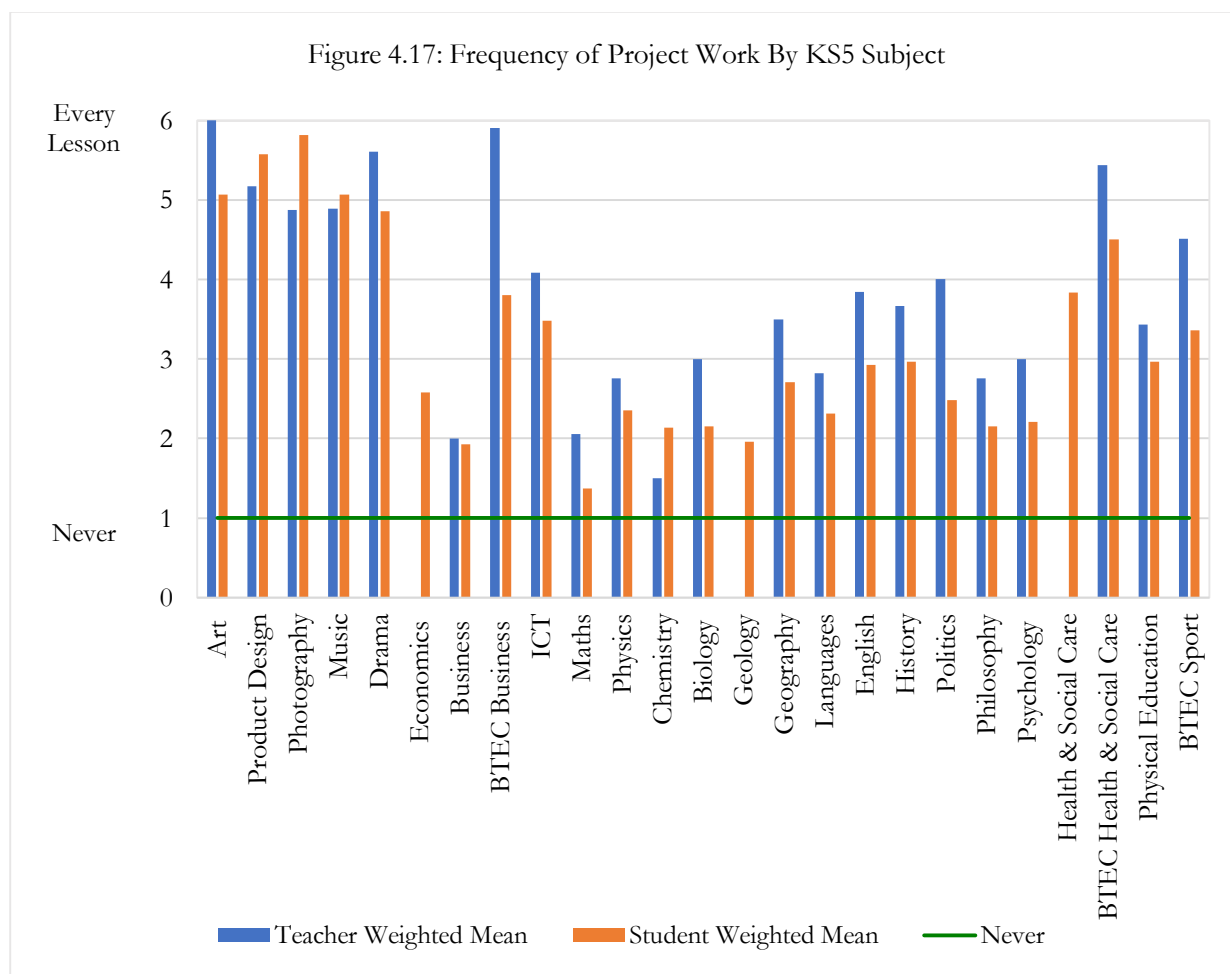
As figure 4.17 highlighted, in 18 out of 22 subjects, teachers rated the frequency of project work occurring in their lessons more highly than students. However, the variation between these responses was minimal, with 19 of 22 subjects within one interval of each other. Only in one subject, BTEC Business, was there a significant variation of two or more intervals difference between responses.

Out of 13 subjects in which teachers indicated that project work occurred in more than half their lessons, 10 of these were rated as 4 or above and five rated as 5 or above. This implied that project work occurred in most lessons in these subjects. Student responses were a little less positive. Students indicated that in only eight of these corresponding subjects did project work occur in over half their lessons. This rose to nine when including Health & Social Care which had no teacher responses. However, there was close agreement where project work occurred most frequently, with both rating six subjects Art, Product Design, Photography, Music, Drama and BTEC Health &

Social Care as 4 or above. These subjects all featured project work as an assessed requirement of their course. Although with BTEC Business, there was disagreement between teachers and students as to the frequency of project work in this subject, even though coursework was a fundamental element of the course.

At the opposite end of the spectrum, there was substantial agreement between teachers and students about eight subjects in which project work occurred infrequently in their lessons with a rating of 3 or below. Students added a further seven subjects, including Economics and Geology which had no corresponding teacher responses. Notably, Maths and Science based subjects accounted for half of these subjects in both teacher and student responses. With regards to student responses, in almost all subjects, out with Creative Arts and BTEC subjects, project work was considered as occurring infrequently in lessons, with a rating of 3 or below.

4.11.2 Barriers to Project Work – Survey Findings

Figure 4.18: Barriers to Project Work in KS5 Subjects as Listed by Teacher Respondents
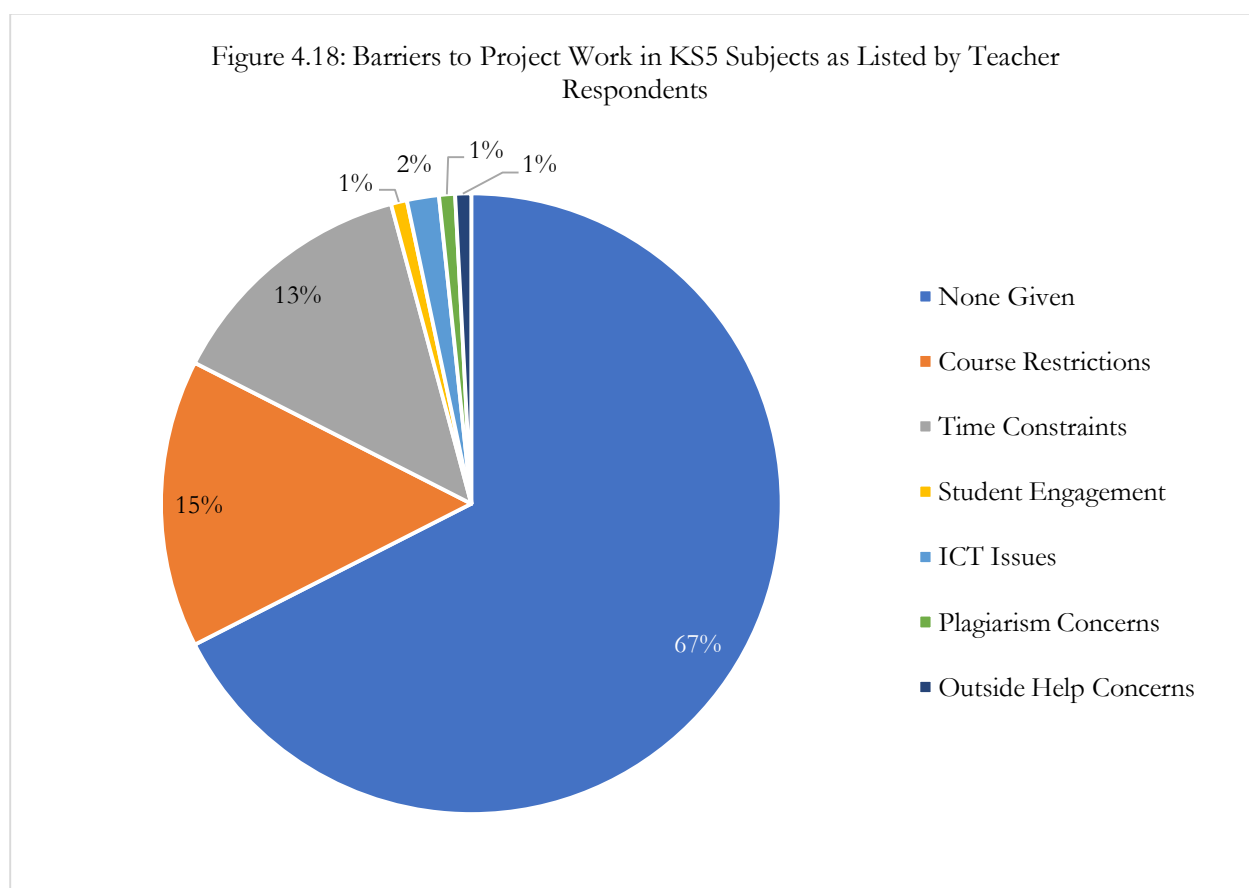
As with the all other activities, excluding ICT, figure 4.18 suggested that the majority of teachers felt there were no substantial barriers to project work in their subjects. However, 33% of teachers did indicate there were some restrictions to carrying out project work. Of those barriers that were listed, 'course restrictions' and 'time constraints' were again the most frequently cited, at 15% and 13%

respectively. Whilst, there were another four barriers mentioned, these were at very small levels – under 2%.

4.11.3 Project Work – Interview Findings

Interviewees tended almost exclusively to refer to levels of project work in the context of coursework and how much it was included in their subject specification. As such, there was a split between those subjects that were predominantly coursework based (BTECs and Creative Arts subjects) and those that were almost entirely exam based, with minimal or no coursework requirements (all other A level based qualifications). As T2/Art explained:

> It's all project work. Linear route, first year there's no exam, so all coursework, have to teach the skills. Got to teach the students how to put a project together because the second year is all project based.

Similarly, T1/Health emphasized, 'They only do coursework, they will do that all the time'. T2/Business who taught both A level and BTEC emphasized the marked difference in levels of project work between the two courses:

> It varies by the type of programme, but the A level course has minimal project work. Not a recent change, has been exam focused with standardised assessments. BTEC is all project work based.

The general consensus amongst those teaching exams based subjects was that project work did not feature in any significant or frequent way in their lessons. Where it did occur, it was either in the form of one unit or project work that was set as an extended piece of homework. Several teachers highlighted the recent removal or reduction of coursework from A level specifications and the greater emphasis on exams from recent government reforms. As T2/Humanities confirmed:

> There's very little now compared to a few years ago, less and less. Geography has unofficial coursework and History has it as a set unit in second year, but it's really much more exam focused now.

T2/English also concluded:

> Removal of coursework is a retrograde step. Parents are not doing the coursework for students as portrayed in the Media. Assessment options are so limited, everything is crammed into exams in June.

The main reasons given by interviewees for the lack of project work was time pressures relating to course content load and exam preparation. T1/Humanities pointed out, 'There's a huge amount of work to get through in A Level Geography. Content is enormous, so to put another thing in the mix with the amount of research needed … Well'. T2/English contrasted teaching A level with the experience of teaching the IB:

> Assessment options are so limited - everything is crammed into exams in June. IB in contrast, is full of different types of assessment presentations, interactive orals, essays, projects. Allows students to play to their strengths. Huge anxiety issues for A level students now. All about the PISA tests, which mean nothing, all the research points in the opposite direction. There are times where you have to commit things to memory, but there are also times where you have to present and use appropriate technology, for example.

The pressure to focus on exam preparation was not only felt by teachers, but interviewees also indicated that students were also extremely exam focused. As T2/Business commented:

> Students do get given long-term work to do, but students complain as they don't see it as relevant. Got a member of staff who takes a more holistic approach and student's hate it, gets a lot of complaints. You compare results and they are similar, but students want to focus straight on the exam. If it doesn't make it into the exam they are not interested. Same with BTEC students, if it doesn't link to the coursework they are not interested. It's very clinical, rather than you would call a more 'educational' approach.

One interviewee did mention trialling the EPQ:

> Some were independent enough to do it, but vast majority dropped off as priority was A level. Good idea, but students need time and timetable to do it. Needs to be an equal basis as A level, as lots of work at A level and tendency for students to focus on their core subjects.

4.12 Creative Work Within and Across KS5 Subjects

4.12.1: Frequency of Creative Work – Survey Findings

Figure 4.19: Frequency of Creative Work by KS5 Subject
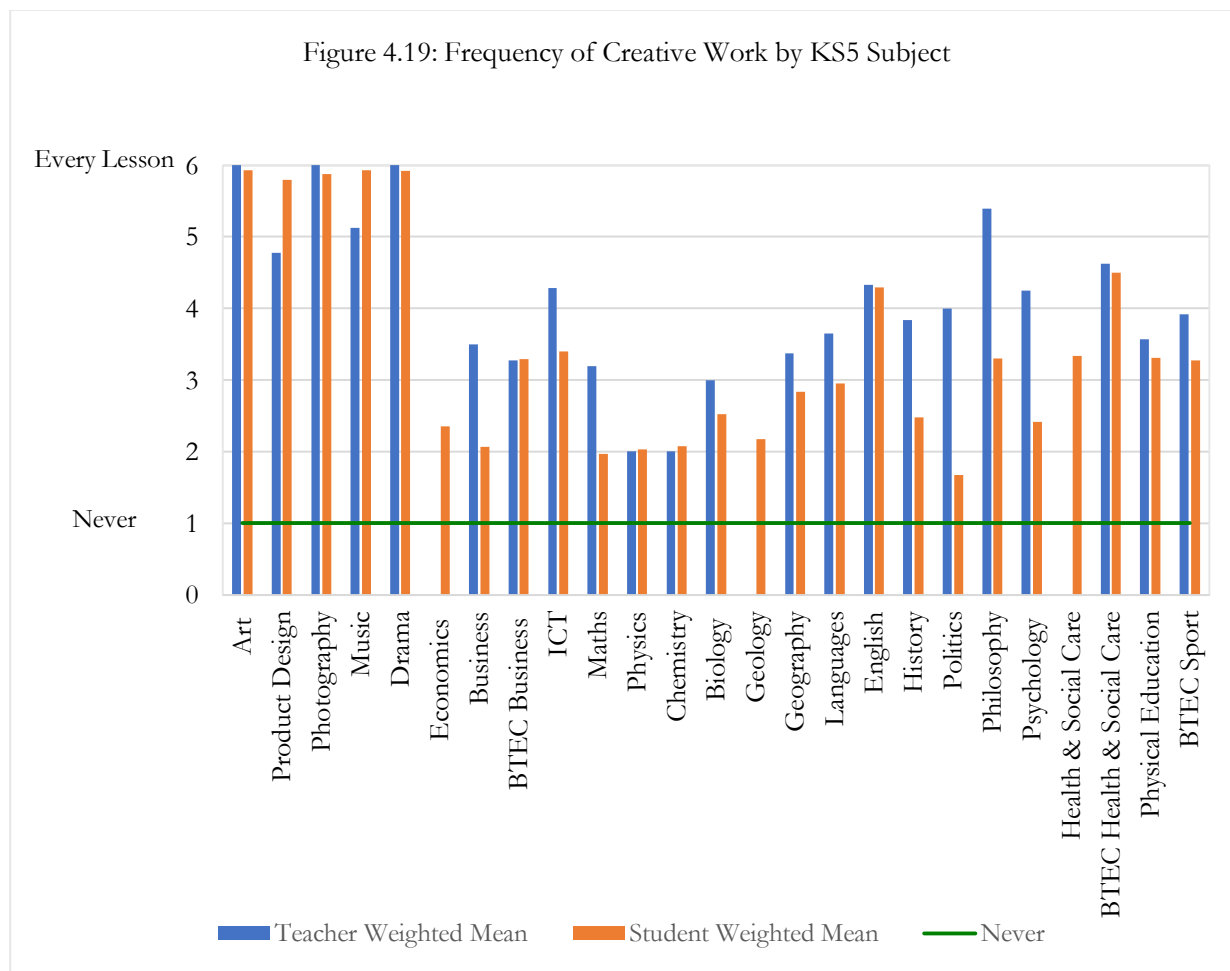
As figure 4.19 shows, teachers were more positive about the frequency of creative work across a broader range of subjects than corresponding student responses. However, the variation between teachers and students' responses was minimal. 16 out of 22 subjects had one or less interval's difference between responses. There were only two subjects, Politics & Philosophy, where there was just over 2 intervals difference.

Teachers indicated that creative work occurred in over half their lessons in 16 out of 22 subjects during a typical school week. Of these 16 subjects, teachers indicated that creative work occurred very frequently, a rating of 4 or above, in 11 of these subjects and almost every lesson, a rating of 5 or above, in five subjects Art, Photography, Music, Drama and Philosophy. Students were less positive in terms of the range of subjects where creative work occurred. Their responses indicated that in only seven of their subjects, creative work occurred in just over half their lessons. Although,

it is worth noting that these were the same subjects highlighted by in the teacher responses. Five of these subjects, in which teachers and students were in agreement, were from the Creative Arts area. Students rated the frequency of creative work in these subjects very highly; above 5.8 in all five, higher than corresponding teacher responses in Product Design and Music.

Teachers only indicated three subjects, Biology, Chemistry and Physics, in which they felt creative work was infrequent, with ratings of 3 or below, The frequency of creative work was particularly rare in Chemistry and Physics, rated 2 or below. Students listed an additional nine subjects, including Economics and Geology which had no corresponding teacher responses, in which they indicated creative work was relatively infrequent, a rating of 3 or below. In three of these subjects Maths, Physics and Politics, creative work was rated as occurring rarely, with ratings of 2 and below.

4.12.2 Barriers to Creative Work – Survey Findings

Figure 4.20: Barriers to Creative Work in KS5 Subjects as Listed by Teacher Respondents
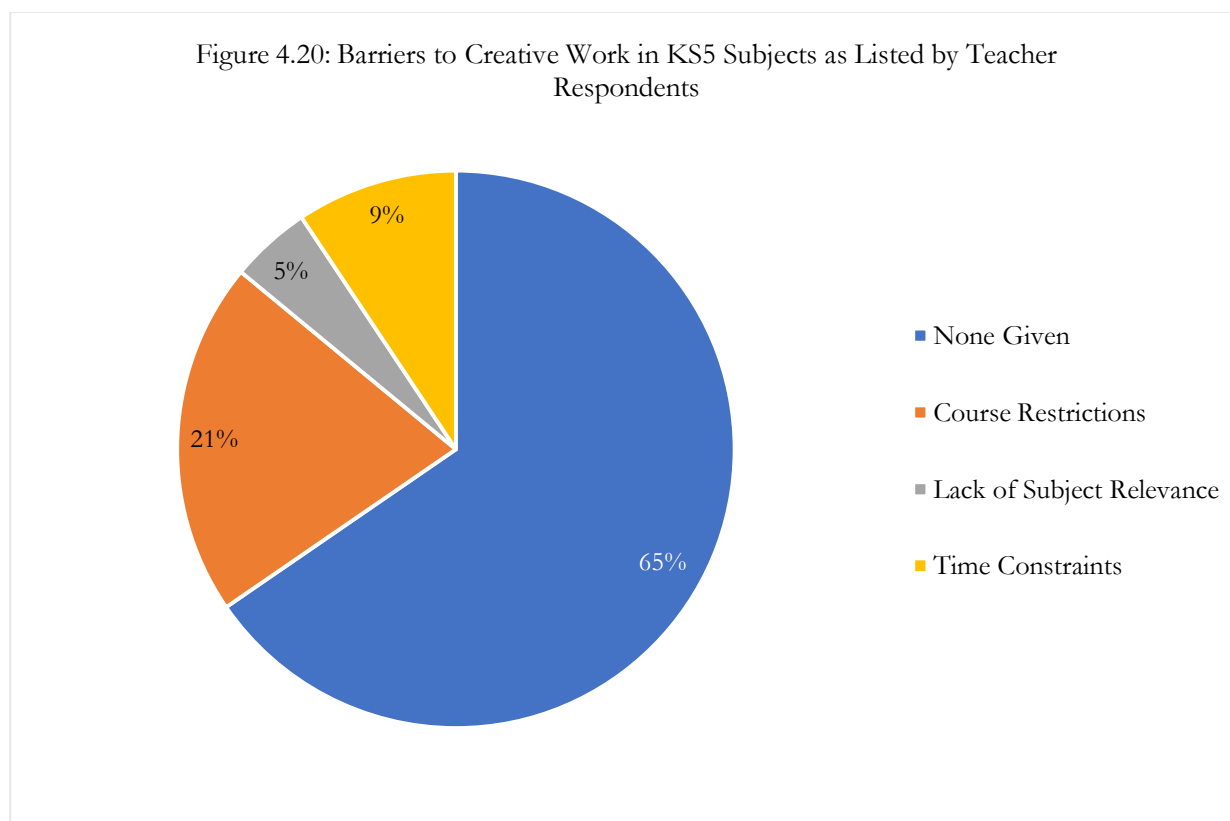
As with all the other activities, excluding ICT, figure 4.20 shows that the majority of teachers indicated that there were no substantial barriers to creative work in their subjects. However, 35% of teachers did list three barriers that may restrict creative work. The majority of these teachers (21%) listed 'course restrictions' as the main constraint on creative work. The other two barriers were again frequently cited barriers to other activities, namely 'time constraints' (9%) and 'lack of subject relevance' (5%).

4.12.3 Creative Work – Interview Findings

Thirteen interviewees indicated that there were regular chances for students to be creative, with both Art and Sports interviewees indicating that creativity was inherent in their subjects. As T1/Sports stated:

> Lucky with Sport, can be really creative. The end outcome is to be able to get someone to do something and there's no real set way of getting them to do it as long as they follow rules and regulations of doing it. … They can be quite creative with what they do, the way they explain and demonstrate.

Conversely, four interviewees T1/Health, T1/Business, T1/Sciences and T2/Sciences suggested there was limited scope for creative work in their subjects. Several interviewees mentioned there were some limited specific options to do more creative modules, for example, in ICT; animation or digital imaging modules and in BTEC Business; a creative product promotion module. Others incorporated creative activities where possible within the curriculum, for example T2/Humanities included creative activities such as writing from different viewpoints and the use of different formats including diary extracts, newspaper articles and even obituaries.

Several interviewees postulated that creativity was a much broader concept, linked to problem solving and critical thinking. As T1/Humanities commented, 'It's not just about painting or making stuff, it can be about coming up with creative ideas and solutions, such as how to deal with an aging population'. Correspondingly, T1/ICT noted, 'Coding can be very creative, can't it? Providing solutions to problems'. Similarly, T2/Maths observed:

> We do encourage them to look at a problem from any angle and its great sometimes to see what they do. You think 'wow' I would never have thought of doing it that way. The main thing is just making sure they understand whether that would work in every case or whether it's just in that particular case.

Likewise, T1/Maths stated:

> I actually think we are really creative in Maths. If you asked me that question ten years ago I would say zero, but now I would say pretty close to 10. I really do believe that it is one of our strengths.

However, several interviewees felt there was little room for creative work in their subject. Key barriers centred on restrictions of their specifications, assessment criteria and time constraints. As T1/Health observed when asked about the frequency of creative work:

> Not very much, if they don't do certain bits of assessment criteria they will fail. So, although they could do things in different ways, presentation wise, they can't get too creative about presenting the information and risk failing. Or if you go off researching something you really wanted to that would be lovely but, you wouldn't get anything for it.

4.13 Problem Solving Practise Within and Across KS5 Subjects

4.13.1 Frequency of Problem Solving Practise - Survey Findings

Figure 4.21: Frequency of Problem Solving Practise by KS5 Subject
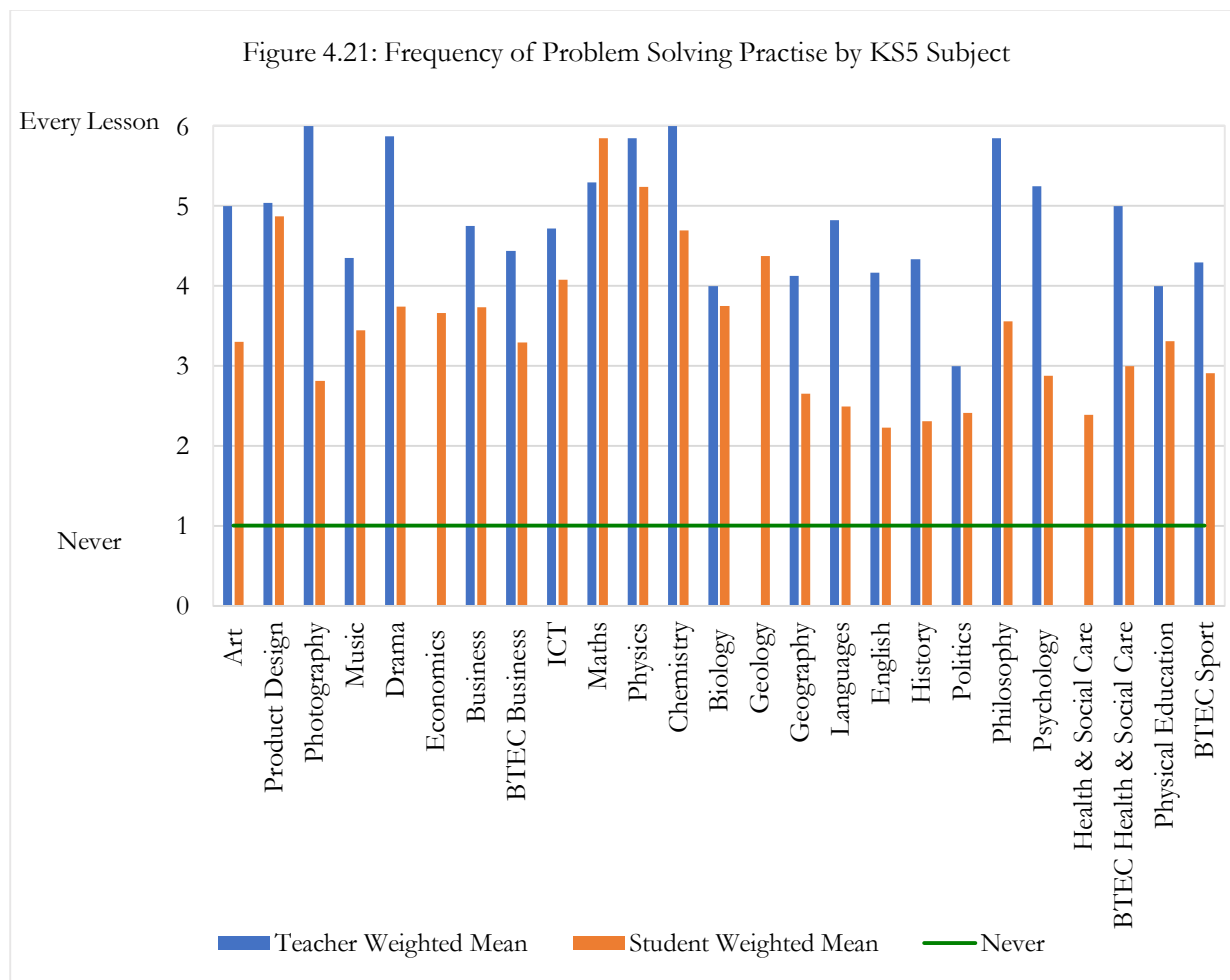
As figure 4.21 shows, teachers were very positive regarding the frequency of problem solving practise within their subjects. 21 out of 22 subjects were rated as 4 or above, suggesting that teachers felt problem solving practise were a frequent feature of most lessons. Politics, the only subject to be given a rating of less than 4, was still rated as 3. Teachers also indicated that in ten subjects, problem solving practise occurred in almost every lesson, rated 5 or above, with Photography, Drama, Physics, Chemistry and Philosophy given very high ratings of between 5.8 and 6.0.

Student responses were, on the whole, less positive with only six out of 25 subjects rated as 4 or above for frequency of problem solving practise in lessons. Five of these subjects were in agreement with those of the teachers' responses, namely Product Design, Maths, Physics, Chemistry and ICT. Geology was also rated as above 4, but had no corresponding teacher responses. Students rated only two subjects as 5 or above, Maths and Physics, which aligned with teacher responses.

No subjects had a rating of 2 or less from both sets of respondents. However, eight out of 25 subjects were rated as 3 or below by students, implying that from the student's point of view problem solving practise occurred less regularly in these subjects. Five of these eight subjects were concentrated in Languages and Humanities, which also had the greatest variations between teacher and student responses of 2 intervals and above. Other subjects with similar disparities between responses included Photography, Drama & BTEC Health & Social Care.

4.13.2 Barriers to Problem Solving Practise – Survey Findings

Figure 4.22: Barriers to Problem Solving Practise in KS5 Subjects as Listed by Teacher Respondents
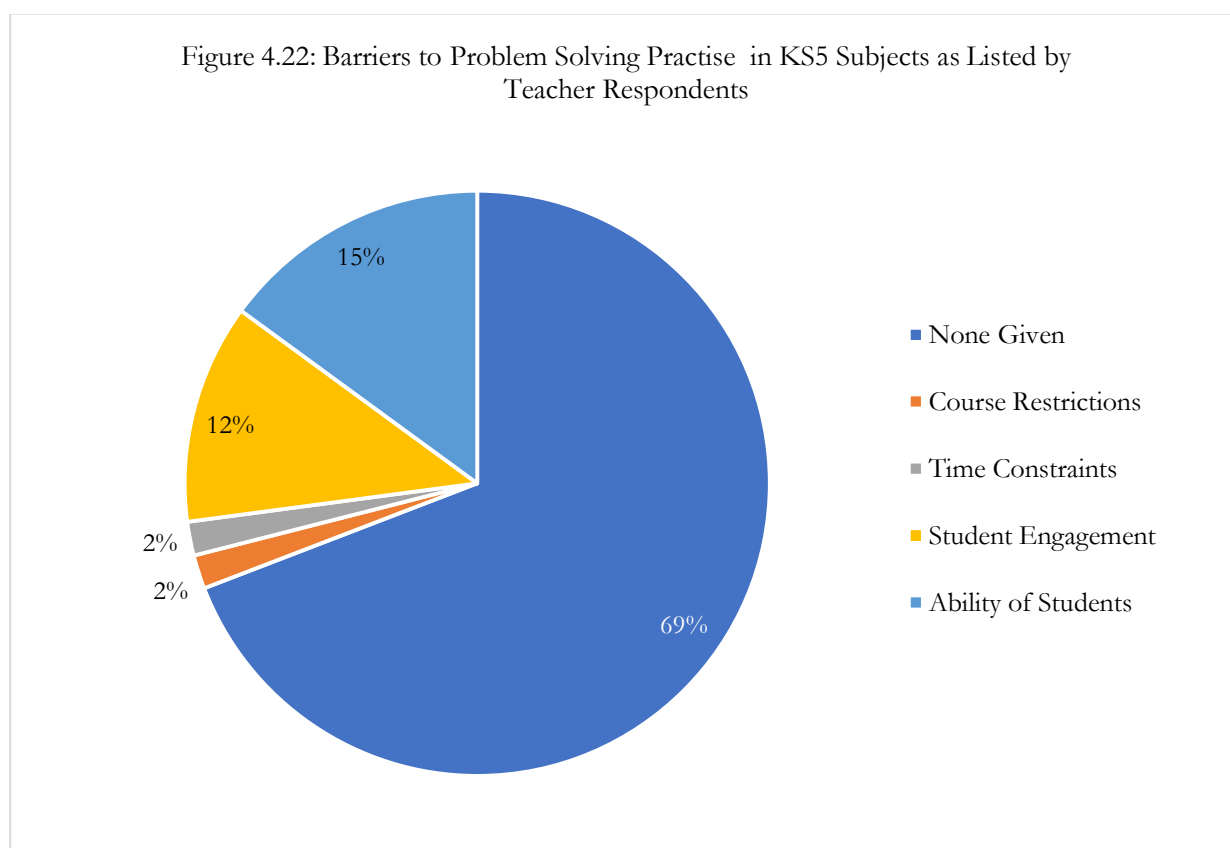
As with all the other activities, excluding ICT, figure 4.22 shows that the majority of teachers indicated that there were no substantial barriers to the inclusion of problem solving practise in their subjects. However, 31% of teachers did list four barriers that may restrict their ability to undertake problem solving practise. The top two barriers, accounting for 27% in total, related to student participation concerns - 'student engagement' and 'ability of students'. 'Course restrictions' and 'time constraints' were again listed as barriers, but were not nearly as impactful as in other activities in which they had been listed.

4.13.3 Problem Solving Practise – Interview Findings

All interviewees responded very positively about the frequency of problem solving practise in their subjects. Twelve interviewees indicated that problem solving practise was inherent in their subject using words and phrases including 'innate', 'embedded', 'inherent within the course' and 'built within the subject'. As T1/Humanities affirmed, 'It's Innate. I'll set them a problem, give them a role to play, data to analyse or make a case for this, often arguing against a point of view'. Similarly, T1/Health confirmed, 'Do that all the time relating to different situations to different laws. Different strategies to use in different situations. Inherent within the course'. Correspondingly T2/Maths elaborated:

> Use various tools. We use things like enrichment websites, resources from X, add variety to the types of problems you are asking. You might look at more extensive exam questions and how do you pick your way through, which path to follow. So, problem solving is on-going in the subject.

Problem Solving activities came in a variety of forms as T1/Maths distinguished, 'I guess some problems are purer, for example working out an equation; some problems will have a context. So yeah, I mean problem solving is what our lessons are all about.' For other interviewees, problem solving was built in through the use of problem based 'real life' scenarios and workplace tools. T2/Sciences commented that:

> I am quite keen to develop those skills, so I have written substantial scenarios based around problem based learning using a kind of medical school type model of saying, 'here is a very specific case study and example, what you need to do is strip the information out of the case study, look through the additional information you have been given, piece it together and try and come out with a valid solution at the end'.

Correspondingly, for T1/Humanities, in reference to Geography, problem solving was 'situation based, i.e. have a situation and have to solve it, i.e. a natural disaster scenario and aid relief. Geography is quite good for problem solving'. For T1/Business, there were a range of problem solving tools used in the workplace that were utilised in lessons:

> Wide range of activities, for example, Pestle Analysis, Boston Matrix, Porter's Five Forces. Lucky in Business we can use the tools developed by companies and use them to help us solve problems … Try to get the students to use the tools rather than go by gut instinct. Put data in, the facts into those tools and come up with an answer to solve a problem.

There was no indication of substantial barriers to including problem based activities from those interviewed. However, several teachers stated that students did find it challenging. As T2/Business confirmed:

> I.e. when teaching location of industry, might give them a map with 10 different things to put on the map or exercise to solve a problem with various constraints and costs associated with it. Students are so conditioned and find it really difficult and struggle. Even quite able students, because it's not black and white like an exam question.

Similarly, T1/Art observed:

> There's a big research element, developing final ideas for final piece. Some students struggle with final outcome. Lots of students find this difficult, lots of problem solving involved in this part.

Correspondingly: T2/ Humanities commented:

> Some interested in going into law so talk about skills that historians have for that, i.e. gather evidence to argue for this, think about what the other side are going to say and how to counteract it. Initially they find it hard, but it can change your mind or strengthen your belief and give you more to say about why you believe you are right.

4.14 Reflective Practise Within and Across KS5 Subjects

4.14.1 Frequency of Reflective Practise – Survey Findings

Figure 4.23: Frequency of Reflective Practise by KS5 Subject
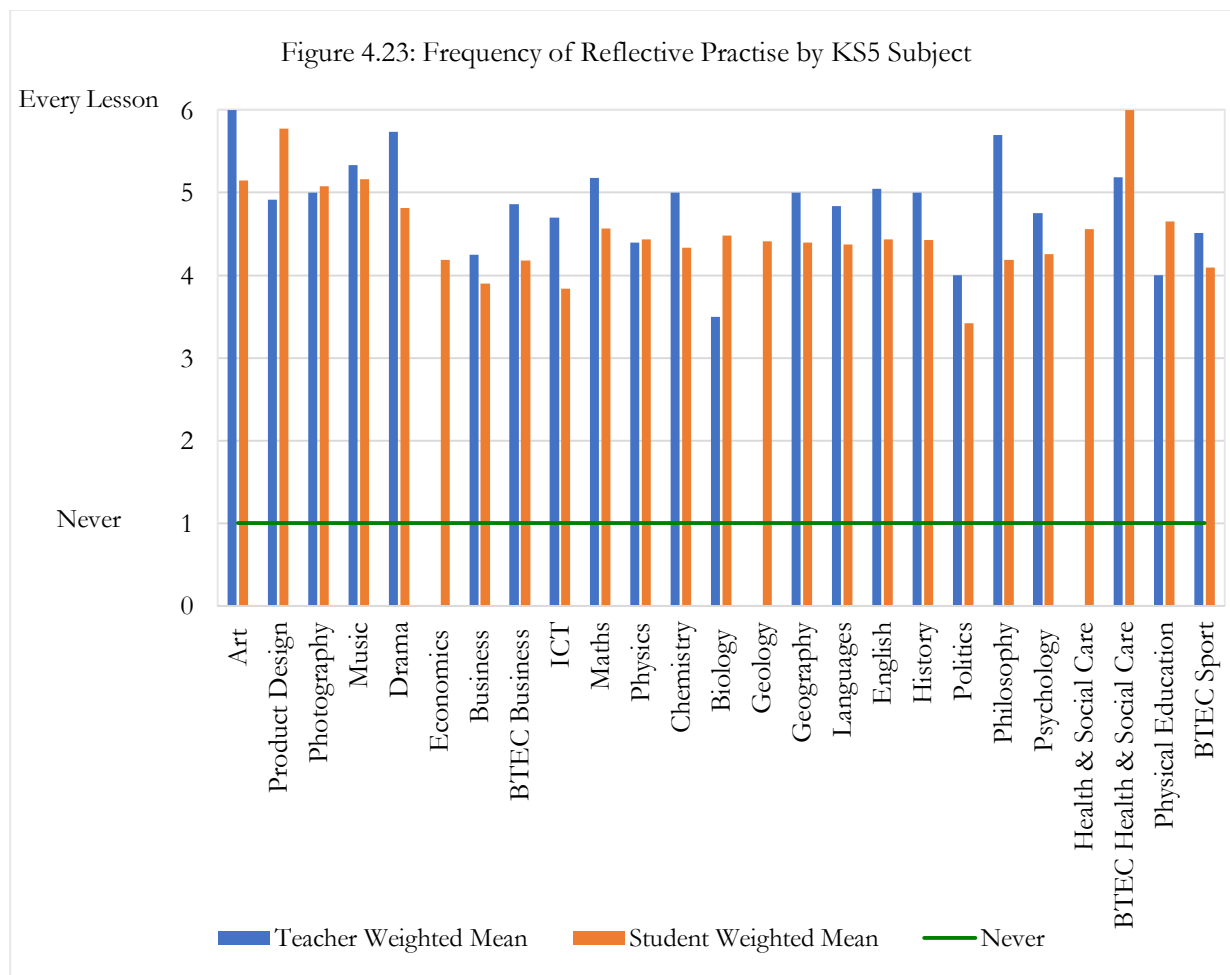
As figure 4.23 shows, both teachers and students were very positive regarding the frequency of reflective practise, indicating that in 21 out of 22 subjects reflective practise occurred in over half of these subjects' lessons. There was little variation between the two sets of respondents. 18 of these subjects were rated as 4 or above, which indicated that in over 80% of subjects, reflective practise occurred very frequently in a typical school week. The three additional subjects in which only students responded, were also rated as above 4.

Teachers were slightly more positive than students, regarding the frequency of reflective practise, 11 out of 22 subjects were rated as above 5 by teachers, indicating that teachers felt reflective practise occurred in most of these lessons compared to students who only rated five subjects at this level or above. However, four of these subjects were the same for both sets of respondents, notably Art, Photography, Music and BTEC Health & Social Care.

4.14.2 Barriers to Reflective Practise – Survey Findings

Figure 4.24: Barriers to Reflective Practise in KS5 Subjects as Listed by Teacher Respondents
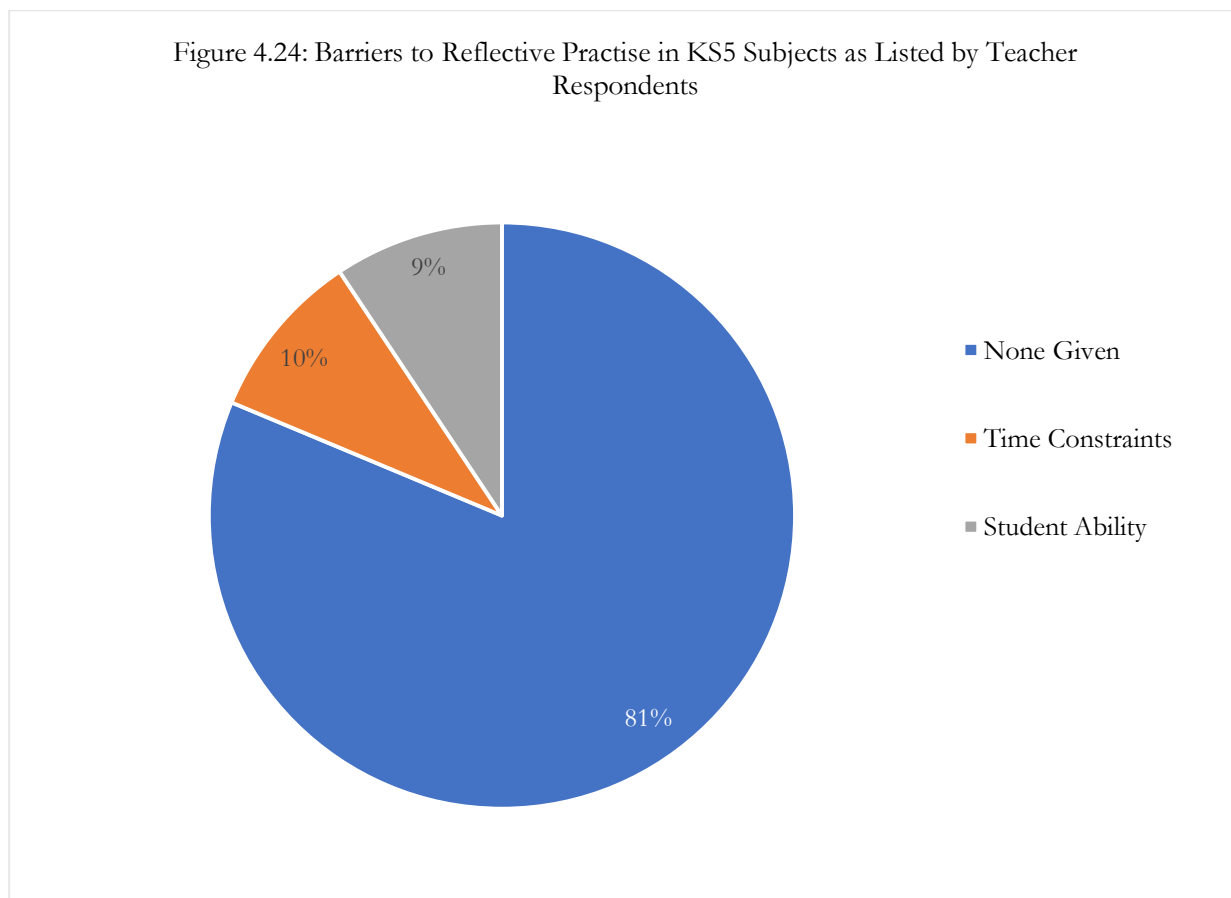
Following the same pattern as all other activities, excluding ICT, figure 4.24 shows that the majority of teachers indicated no major barriers to the inclusion of reflective practise. Alongside literacy, debate and the use of real life examples, reflective practise had one of the highest proportions of teachers (over 80%) who indicated that there were no significant barriers to reflective practise in their lessons. Only two barriers, 'time constraints' (10%) and 'student ability' (9%) were listed by teachers as potential restraints on reflective practise.

4.14.3 Reflective Practise – Interview Findings

When interviewees were asked about reflective practise, peer feedback was mentioned by the majority of interviewees as one method of reflective practise that occurred very frequently, usually in a group or whole class setting. It was viewed as an important part of the learning process for students by teacher interviewees. As T1/Art articulated:

> We do a lot of group critiques, looking at each other's work, reflecting and talking about the work. Do a lot at the start of the course to gain confidence … Really useful skills for university, talking about your work is really important, but also good general skill to have.

Similarly, T2/Art commented:

> They do quite a lot of peer assessment in groups. It's good for students to see each other's work. Students aim higher after seeing other's work. They are reflecting all the time – reflecting on what they are doing, what they have seen, collected. Making little judgements all the time.

However, several interviewees indicated that students could find peer feedback challenging. As T1/Sports qualified, 'we do lots of peer questioning and reflection, but it's hard to talk amongst your peers'. Equally, T2/Humanities observed, 'I'll put them in pairs and critique each other's work, but sometimes doesn't work that well as they don't like to criticise their friend or peer'.

Most teachers also referred to the frequent use of formal establishment feedback and reflection procedures when marking work to encourage students to reflect on their own work and progress. Commonly cited methods included annotating students' work and then providing a 'next step' or reflective task. For example, getting students to explain where they went wrong and how they could improve it and then checking this had been achieved. T1/Maths elaborated:

> We developed our own marking scheme, we have to write a next step in the student's book when we are marking … Explain to them what they have done wrong and get them to do another one to demonstrate that they have understood it, but you might also now get them to explain their mistake.

Similarly, T1/Art stated, 'students have to respond to my marking so I know they've read it. A lot of feedback, then reflecting on the feedback and setting own targets for improvement'. Reflective Practise also occurred in a variety of other ways. Several interviewees T1/Humanities, T1/Health, T1/Sports and T2/Sports also referenced a range of other activities including the use of starter and plenary reflection tasks. As T1/Sports explained:

> Always reflecting – towards the end before the plenary, always put 5 minutes of reflection. To reflect on what they have done, to come up with three key questions that they would like to ask the group and to get answers from and improve.

Correspondingly, T1/Humanities commented:

> Started off believing that it was marked piece of work and I will improve on it or something, but it's not just that, happens at the beginning of every single lesson when you do a recap of the

previous lesson. You get students to write a summary, or mind map on the board or a little presentation or go over key words. Covers a whole range of activities that are all about reflecting, putting things into long term memory, as well as, identifying where work is poor and where it's successful.

One to one feedback was also referred to an important method of reflection, as T2/Humanities emphasized when discussing feedback after presentations, 'I'll ask questions through out and give feedback, have one to ones and ask them how it went, what they could have done differently, done better'. Although, T2/Business suggested time was a constraint for one to ones, 'We try to get them to reflect on their work, through one to one interviews, feedback. One to ones work well, but takes out a whole lesson; huge time constraints!'

Several interviewees also mentioned the use of online feedback systems such as Moodle. As T2/Humanities referenced, 'Also use Moodle for feedback. Good if its interactive … use it for online feedback, students upload work and teachers make comments and so forth'. However, T1/ICT indicated that students often do not take such feedback sufficiently seriously:

> Start of a session, 'This is what you uploaded, I've then put some feedback on Moodle and I want you to respond to that feedback'. But often its done in a very superficial way, they'll say 'yeah, I'll do what you have told me to do'. There's not a lot of students who will make a meaningful reflection of it.

This was echoed by T2/English:

> Students still focus on the numbers not on feedback. The more students recognise the L plate on their backs the better learners they become … They just chose subjects they are kind of good at and they kind of like. That sense of ownership of their own learning is sometimes missing, but having that ownership helps to reflect on what they are doing and reflect on themselves as learners.

Several interviewees also highlighted course restrictions, such as the new BTEC guidelines, where the option for students to reflect and improve was now limited.

4.15 Real Life Example Use Within and Across KS5 Subjects

4.15.1 Frequency of Real Life Example Use – Survey Findings

Figure 4.25: Frequency of Real Life Example Use by KS5 Subject
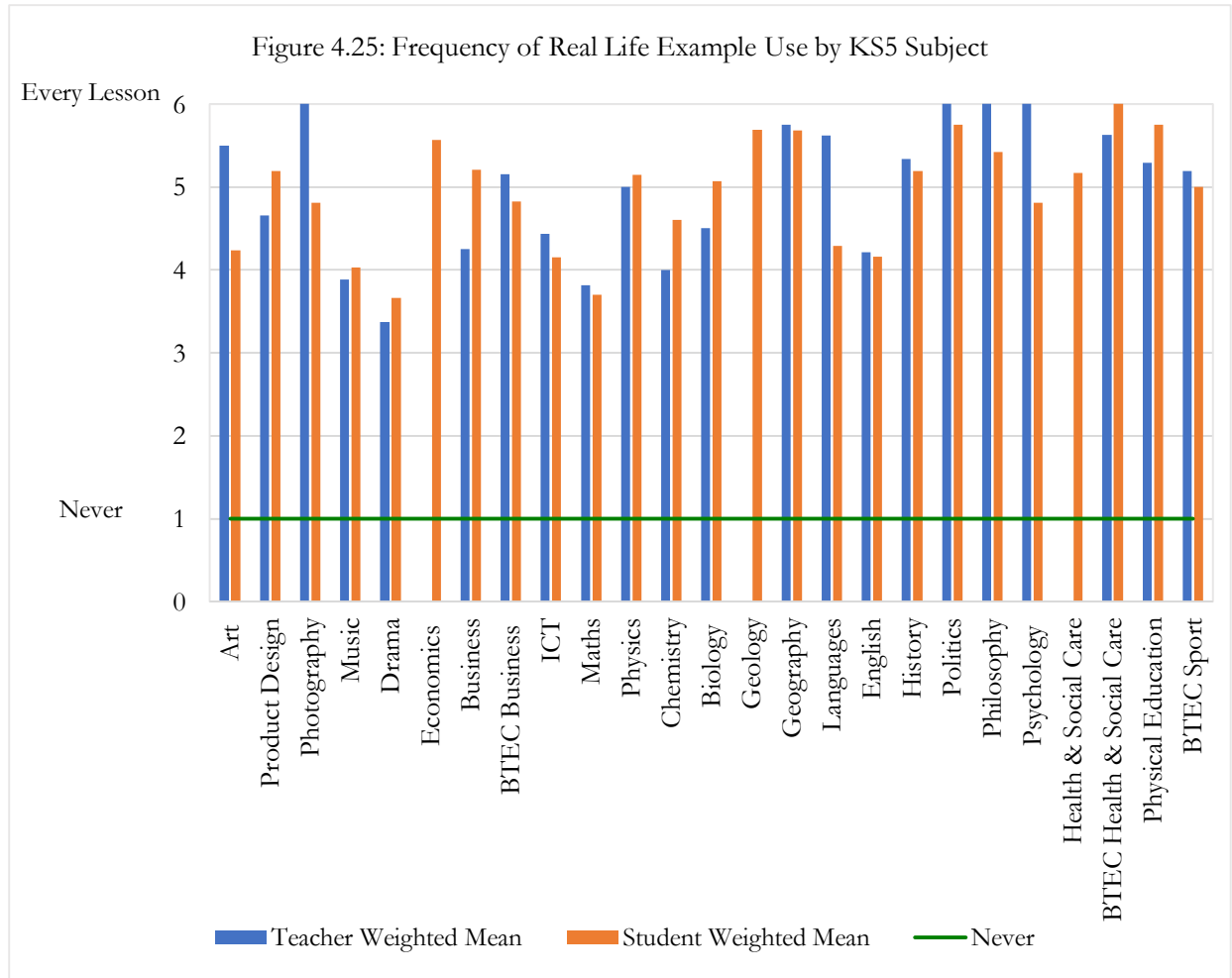
As figure 4.25 shows, both teachers and students were very positive regarding the frequency of the use of real life examples. In 21 out of 22 subjects, both sets of respondents indicated that the use of real life examples occurred in over half of their lessons. There was no subject in which there was a large variation in ratings between teachers and students, i.e. of 2 intervals or greater. 19 subjects were rated as 4 or above by both sets of respondents, suggesting that in over 86% of subjects the use of real life examples was a regular occurrence in a typical school week. Eight of these subjects was rated as 5 or above by both, suggesting the use of real life examples happened in almost all of these subjects' lessons.

Teachers rated an additional four subjects at 5 or above, whilst students rated seven subjects at five or above, including the three subjects without corresponding teacher responses. However, in these subjects the variation between each other's responses were minimal across this range. Teachers rated

Photography, Politics, Philosophy and Psychology as using real life examples in every lesson, whilst students rated only one subject that highly, which was BTEC Health & Social Care.

4.15.2 Barriers to Use of Real Life Examples – Survey Findings

Figure 4.26: Barriers to the Use of Real Life Examples in KS5 Subjects as Listed by Teacher Respondents
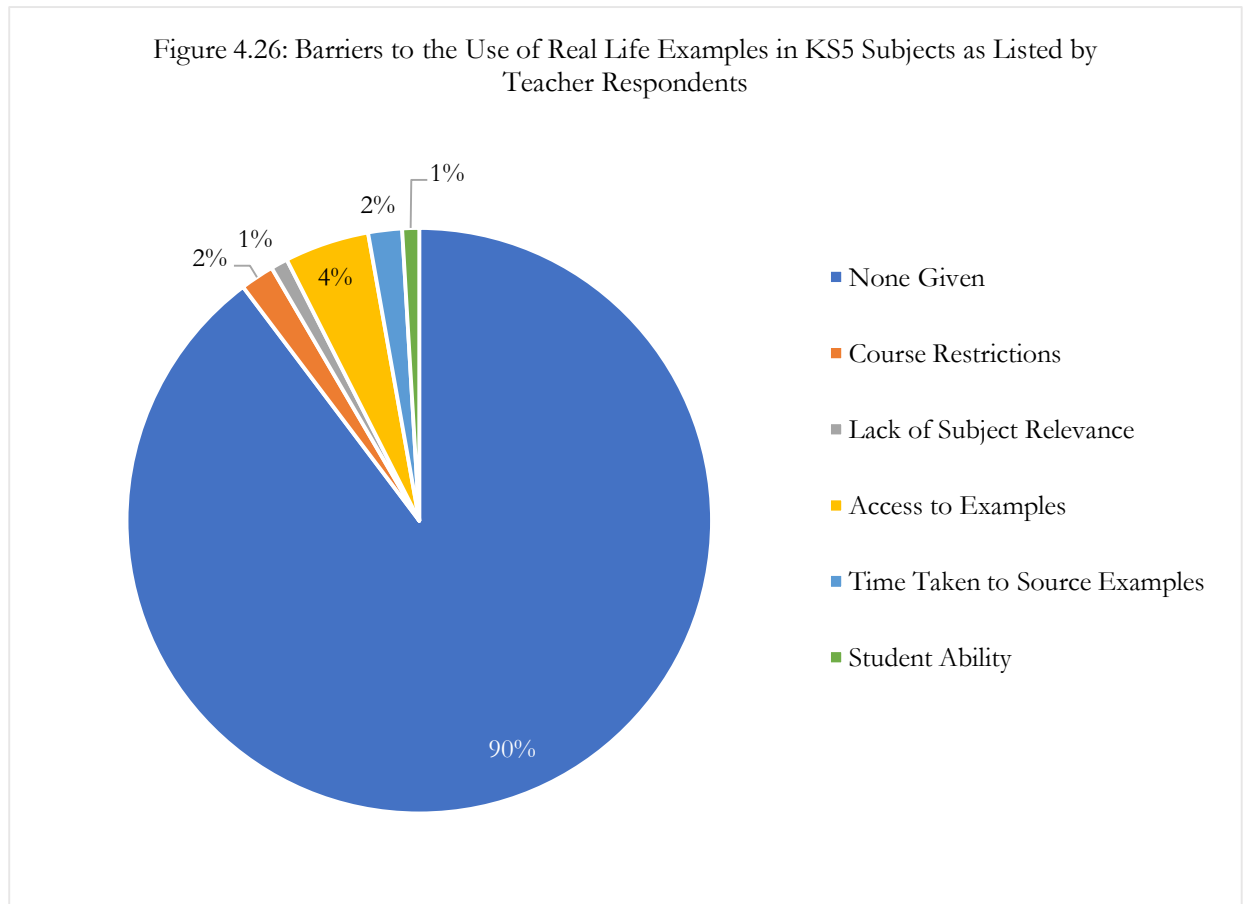
As figure 4.26 demonstrates, the use of real life examples, alongside literacy practise, debate and reflective practise, had one of the highest proportion of teachers (over 90%) who indicated that there were no significant barriers to its use in their subject lessons. Four barriers were listed, but were mentioned by less than 4% teachers for each barrier. Nevertheless, two of these barriers were very similar and were related to the ability of teachers to access examples and the time taken to do so. 'course restrictions' and 'lack of subject relevance' also reoccurred but were only listed by a very small percentage of teachers.

4.15.3 Use of Real Life Examples – Interview Findings

It was evident from the interviews that there was a broad array of ways real life examples were incorporated into subjects. The frequency of these varied with the type of real life examples used.

Two themes emerged from the interviews, the frequency and types of visits and speakers subjects had and the use of real life materials within subjects.

The majority of interviewees had some speakers or visiting professionals in over the course of the academic year. Visitors were usually professionals in their field, for example sporting professionals and coaches, physiotherapists, local artists, local business people, historians, medical professionals, ICT professionals and activists. The frequency of visiting speakers or professionals was highly variable, ranging from once a term to bi-weekly. The importance of students getting to listen and interact with such people was highlighted by several interviewees. T1/Sports commented:

> I think it's really important to get other people in so they can talk to them and those people can talk back at the students, so they can see the way they articulate themselves and things like that.

Similarly, T2/Sports emphasized:

> We just try to get in as many people as possible. It's just so hugely important to give them an exit route, because there are so many people doing sport. Every year they come and say I want to do sport, brilliant, but there are no jobs in X for sport so you need to be thinking a little outside the box in terms of what they can do.

Several interviewees, T1/Art, T2/Art, T2/Maths, T2/Sports, T1/Sciences and T2/Sciences, also revealed that they ran workshops, subject days and networking meetings. For example, T2/Maths organised a Maths day in conjunction with a university and other local schools. Similarly, T2/Art mentioned:

> We have artists in residence who come and do two or three days with a particular group of students. We also have close associations with X Gallery, they facilitate artists coming in and doing workshops i.e. printmaking.

Relatedly, T2/Sciences ran a STEM based careers speed networking event:

> Groups of three or four spend five minutes with a variety of employers. 22 employers last year, they gave a brief potted history of their career. Key thing is talking to them about the skills they need to do their job, so students get exposure to a huge range of careers locally. They gather very quickly after being around ten employers that the vast majority of employability skills are the same no matter what i.e. from water based engineers to ship builders to hospital workers.

Another interviewee, T1/Business revealed that they had collaborated with local businesses, for example in the creation of advertising and marketing campaigns. Similarly, both Sports interviewees have had students help run events, such as sports days with local schools and disability charities. Trips were also organised by some departments to local businesses and historic sites.

For some interviewees, they felt there was a sufficient range of activities occurring across the year, as T1/English stated, 'I think across the year there's a good range of things that happen, but it's across a whole year not on a weekly basis'. However, other interviewees indicated that they would like to do more, but cost, time, access and geographical constraints restricted their ability to do so. As T1/Art commented, 'I would like to get photographers in, but it's a cost to them and us'. Equally, T1/Health revealed, 'Don't get as many speakers or visits as you would hope to be able to. Funding is a real issue'. Similarly, T1/ICT stated, 'I try to, I would like to do a lot more, but this year yet no, it's being able to access people'.

Most interviewed made frequent use of real life materials. This included the use of articles, documents, documentaries and professional writing examples. As T1/Health commented, 'The subject is really good for that, loads of documentaries, panorama investigations. We use high profile investigations of neglect and safeguarding. All the time actually'. Others mentioned recreating real life scenarios. For example, T2/Art recreates a realistic studio setting in their department, whilst in Geography they carried out real life situation-based problem solving activities such as a natural disaster aid drop scenario.

4.16 Positive Attitude Encouragement Within and Across KS5 Subjects

4.16.1 Frequency of Positive Attitude Encouragement – Survey Findings

Figure 4.27: Frequency of Positive Attitude Encouragement in KS5 Subjects
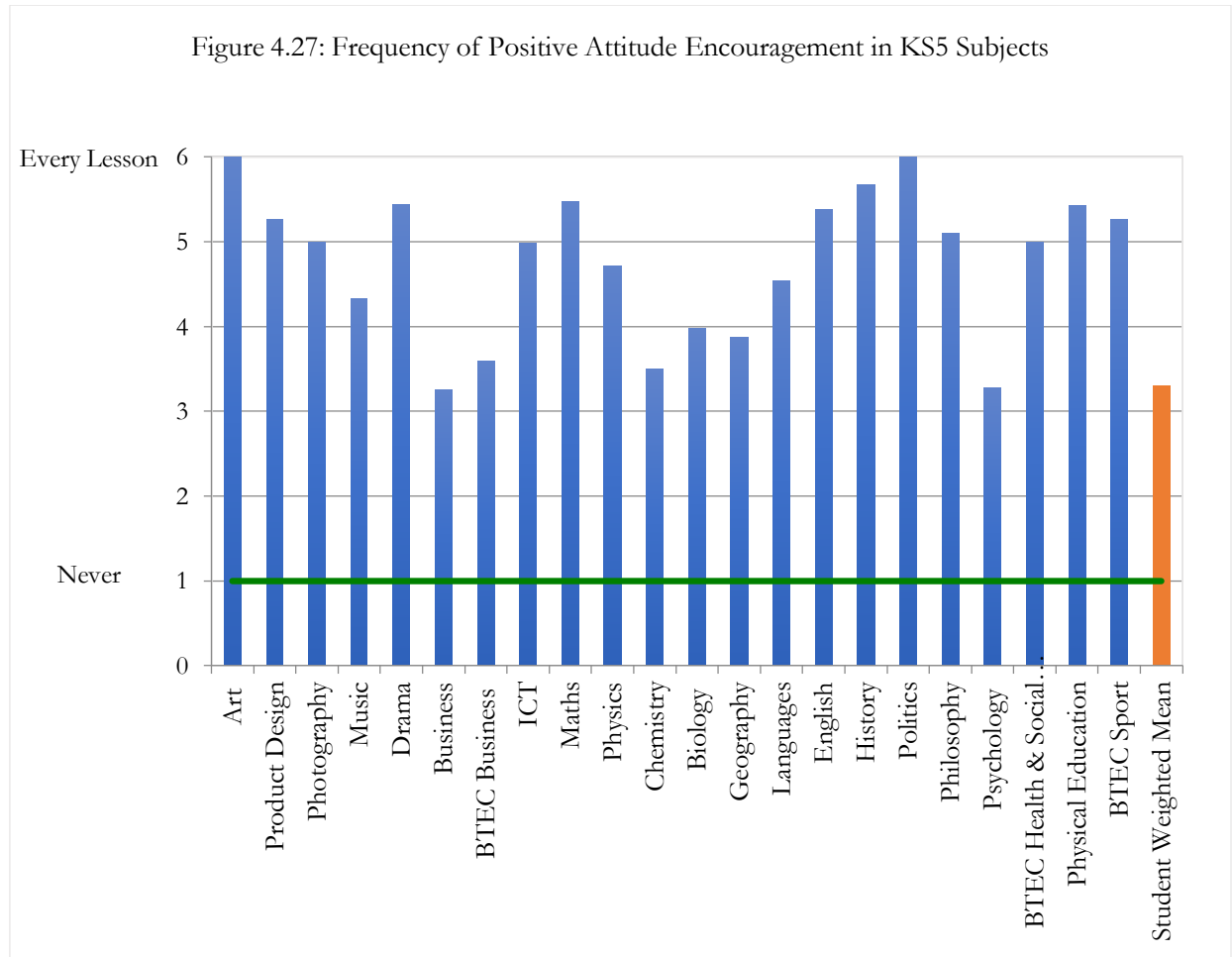
As can be seen in figure 4.27, teachers from 17 of the 22 subjects rated the frequency of positive attitude encouragement as 4 or above, suggesting this was something that occurred frequently in most subjects. No subject teachers rated the frequency of positive attitude encouragement as below 3. Teachers from 13 subjects rated the frequency of positive attitude encouragement as 5 or above, with two subjects, Art and Politics, in which teachers indicated it occurred every lesson. Whole student responses were slightly less positive at 3.3.

4.16.2 Positive Attitude Encouragement – Interview Findings

All of those teachers interviewed indicated that the encouragement of a positive attitude was a frequent feature of their lessons. Various methods of encouraging a positive attitude were given including:

- Discussion of role models

- One to one time – allowing for reflection and positive encouragement

- Target setting - encouraging marginal gains

- Modelling a positive attitude

- School reward system and tutor system

- Discussions about motivation and resilience

Consistent positive reinforcement and encouragement of resilience was seen by many interviewees as highly important, especially in building confidence. As T1/Sports emphasized, 'Positive reinforcement is really important'. Correspondingly, T2/English stated, 'Resilience is so important, we mention it a lot, also mentioned a lot in the tutor programme, along with looking at their readiness to work'. Likewise, T1/ICT observed:

> A lot of our kids are not very resilient, they give up very easily. … We just try and not overwhelm them, be really positive with them and say 'you know you've done this, this is fantastic, you can do it'.

Lastly, T1/Health remarked:

> Really focusing on resilience - not always having to get things right the first time. That contradicts the new BTEC guidelines, can't get it wrong the first time - so very difficult. We say its ok to get it wrong, but actually now it's not, it's a fail.

4.17 Self-Management Encouragement Within and Across KS5 Subjects

4.17.1 Frequency of Self-Management Encouragement – Survey Findings

Figure 4.28: Frequency of Self-Management Encouragement Across KS5 Subjects
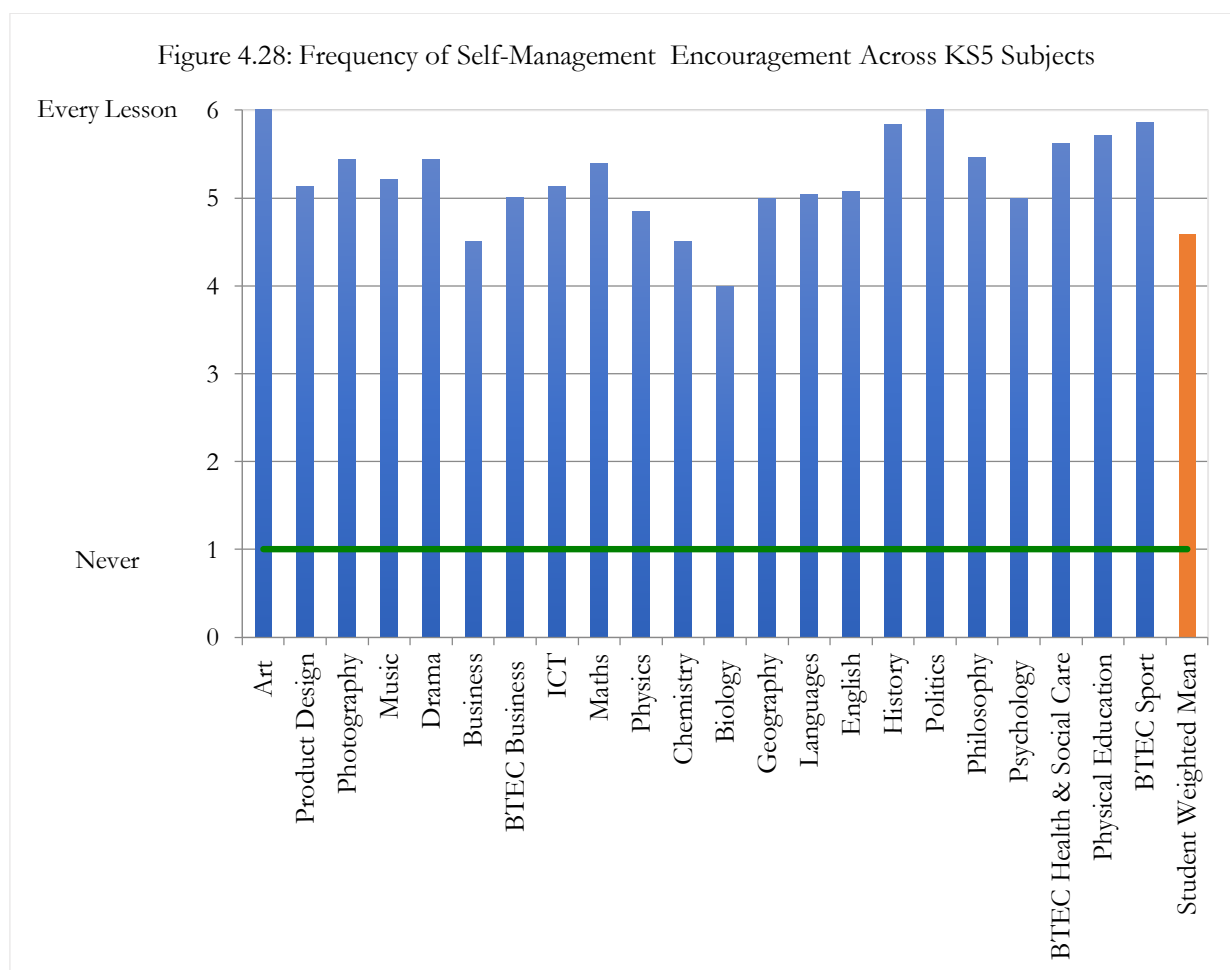
As figure 4.28 suggests, teachers across all KS5 subjects were very positive about the frequency in which self-management was encouraged, with ratings all 4 or above. The overwhelming majority, 18 out of 22 subjects rated the frequency of self-management encouragement as 5 or above, with two of these, Art and Politics, rated as 6. This indicated that most teachers highlighted the importance of self-management to their students almost every lesson. Whilst, the whole student response was slightly less positive at 4.6, it did suggest that they were in agreement with teachers that the importance of self-management was encouraged very frequently in their lessons.

4.17.2 Self-Management Encouragement – Interview Findings

All interviewees suggested that self-management encouragement was a frequent occurrence within their subjects. The overwhelming majority of interviewees, 12 out of 16, believed it was an important 'skill' to instil in students and was 'something we always encourage' (T1/Humanities). As T2/Maths confirmed, 'It sometimes seems odd that you may well be sat there telling somebody how to work,

but it can be important to improve those organisational skills'. Some interviewees asserted that self-management was a particular area that students struggled with. T2/ Humanities determined that:

> The problem is some students come to A level spoon fed. Teachers are under pressure to get results in a certain amount of time with certain numbers of students. Often information comes to the students, but they don't necessarily have the skills set so we try to build that in. i.e. spellings, we get them to find out the right spelling rather than just give it to them.

A variety of methods were given showing how teachers improved students' self-management:

- Emphasizing the importance of keeping notes and files organised.
- Target setting and task deadlines.
- Assessment calendars with important work deadlines and the use of daily and weekly to do lists.
- Online tracking & colour coded trackers.
- Repetition of high expectations on punctuality and meeting deadlines.
- Longer homework assignments that require time management.

These activities were focused on encouraging students to plan effectively. As T1/Sports explained:

> We give them assessment calendars with lists of assignments and due dates, so they can start managing their time, knowing where their bottlenecks are and trying to get them to manage their time efficiently.

Correspondingly, T2/Sciences remarked:

> Very keen in asserting those high expectations on punctuality and we do a lot of work on organisational skills … I have provided a few students with small diaries for lists to track and evidence their progress. Simple strategies, but trying to use them as soon as issues start to rise rather than waiting until they get too far behind.

Several interviewees highlighted the importance of self-management with helping students manage stress. As T1/ICT stated, 'we have got a few at the moment in Year 13 having meltdowns about the amount of work they have got to do'. Similarly, T1/Maths explained:

> Making them realise that although it's important to be organised and take control and prepare, not to get it out of proportion. There's a lot of stress so we try and sort of keep it in perspective, but also encourage them to plan to do things early so that they've got a buffer at the end.

4.18 Preparation of Students for Employment – Interview Findings

The final part of each interview asked interviewees how well they thought students were prepared for employment post-KS5 and what could be done to help students in this regard. Responses were varied. But a clear distinction was made between students being prepared for HE and being prepared for the workplace.

For the majority of interviewees, they felt students going onto HE were, on the whole, well prepared. As T2/Humanities indicated, 'feedback from the universities is that students are prepared'. Similarly, T2/Sciences confirmed, 'the vast majority of students in my department go onto HE. I think they are very well prepared to go onto HE'. However, T1/English cautioned, 'I don't feel like I'm preparing them for work. I feel I'm preparing them for university or further study'.

Many interviewees believed they did the best they could to prepare students, with the resources and time they had available. As T2/Business confirmed, 'we do everything we can in the realms of what we have got in terms of constraints that we have at A Level'.

There was a spectrum of views as to how well prepared students were for the workplace. On the one hand, several interviewees indicated that 'on the whole, they are pretty well prepared in the basics' (T2/Sciences), and 'Fairly well, by the time they have done two years' (T2/English). However, others indicated that although students were fairly well prepared there was more that could be done, especially in terms of improving work place awareness. As T2/Sports commented:

> I think they are better prepared than when they come in. I suspect there is probably more to be done in making them aware, giving them that self-belief, communication skills and that kind of stuff.

Similarly, T2/ Sciences stated:

> I think they have a lot of skills they don't know about. If you ask them do we do things to enhance and develop their employability? I think they will go what's employability? Because I don't think they have a clear understanding of what it all is.

There were other interviewees that indicated that they believed students were not very well prepared for the workplace. Several interviewees named particular skills as lacking, such as numeracy, communication, problem solving and creativity. As T1/Sports commented, 'Communication skills, I

think a lot of the students lack that and that's through no fault of their own and I think it's the way the system is designed'. Correspondingly, T1/Art asserted, 'being able to discuss and talk about something with another adult that perhaps is what some of them lack at A level. Communication skills'.

Several other interviewees suggested that pupils lacked awareness of the workplace and the opportunities available or the skills needed. As T1/ICT replied, 'Not at all, they are not aware of opportunities out there'. Similarly, as T1/Sports detailed:

> School is now a business and it has to get exam results. Teachers are teaching students to get those exam results and I don't think that necessarily leads to giving the students an all-round education. I have a student that will come out with A levels at grade A*, but does that make them employable? Probably not. I think teachers don't have the time to put in those employability skills.

Similar concerns were voiced by T1/Humanities:

> I am not sure whether the establishment of school really ties in that well with the establishment of the workplace. They are both establishments, but they've got different sets of expectations, different values. A common interest, but I don't think the link is well established and I think that is a shame isn't it for our young people?

For many interviewed, the lack of work experience and careers advice played a significant role in students' lack of workplace preparedness and this was cited as a key area for improvement. However, this was something that had to come from a higher policy level. As T2/Science explained:

> We don't do a very good job of, broader than just my department or our college, is their knowledge of careers is miniscule, but I think nationally it's a really difficult thing with no careers service, with no impartial advice and guidance on this stuff … I think they don't have a massive insight into how many different jobs exist.

T1/Business agreed:

> Careers advice would give them that rudder, that focus, that drive, give somebody aspiration and from that they will work hard at different subjects. So that's probably for me the key thing really – give them the careers advice, which is a bit lacking the moment in schools.

In reference to work experience, T1/Humanities stated:

> Work experience is important, difficult to understand what it would be like to work in a company within a school context … a week of work experience in Year 10 and 12 is not enough. Something that has to come from above, not something that schools can do.

Likewise, T1/English commented:

> I think they need more time doing work experience, that has been cut to a week and it used to be a fortnight, and some schools don't do it at all anymore! I think it's the work experience, that's the gist of the thing that makes a difference.

Several interviewees asserted that enterprise and employability should be integrated into the curriculum, T1/Sports maintained:

> I would just like to see it introduced into lessons or into school life lower down, so that it is embedded in their understanding from Year 8, where they start to understand what is required, the skills needed etc.

T1/Business agreed, 'There's a school in London that put enterprise into the curriculum, but it could be driven more. How can we turn the curriculum around and make it more relevant to employment?' Similarly, T2/Sciences commented:

> I think the only way it would happen is if as part of their education there was a component of that that was based more broadly about a readiness for work, if you know what I mean? Whether it would be a statistical or physical body of evidence they would generate. I think for them to be able to progress onto university, to the next stage after college. To get their full attention it would have to be something that would form part of that, to make it a step.

4.19 Sources of Information and Training on Employability Skills – Survey Findings

Figure 4.29: Types of Staff Training on Increasing Students' Employability Skills Received by Teachers Within the Last Two Years, Shown as a Percentage.
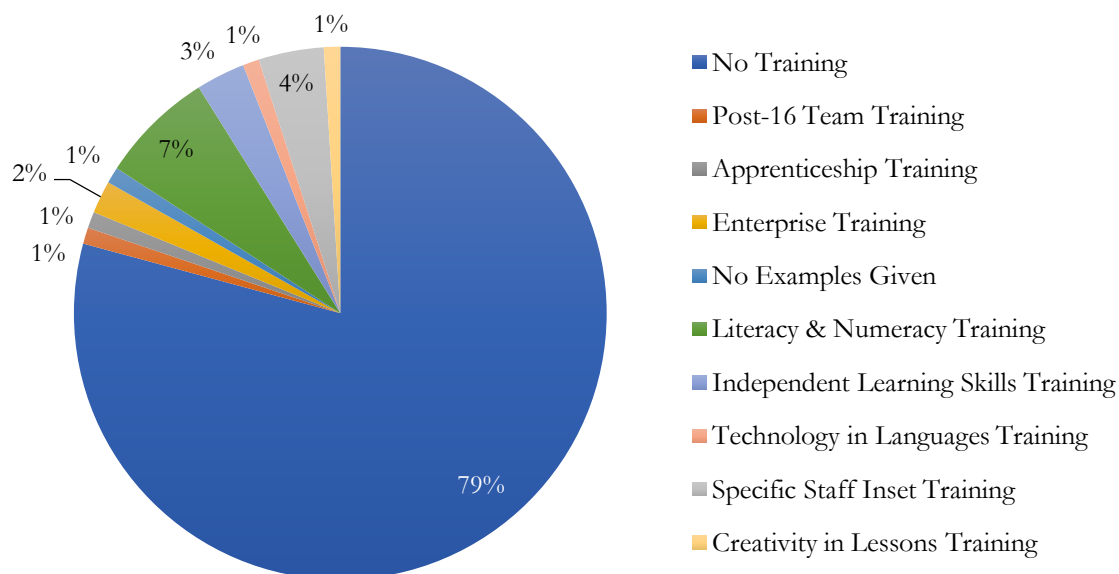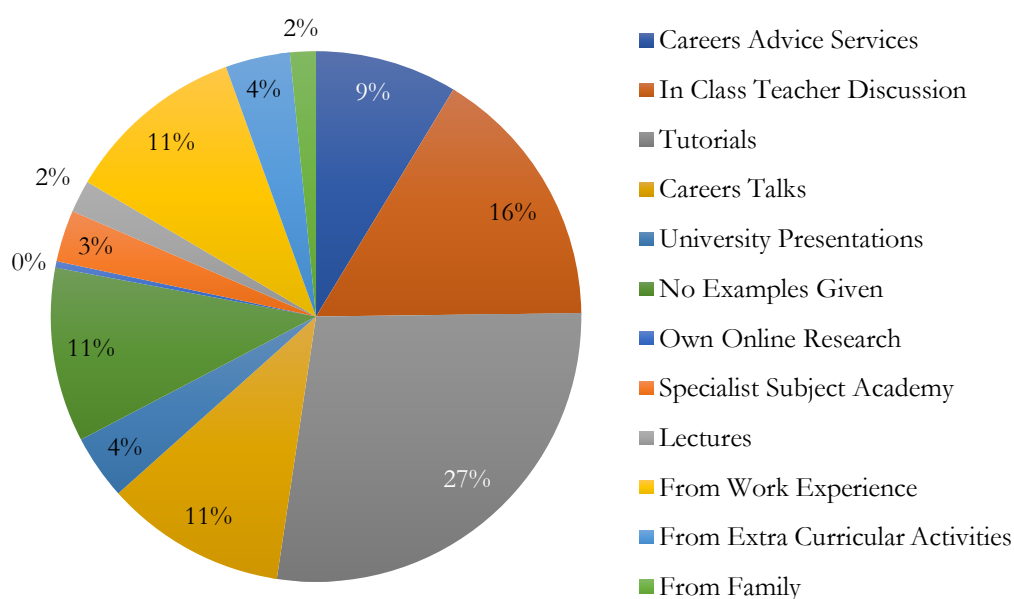

Figure 4.30: Types of Advice and Lessons on Employability Skills Received by Students, Shown as Percentage of 'Yes' Responses Only.

The final part of each questionnaire was designed to answer the research question, 'What sources of information and training do teachers and students receive regarding employability skills?' Teachers

were asked if they had received any staff training on increasing student's employability skills within the last two years. If they answered 'Yes' they were given the chance to elaborate further (see Appendix B). Similarly, students were asked if they had received any advice or lessons on improving their employability skills within the last two years. Again, if they answered 'yes' they were given the opportunity to elaborate (see Appendix C). 101 teachers and 526 students responded to this section. Responses to the 'Yes' open questions were coded into categories and converted into percentages.

As figure 4.29 shows, over three quarters of teachers indicated that they had had no staff training on employability skills in the last two years. Of those teachers who had responded 'yes' to receiving staff training, there was a wide variety of training examples given, but all at very low levels. literacy and numeracy training had the largest percentages, but this accounted for only 7%. All other types of training were only mentioned by 4% or less of teachers who responded to this question. When students were asked if they had received any advice or lessons, just over half of students (51%) indicated they had not. As figure 4.30 shows, those students that responded 'yes' gave a wide variety of types of advice and lessons they had received. The largest source of advice and lessons mentioned was tutorials, with over a quarter of 'yes' responses listing this as their main source of employability skills information. Another three sources were each mentioned by over 10% of students who responded 'yes.' These were 'in class discussions', 'careers talks' and 'from work experience'. A fourth, 'careers advice services' was mentioned by 9% of 'yes respondents. All other sources were mentioned by less than 4% of 'yes' respondents.

4.20 Chapter Summary

This chapter has provided a detailed analysis of the findings from both quantitative and qualitative strands. The quantitative strand findings were analysed from teacher and student surveys from three establishments and the qualitative strand findings were analysed from teacher interviews from two of these establishments. The findings were organized around each of the research questions detailed in the Introduction. Firstly, teachers and students understanding of the concept of employability skills was analysed. Secondly, how frequently specific activities occurred within KS5 subjects, the form that these activities took and what barriers may exist in providing these activities, were also analysed. Thirdly, teachers' views on how prepared students were for employment post-KS5 was detailed. Finally, what sources of information and training was received by teachers and students on employability skills. The following chapter will seek to address the research questions by providing a thorough discussion of these findings in relation to the existing literature, highlighting any areas of consistency and contrast.

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This chapter seeks to address each of the research questions through a detailed discussion and exploration of the findings of the research. A Convergent Parallel MMR design was used to determine the answers to the research questions posed. This involved two distinct and independent processes. Initially, the quantitative data, KS5 teacher and student surveys, was quantitatively analysed employing descriptive statistical methods. The qualitative data, KS5 teacher interviews, was analysed inductively to produce themes. Subsequently, the findings from each of these independent strands were integrated to produce conclusions or 'meta-inferences'. Meta-inferences being 'conclusions generated through an integration of inferences that were obtained from both strands of the study' (Teddlie & Tashakkori, 2009a, p. 266). Importantly, the integration of both strands to produce meta-inferences was generated along thematic lines that were driven by the research questions posed.

Correspondingly, in addressing each research question the findings from both quantitative and qualitative strands were compared, with any areas of consistency and contrast noted and assessed. Both strands findings were then integrated and comparison made with the existing literature. This examination and discussion of the findings will be done thematically centred around each of the research questions.

5.2 What Do Teachers and Students Understand by The Concept 'Employability Skills'?

It was evident from both data strands that there was some confusion regarding teachers and students' understanding of the concept of 'employability skills'. The findings supported the assertions from the literature, that there is no widely adopted definition or framework of employability skills in use across the education system (Blades *et al.*, 2012; Impetus, 2014; Lanning *et al.*, 2008; Messer, 2018). Furthermore, findings from both data strands also showed that there was no consistent terminology used when referring to the specific skills needed for employment. There was an extensive array of different terms used across the spectrum of skills that were listed. Even after the survey and interview findings had been condensed into skills categories, based on similarity

of meaning, a broad range was skills categories were left, with 30 and 23 categories created from the survey and interview findings, respectively.

Across this range of skills categories, the vast majority of skills were listed by less than 30% of KS5 teachers and students. This implied that there was little detailed understanding of, or consensus on, the range of skills needed for employment or the terminology that should be used. This aligned with much of the existing academic and policy research findings that there is a persistent lack of consistency and widespread confusion across stakeholders in their understanding of employability skills (Anderson, 2014; 2017; Dewson & Eccles, 2000; Impetus, 2014; Lanning *et al.,* 2008). The findings were in agreement with the conclusions drawn by Impetus (2014). In their 2014 Report *Ready for Work,* Impetus concluded that the skills needed for employment were 'rarely communicated clearly and concisely to young people' (Impetus, 2014, p. 2). It could be argued that part of the reason for these skills being poorly communicated to students is that they are also not communicated 'clearly and concisely' to teachers either.

Despite the breadth of the skills listed, there was evidence of limited agreement on some of the skills needed for employment. Both teachers and students listed several skills in noticeably greater numbers. These skills were: communication skills, time-management, self-motivation and teamwork. Additionally, a further three skills; use own initiative, interpersonal skills and problem solving, were listed by interviewees in greater numbers than the majority of other skills listed. In both instances, these skills did correspond to those listed across the main national and international frameworks in use, such as those produced by ATC21S (2012), CBI (2007), European Commission (2018), OECD (2018); UKCES (2009) and WEF (2015) (See Appendix A).

Additionally, these skills also corresponded to some of the key skills highlighted by employers in the *UKCES Employer Skills Survey* (2015) as hard to find amongst applicants, alongside leadership and managerial skills. Interestingly, leadership skills were only listed by a very small proportion of teachers and students in the surveys and by no teachers in the interviews. Thus, it was possible to conclude that there may be some limited degree of awareness of the importance of a few specific skills for employability amongst teachers and students.

The literature has been engaged in a sustained debate over the expansion of the employability skills concept to include behavioural characteristics. As discussed in the Literature Review earlier, some authors such as Canning (2007), Grugulis *et al.* (2004) and Pring (2004) have been heavily critical of this expansion of the word 'skill'. The concept, it has been asserted, having widened to 'comprise the

entire personality of a person' (Haasler, 2013, p. 236). However, others have not been so critical of this broadening of the concept, seeing it as an inevitable consequence of a wider socio-economic shift, that has seen the importance of developing 'soft skills' embedded into much business and government policy (Fugate *et al.,* 2004; Harrison, 2003; Martin & Villeneuve-Smith, 2008; Tymon, 2011).

It is perhaps unsurprising, therefore, to note that within the broad range of categories listed, 'soft' skills dominated findings from both data strands. 21 out of 29 categories from the survey findings were 'soft' skills, as were 19 out of 23 categories from the interview findings. A significant proportion of these were 'attitudes or behaviours', such as trustworthy, resilience, reliable, adaptable, positive attitude, enthusiasm and confidence. This corresponded with interviewee responses, who also focused their answers on 'soft' skills. Consequently, the findings did seem to mirror the general expansion of the concept as proposed by authors such as Tymon (2011) and Haasler (2013), amongst others, and the wider lack of agreement on a definitive 'employability skills' set discussed earlier. Furthermore, there were some skills that were prevalent in the literature and prominent across the skills frameworks, such as creativity, reflectiveness, resilience and adaptability, that one might have expected to feature more prominently in the Question One survey findings. However, both teachers and students listed these skills very infrequently. Although, these skills were highlighted as important by several interviewees.

The importance of developing 'functional skills' - literacy, numeracy and ICT skills, has been a consistent and prominent feature of academic and policy literature. The development of these skills has also been an integral part of UK education policy and is the focus of international assessments such as PISA and TIMSS (CBI & Pearson, 2015; Dromey & McNeil, 2017; House of Lords, 2014, UKCES, 2015). They also feature in every major employability skills framework (See Appendix A). It was, therefore, somewhat surprising to find that these skills were listed very infrequently in both teacher and student survey responses and interview responses to Question One. However, it should be noted that even though the proportions were relatively small; teacher survey responses were over double that of corresponding student responses for these three skills. Correspondingly, there was little mention of these 'functional skills' in the interviews, only one interviewee mentioned all three functional skills in response to the question; what skills might an employer want from an employee?

A similar trend was noticed in connection to the frequency to which experience, qualifications, subject knowledge and business awareness were mentioned. All of which were listed very infrequently across both data strands in relation to Question One. The interview findings, however,

indicated that the reason for this could lie in teachers and students' interpretation of the term 'skill'. Half of the interviewees referred to alternative terms for employability skills, namely 'soft' skills, 'transferable' or 'generic' skills, lending support to Nunn's (2008) assertion that a range of alternative terms are more commonly used in education.

Indeed, it was evident that a distinction was often made between 'hard' or 'functional' skills, comprising of literacy, numeracy and ICT, and 'softer' skills including those like communication, teamwork, positive attitude and creativity. This was very much in agreement with existing literature and has been highlighted by authors such as Canning (2007), Fugate *et al.* (2004), Haasler (2013) and Tymon (2011). It could be proposed that 'functional skills' and qualifications are seen as distinct and separate categories from 'soft' skills; which are more likely to be associated with the term employability skills. There was evidence from the interviews to support this assertion that some do make such a division. Three interviewees made an explicit distinction between 'hard' and 'soft' skills and viewed them as separate from each other. Several interviewees further highlighted this distinction after examining the *UKCES (2009) Employability Skills* framework. It may be that the dominance of 'soft' skills and the lack of 'functional' skills evident in both strands may simply be down to how these skills were defined and distinguished from each other.

Subsequently, when interviewees were given the *UKCES (2009) Employability Skills* framework to comment upon, the responses were overwhelmingly positive. Most felt that the UKCES (2009) framework provided a good coverage of both 'functional' and 'soft' skills. This provided further weight to the possibility that teachers, at least, were aware of the importance of 'functional' skills for employment, but that confusion over terminology and misunderstanding of the 'employability skills' concept was a significant factor in the findings that were presented. It can't be confirmed that this was the case with student responses as they were not included in the interviews and further research would be needed to see if this was indeed the case.

5.3 Factors That Impact Upon the Frequency of Skills Practise and the Form They May Take

This section focuses on the themes that have emerged from the findings in relation to two of the research questions in particular:

- How frequently do specific activities that encourage employability skills improvement occur within subjects and what form do these activities take?

- What enablers and barriers exist that impact upon the integration of these activities that encourage employability skills into learning and teaching?

As per the previous discussion section, a thematic approach has been taken to answer these research questions. Each theme will be discussed in turn, highlighting areas of consistency and contrast and comparing it to the existing literature.

5.3.1 Terminology and Skills Content

As the previous discussion illuminated, there appeared to be evidence of significant confusion over the concept of employability skills and what skills should be included in this concept. It was not surprising, therefore, that uncertainty over terminology used to refer to particular skills and activities, as well as, a lack of awareness regarding what that skill or activity encompassed, were factors that affected the frequency and form these activities took. As discussed earlier, the lack of consensus on the 'employability skills' concept, notably disagreement on terminology used and the skills that should be included, has been a significant source of concern, evident in both academic and educational policy literature (Blades *et al.*, 2012; Impetus, 2014; Lanning *et al.*, 2008, Messer, 2018). It has been concluded that this lack of consensus has played a role in hampering the successful embedding of employability skills across the education system (Anderson, 2017; Belt *et al.,* 2010; Robley *et al.,* 2005, UKCES, 2009).

In relation to some skills and activities, in particular, the findings from the surveys and interviews did indicate that this may be an important factor in the frequency to which they were practised and what form they took. This was broadly consistent with the existing literature. It was evident from the interviews, in particular, that teachers and students may be uncertain as to what a skill or activity encompassed. Consequently, one particular element of a skill or activity may have been emphasised or a broader or narrower interpretation of the skill or activity may have been taken.

This was especially noticeable with regards to role play and creativity. It was apparent from the interviews that several teachers were not entirely certain of what role play entailed or how it could be integrated into their subject. This was most evident in interviews from those from Arts, Maths and Sciences. It was inferred that these subject areas may take a very limited view of role play; interpreting it as an activity involving the acting out of a particular role or scenario, as opposed to the simulation of workplace environments in which it was more broadly referenced in the literature (Baker, 2016). For example, interviewees from Humanities and English mostly referred to examples of the use of role play in teaching drama text or the recreation of historical scenarios. However,

other interviewees from Business, Sports, Geography and ICT took a broader view providing a range of examples focusing more on the recreation of realistic workplace scenarios. This may serve to provide some explanation as to why role play received such low frequency ratings from both teacher and student surveys across the majority of subjects.

Interestingly, interviewees from both Arts and Maths subjects, in their responses to other activities, indicated that they did indeed do some form of role play in its broader sense, through the creation of realistic workplace scenarios and in problem solving activities. The Arts interviewees were very positive about how they tried to replicate a workplace environment in their department. For example, group critiques of each other's work and presentation and discussion of their work to others. Correspondingly, in Maths problem solving activities were frequently grounded in realistic scenarios. It could be concluded that the low frequency of role play was in part due to its narrow interpretation by some.

Care *et al.* (2016), Nickson, (2003) and Suto (2013) have maintained that aptitudes such as creativity can be highly subjective and 'enigmatic' and consequently, do not allow for easy definition and assessment. The findings from both data strands suggested that creativity did encounter problems relating to its interpretation and its subjective nature and thus, broadly supported the views of the authors above. Predictably, those teaching Creative Arts subjects were very positive about the frequency of creativity both in their survey responses and in corresponding interviews. Outside these subjects, however, there was a discernible spectrum of viewpoints across the interviews on how creativity could be interpreted. At one end of the spectrum, creativity could be construed very 'literally' in solely artistic terms. For example, in the way in which their work was presented or the taking of creative modules i.e. creating a product promotion in Business or an animation module in ICT. Conversely, some interviewees took a much wider interpretation, linking creativity to problem solving and critical thinking. Again, this may serve to explain some of the conflicting frequencies in the survey responses.

The interviews also highlighted distinctions made between whether an activity was done formally or informally, which would not have been evident from the survey findings alone. This appeared to be specifically related to two activities - presentations and debate. The majority of interviewees indicated that the frequency of both these activities were dependant on whether they were referring to its formal or informal practise. This made a significant difference as to how frequently these activities occurred within their subjects and may serve to provide some explanation as to why subjects in the same field rated either of these activities as occurring at different frequency levels.

Interviewees indicated 'informal' presentation practise occurred very frequently, for example, presenting findings from a task to the rest of a group or presenting the solution to a problem on the whiteboard to the rest of the class. Conversely, 'formal' presentation practise; where a student, or group of students had to research a topic and formally present it to a class or an outside person, was done much less frequently - often only once a term or by topic or unit.

Correspondingly, when interviewees discussed the frequency of debate in their lessons, confusion was evident as to what this term was specifically referring to. The majority of interviewees used the term 'debate' interchangeably with 'discussion'. 'Discussion' was inferred to be a more informal version of 'debate'. As such, 'informal discussion' was a consistent feature of many lessons as opposed to 'formal debate' that took place much less frequently. Interestingly, reflection, which had both formal and informal procedures, occurred frequently according to the surveys and interviewees. Both formal and informal procedures were used regularly.

It also emerged from the interviews that the frequency of project work was almost exclusively interpreted as referring to the frequency of assessed coursework. Only a couple of interviewees mentioned other types of project work out with coursework, for example, extended pieces of research based homework and the EPQ. This corresponded with survey findings, in which subjects with coursework as an integral feature had much higher frequency ratings.

The interviews also suggested an activity may be interpreted as consisting of only one particular feature. This was most noticeable when interviewees discussed how literacy was integrated into their subjects. The vast majority focused on the written element. Verbal literacy was only mentioned on couple of occasions. These findings supported conclusions drawn by YLEC (2014) and OFSTED (2013), that a narrow view of literacy, focusing on the written element, was often applied in schools and that a broader view of literacy, encompassing verbal literacy, needed to be more consistently embraced across schools.

The issues relating to confusion over terminology and interpretation of activities, emphasized above, may provide some explanation as to the disparity between teacher and student survey responses regarding the frequency of activities within and across KS5 subjects. In most subjects, teachers were more positive about the frequency of an activity occurring than corresponding student responses. It may be that teachers, who are the one's planning the content and activities that take place within

their lessons, are more aware of the content of their lessons compared to the students taking their lessons.

Furthermore, students may not have a comprehensive understanding of what each activity entails or have a narrower interpretation of it than their teachers. Students may also not be explicitly aware of what activities are being practised at the time. It stands to reason that if there was confusion by teachers over what an activity encompassed or a particular element of the activity or skill was emphasized, then students would also be likely to encounter similar problems. Indeed, a couple of interviewees explicitly referred to students being unaware of when a skill or activity was being practised or when skills practise was being transferred between subjects. Evidently, this cannot be conclusively confirmed without interviewing KS5 students to discuss their understanding of these skills, but the findings infer that this may well be a factor in the lower frequency ratings of student survey responses compared to teachers and is an area that warrants further investigation.

If employability skills are to be successfully practised and embedded across KS5, the findings are in agreement with the literature - that consensus is needed over terminology and a common framework agreed upon and widely disseminated (Anderson, 2014; Blades *et al.,* 2012; Impetus. 2014; Nunn, 2008; Tymon, 2011). The findings were also consistent with conclusions drawn by Cotton (2001), YLEC (2014) and Yorke and Knight (2007) that awareness of what a skill is, what encourages its practise and reference to when it is being practised is crucial to employability skills' successful provision. This means their explicit practise, inclusion in formal objectives and consistent reflection on their practise, as well as, regular monitoring of their integration into learning and teaching.

Critical to the success of embedding a new pedagogical approach is a whole establishment focus. According to Hodgson and Spours (2014), Smith *et al.* (2007) and Nieveen and Plomp (2018) establishment commitment is a key driver to ensuring an initiative is undertaken, awareness of it is enhanced and it is widely disseminated. The findings from both data strands strongly support this. Where skills such as literacy, numeracy and reflection were the basis of establishment policies, the case for both establishments in which the interviewees taught, there was a much greater awareness of what these skills entailed and greater levels of integration of these skills into learning and teaching. This can be seen in both the survey responses of teachers and students and across the interviews. It could be argued that some skills were practised a lot more frequently than rated in the survey responses, but a lack of common understanding and consensus on what it entailed meant it was rated as occurring less frequently. Additionally, a skill or activity may be practised more regularly if

incorporated as part of a national or establishment focus with appropriate training and resourcing included (Fullan, 2007; Hord, 2004, Nieveen & Plomp, 2018).

5.3.2 The Nature of the Subject

Existing literature has maintained that the most effective way of practising employability skills is to ensure that they are mainstreamed across the curriculum rather than taught as discrete activities (Lexmond & Grist, 2011; UKCES, 2009b; WEF & BCG, 2015). The assertion is that if employability skills are given the same standing as academic and technical skills it will communicate their importance and the necessity of being learned (Cotton, 2011; Suto, 2018). Whilst, this may indeed be the case for many employability skills, the findings from both data strands suggested that the nature of the subject will mean certain skills and activities are more easily integrated in some subjects than others. Accordingly, the mainstreaming of some skills may be problematic in some subject areas, regardless of the desire to embed them across the whole of the KS5 subject range. Thus, they may indeed benefit from being taught as discrete activities, if they are to be given the requisite attention.

This was especially evident in relation to literacy and numeracy. These two skills, as Chell (2011) pointed out, have been the subject of a wealth of resources and initiatives over the years to encourage its embedding across subject areas. The findings showed that the frequency of literacy and numeracy practise was particularly skewed to certain subject areas. The survey findings, broadly consistent across both teachers and students, showed that literacy was practised relatively frequently across most subjects. As would be expected, the survey findings also showed that literacy was practised at a greater frequency in those subjects that had an inherent literacy element i.e. English and Humanities or where written coursework was a significant feature i.e. BTECs. However, as the survey findings also indicated and the interviews further illuminated, literacy was practised much less frequently and relatively superficially in Arts, Maths and Sciences.

Very few teachers listed barriers to the practising of literacy. However, 'course restrictions' were only mentioned by those that taught Maths and Physics. 'Time constraints' and 'lack of subject relevance' were mentioned almost exclusively by those in the Creative Arts. The interviews suggested that whilst these subjects did make attempts to embed literacy, for example through the learning of subject specific terminology, the inherent nature of their subjects meant that it was not as well integrated as in other subjects. Naturally these subjects' focus was on the more integral elements of their subjects, for example, mathematical calculations in Maths and Physics and the production of creative pieces in the Creative Arts.

This was even more pronounced when examining the numeracy findings. As was anticipated, the survey findings showed a much higher frequency of numeracy practise in subjects where it was an inherent part of the subject, namely Maths and Sciences. Respectively, the survey findings showed that numeracy practise was far less frequent in English, Languages, Humanities, Art and Drama. This was confirmed when examining the barriers listed by teacher respondents to numeracy practise. The two largest barriers, 'course restrictions' and 'lack of subject relevance', were predominantly listed by those teaching English, Languages, Humanities and Sport. Although, interviewees from these subjects indicated that effort had been made to integrate numeracy, it was still largely sporadic or topic based. For some, it was at a very superficial level, using only basic calculations. Indeed, several interviewees from these subjects did query if they should be going to such great lengths to embed these skills and activities if they were not a natural fit to their subject.

This does seem to partially conflict with conclusions drawn in the literature that skills are most effectively taught when embedded across the curriculum (Lexmond & Grist, 2011; UKCES, 2009b; WEF & BCG, 2015). This may indeed be the case for many employability skills, but the findings do seem to suggest that certain skills, for example literacy and numeracy, may benefit from being taught as discrete subjects in conjunction with being embedded across the curriculum more widely. This is so that students are able to get the necessary depth of practise in these skills that, at present, might not be practical based on their subject choices. The literature has well documented the UK's historic literacy and numeracy weaknesses, especially the persistent low levels of numeracy widespread across England. Some authors have suggested that the lack of compulsory English and Maths post-16 has hampered attempts to improve these skills compared to its international competitors, where English and Maths are studied in some form post-16 (CBI & Pearson, 2015; Dolphin, 2014b; Kuczera *et al.*, 2016).

Literacy and numeracy were the two skills that were most noticeably impacted upon by the nature of the subject being studied. However, the findings also suggested the nature of the subject played a significant role in the ease to which other skills or activities were integrated into certain subjects and the depth to which they were practised. The findings indicated that this was particularly pronounced for presentations, role play and debate. The findings showed that in some subjects, such as the Creative Arts, presentations were seen as an integral part of the subject and thus, occurred very frequently. Conversely, teachers from Maths and Sciences had lower frequency levels of presentation practise in the survey findings. Interviews with teachers from these subjects indicated that the integration of presentations, especially formal ones, would be very difficult due to the nature of their

subject. Consequently, presentations were often informal and 'off the cuff' activities in these subjects.

Similar findings were noticed in relation to the frequency of debate. The survey findings showed a higher frequency of debate in subjects such as History, Politics, Philosophy and Psychology. This was consistent with corresponding Humanities interviews, where it was asserted that debate and discussion was very much an inherent part of their subject and had a wider scope for this than other subjects at KS5.

Interestingly, the survey findings showed that the frequency of debate was lower for subjects in which there was a large amount of factual content to learn, for example in Maths and Sciences. This was consistent with interviewees from these subject areas who asserted that the large factual content of their subject inhibited the scope for debate. Although, there were a few topics in which it could be utilised such as discussing ethical issues in Sciences. This also seemed to be the case, but to a lesser extent, for other subjects such as the Creative Arts, Business and Sports. There was some opportunities for debate or discussion, but this was more topic dependent. When viewed more informally, i.e. discussing a solution to a problem or a way of doing a task, then this was viewed as a more integral part of teaching and occurred more regularly as a result.

Role play is a noteworthy activity in this regard. It was rated as one of the most infrequently practised activities across the KS5 subject range. 'Lack of subject relevance', 'course restrictions and 'time constraints' were the three largest barriers listed as restrictions to its practise. Correspondingly, interviewees from Art, Maths and Sciences queried how it would naturally fit into their subjects. It appeared to be a more 'natural' fit for several subject areas including Business, Humanities, Sports and English. For example, the use of trainer and client role play in Sport or the role of a customer and retailer in Business. However, it is worth noting that some interviewees, for example those from Sports and Business, interpreted role play more in relation to the recreation or simulation of work place environments, not just recreation of characters from a text or history.

Accordingly, if role play was interpreted in this manner, it may be more easily integrated into the subjects that felt it was not a 'natural' fit. Findings from the Arts interviews lend some credibility to this assertion. Both Arts interviewees were very positive about the lengths they went to recreate an authentic workplace environment and simulate the activities, such as presenting their work, that students would be required to do in employment. This suggested that role play may indeed already be integrated into their subjects, but they were simply unaware that this was taking place and the

nature of their subject may not have as bigger impact than they believed. It could be concluded that, apart from literacy and numeracy, the majority of other employability skills activities that were less frequently practised, may not be a natural fit in some cases, but that if the content of their specifications were adapted they may well be integrated more easily.

5.3.3 The Method of Assessment

The findings from both data strands strongly suggested that the method of assessment had a significant impact on the frequency of certain skills practise, the form that practise took and the depth to which it occurred. The findings supported conclusions drawn by previous reviews by Anderson (2014), Baker (2015), and Intel *et al.* (2008, p. 6) that 'the paramount determiner of what is taught, how it is taught and what is learned, is what is assessed'. Most reviews, however, have very much focused on summative assessment in the A Level curriculum and how such exam driven assessment has impacted upon attainment of wider skills. The findings did confirm much of the assertions made about the detrimental impact an exam-based curriculum can have on wider skills development. However, the findings also showed, more broadly, that the dominant mode of assessment whether it be predominantly exam based (most A levels) or coursework based (BTECs), will exert a significant influence on the depth and breadth of skills practise in those subjects.

In the 25 subjects covered in this project, 22 were A level subjects in which 16 of these were assessed almost exclusively by examination. Six A level subjects, those in the Creative Arts and ICT, had a substantial coursework element. There were also three BTEC subjects BTEC Business, BTEC Health & Social Care and BTEC Sport, which were assessed entirely through coursework. Therefore, many of the subjects covered in this project were A levels in which the dominant method of assessment was by summative examination. A number of assessment related issues emerged in relation to the A level system, in particular.

The A level system has been the subject of significant scrutiny over the years. Academics such as Allen (2015) and Spours *et al.* (2016) have argued that the A level system with its 'narrow' focus on examination has become increasingly prescriptive and 'content heavy', especially after recent government reforms. Similarly, Anderson (2014; 2017) and Ordonez and McClean (2007) have long maintained that a predominantly exam focused curriculum alters the paradigm of education towards 'knowledge accumulation' or 'teaching to the test' to the detriment of 'mastery of knowledge' and wider skills development. These assertions were broadly supported by the findings, though the impact of an examination emphasis was felt more acutely in specific subjects and in relation to particular skills and activities.

This is perhaps most notable, when examining the findings relating to the barriers to skills practise listed by KS5 teacher survey respondents (See Appendix G). 'Course restrictions' and 'time constraints' were by far the most recurrent barriers to skills practise noted. Both were listed as barriers in twelve of the thirteen of categories. When combined, both these barriers were listed by over a quarter of respondents in relation to three activities in particular: project work, creative work and presentations. These also broadly correlated with lower frequency ratings of these activities in exam based subjects. This was also confirmed by interview responses in which 'time constraints' was mentioned repeatedly in relation to the trade-off between a skill being practised and getting through the large amount of subject content for examination. Correspondingly, restrictions imposed by the course content were also highlighted with regards to the inability to properly integrate particular skills and activities. Although, it is worth emphasizing that this was not limited solely to A levels, but was also indicated as a constraint in relation to subjects with coursework as their dominant mode of assessment, albeit to a lesser extent.

The restrictions imposed by the course content on creative work were noticeable across both data strands, with the interview findings suggesting that for some subjects, noticeably in Sciences, the content was very factual and prescriptive allowing little room for creativity. This lent credence to assertions in the literature that the prescriptive nature of some existing course content has encouraged 'knowledge accumulation' to the detriment of creativity and innovation (Allen, 2015; Anderson, 2014; 2017; Hodgson & Spours, 2014a; Ordonez & McClean, 2007). However, this cannot be definitively concluded, as issues have been raised earlier about how broadly 'creativity' can be interpreted, especially when viewed in the context of problem solving, as Maths interviewees have shown.

The relationship between the frequency of project work and the method of assessment appeared to be very close. Project work has been championed as a particularly effective activity for developing a host of employability skills including self-management, problem solving, teamwork and creativity. Yet, project work, in the form of coursework, has been almost entirely removed from most A-Level assessment with the exception of the Creative Arts (Anderson, 2017; Suto, 2018). It was very clear from the findings that those subjects either entirely coursework based (BTECs) or with some degree of assessed coursework rated its frequency much more highly than those that were almost exclusively exam based. This stark contrast in the frequency of project work between the two assessment methods was also highlighted by interviewees from Sport and Business who taught both A level and BTEC.

Those interviewees who taught exam-based subjects were in widespread agreement that 'course restrictions' and 'time constraints' were significant factors in their limited use of project work as an activity. Project work was viewed as particularly 'time consuming' and was effectively side-lined in favour of 'getting through the content' and exam preparation. This was reaffirmed by the relatively high proportion of teacher survey respondents from exam based subjects who listed 'course restrictions' and 'time constraints' as barriers to carrying out project work.

The literature has suggested that the reasons for the removal of coursework has, in part, been due to its perception as a less reliable and valid assessment method. Subjectivity and rigor concerns are the mostly commonly cited issues, for example, excessive help from teachers and parents and lack of consistency of assessment across awarding organisations (Care & Kim, 2018; Higton *et al.,* 2012). However, this was not something that appeared to be supported by the findings. Those interviewees that had had their coursework element removed in recent years were not positive about the move towards even more exam-based assessment. On the contrary, interviewees were very positive about project work in general and saw the removal of it as a 'retrograde step'. Several interviewees also disagreed that parental involvement or plagiarism worries were a pivotal concern and asserted that this was a common misconception perpetuated in the Media. Those that had a large element of project work in their subjects were very reaffirming about its benefits and viewed it as an important practise for the workplace.

The academic and policy literature seems to be at conflict. Project work has been championed by many as a very beneficial way of practising many employability skills, as well as, providing a vehicle for practical and laboratory skills practise (ARG, 2010; Gipps & Stobart, 2003, Higton *et al.,* 2012). Indeed, the EPQ for example, has been widely advocated in policy literature and coursework remains the dominant method of assessment in BTEC qualifications (Anderson, 2017). Yet in the same instance, it has been criticised as an assessment method with concerns highlighted over its subjectivity and rigor leading to its removal from many mainstream A level curriculums.

The findings seemed to align with the inclusion of project work as a worthwhile method of assessment. However, it should be noted that project work will continue to be side-lined in favour of exam preparation, unless explicitly included in assessment criteria. Some interviewees from exam based subjects indicated that they may occasionally include project work as part of an extended piece of homework. However, very few alternative examples were given by those interviewees whose subjects were predominantly assessed by examination. On the contrary, those that taught BTEC and

Creative Arts gave a myriad of different examples of project work including a variety of individual and group projects. The utilisation of a variety of project methods often seen in BTECS and Creative Arts, aligned with the views of Care and Kim (2018) that these types of projects were especially valuable in enhancing skills development.

To create an environment conducive to overall skills development, it requires teachers to have autonomy and flexibility. Teachers need to be 'facilitators' rather than 'imparters' of knowledge and facts to 'passive' recipients (Chell, 2011; Cotton, 2001; Nunn, 2008). As Nunn (2008) and Staz *et al.* (1993) maintained, teachers need to have autonomy and sufficient time so that they have the flexibility to incorporate a range of activities that encourage skills practise, notably group work, presentations, problem solving tasks and workplace based scenarios. The survey findings indicated that some of these activities were done fairly frequently. However, the form that they may take, due to the time constraints imposed by highly prescriptive course content restrictions, meant that they were often limited in scope.

Perhaps the most notable example of this from the findings was in reference to literacy practise. The rate of literacy practise, on the surface, was not determined by the way the course was assessed i.e. A Level or BTEC. However, the interviews provided greater insight into the type of literacy that was being practised. Indications were that the majority of literacy practise whether it was occurring in an A level or BTEC qualification, was almost entirely focused on the written element. Its practise was often mentioned in relation to preparation for exams or improving QWC for assessed pieces of work. Research by YLEC (2014) and OFSTED (2013) have highlighted this narrow focus on the written element of literacy at the expense of verbal literacy. Indeed, the findings did support their assertions that there was a disproportionate emphasis on written literacy, due largely from its dominance in assessment criteria.

Nevertheless, both survey and interview findings suggested students do have occasion to practise verbal literacy, but mostly in the form of informal discussion and debate which was not subject to as great an emphasis in lessons. Informal discussion did occur more frequently in subjects that naturally lent themselves to it, for example Humanities, but was not confined to a particular assessment method. Interviewees from both BTEC and A Level based subjects provided a wide range of examples of areas utilised for discussion and debate. Although, Science interviewees did suggest that areas for more in-depth discussion i.e. the ethics of science had been minimised in the new specifications in favour of more prescriptive fact-based content. However, no interviewees from exam-based subjects indicated verbal literacy in these guises was in any way assessed or formalised,

apart from the odd occasion of a presentation or debate related to a particular topic. Conversely, those that taught BTEC subjects gave numerous examples including in BTEC Business - the formal presentation of a business plan to outside business persons, which was built into the specification and was formally assessed. It can be concluded that informal debate and discussion was the main method of verbal literacy practise, regardless of subject assessment method and does suggest students are encouraged to debate and question on a regular basis rather than receiving knowledge or facts passively as Nunn (2008) implied. Though, the assessment of it is very much dependant on the type of qualification.

Group work, has also been championed in the literature as a beneficial pedagogical practise in its own right for the encouragement of skills including self-management, teamwork and communication (Anderson, 2017; Nunn, 2008). The survey findings were in broad agreement that group work was a frequent feature of most lessons across the majority of subjects, regardless of assessment method. However, what the interviews illuminated was that the method of assessment, in combination with the nature of the subject and additional barriers, did impact upon the type of group work undertaken.

The majority of group work was in small groups or pairs and was part of regular teaching practise. Indeed, students were encouraged to collaborate to research a topic, work on problem solving activities and reflect on each other's work. The time-consuming nature of large group work meant it was a rare occurrence, unless it formed part of the assessed criteria such as in BTEC Sport or the Creative Arts. This was consistent with both 'time constraints' and 'course restrictions' being listed as a barrier by 19% of teachers and highlighted by several interviewees from exam based subjects. The time spent on larger group work activities had to be balanced against the time consequently lost in moving through the curriculum. Concerns over student engagement and 'free rider' issues were not as much of a prominent constraint on group work as often emphasized in the literature, when compared to the constraints imposed by time and course content (Anderson, 2014; Nunn, 2008;). Barriers relating to student behaviour and engagement were only listed in small percentages by teacher respondents and by a few interviewees (See Appendix G).

Perhaps one of the most surprising findings was the role the assessment method played, albeit indirectly, in the frequency of ICT use. The importance of ICT has been championed across academic and policy literature. However, the House of Lords (2014) in its review of Digital Literacy expressed concern that ICT was not given the same standing as literacy and numeracy. The findings did align with the conclusions of the House of Lords (2014) review. ICT was not given the same

standing as other skills, nor did it appear that its importance as a skill was recognised sufficiently so as to be integrated regularly into all subjects, regardless of the type of subject it was or how it was assessed.

The findings from both surveys indicated that unless ICT was viewed as integral to the teaching of a subject, for example in the Creative Arts or BTECs, ICT was not embedded into the curriculum as an essential skill to be developed as was evident with literacy, numeracy, problem solving and reflection. This was most obvious in subjects that were exam based. ICT was not critical to the successful passing of examinations in such subjects. Consequently, they were not given the same level of access to ICT as other subjects where it was seen as critical i.e. BTECS and the Creative Arts.

This seemed in part to be a resourcing issue. There were a finite number of computers or computer rooms available and priority was given to those subjects in which the use of a computer was critical to the successful learning and teaching of that subject. Indeed, the size of the main barriers to the use of ICT, namely 'availability and quality' of ICT, was listed by 47% of teachers, mostly from exam based subjects. This provided additional weight to the survey and interview findings that indicated lower frequency levels of ICT across exam based subjects.

It was evident that interviewees were aware of their lack of access and had tried to utilise other sources such as smartphones in class, but there seemed to be a lack of real variety in the way ICT was used outside basic Microsoft Office packages and Internet based research. Teachers were aware of the types of specialist ICT equipment and packages that could be used in their subjects, but as it was not compulsory for the teaching of their subjects, it was not something that could be adequately resourced. This was in stark contrast to the range of specialist hardware and software that Art and Design subjects had at their disposal.

The constant trade off in terms of allocating time to subject content and working towards assessments was a powerful disincentive to doing certain skills practise in greater depth. What was surprising, was that this was not only a trade-off that teachers were concerned with. It became evident from the teacher interviewees that students, regardless of whether they did A levels or BTECs, were very focused on what was required of them from their course specification, especially, in terms of what was assessed. Students were very unenthusiastic about doing activities that they could not directly see as contributing to gaining their qualification.

5.3.4 Learning and Teaching Methods

It was evident from the findings that some skills and activities had been successfully mainstreamed across the curriculum. These skills were viewed as an integral part of pedagogical practise regardless of the subject that was being taught or the assessment method used. It suggested that teachers, despite the many barriers they face, are building some skills practise and activities into their classes. The three skills and activities that stood out in this regard were problem solving, reflection and the integration of real life examples. Two others, literacy and group work, also had elements that had been successfully integrated and mainstreamed across KS5 subjects. The encouragement of attitudes (positive attitude and self-management) was also seen as an integral part of teaching practise.

The findings suggested that the literature was correct in asserting that long standing barriers such as 'time constraints', 'curriculum content' and 'assessment methods' did play a significant role in hampering the integration of many skills and activities (Hargreaves & Fullan, 2012; Lexmond & Grist, 2011; Nieveen & Plomp, 2018). However, the findings did also indicate that this may not the case for all skills with certain skills given the appropriate time and curriculum space necessary.

Problem solving and reflection are two skills, in particular, that the literature has highlighted as being particularly important to the type of pedagogical practise that encourages wider skills development. These skills featured prominently in the learning theories of Dewey (1933) and Kolb (1984) and the 'democratic instructional approaches' that have been championed by Cotton (2001), Gregson (1992) and Nunn (2008).

The findings broadly indicated that problem solving was well integrated across the KS5 curriculum. Although, it is worth highlighting that students were less positive about the frequency of problem solving than teachers in the surveys. Whilst, it cannot be determined for certain without student interviews, one possible reason for lower positivity levels of students was given in the teacher interviews – that students might not be as aware of when skills practise is taking place. Teachers were very positive about the frequency of problem solving in their survey responses and particularly in the interviews. The vast majority of interviewees specifically referred to problem solving as 'being innate', 'inherent within the subject' and 'embedded'.

Interviewees also provided a wide array of ways problem solving was integrated. Problem solving was often combined with other skills practise such as group work, reflection and the use of realistic scenarios. This formed part of a wider determination by teachers to improve student's thinking skills across a variety of situations and scenarios. Examples given by interviewees of such integrated

practises consistently included the use of problem based real life scenarios, for example, aid relief planning for natural disasters in Geography, specific medical case studies in Biology and the use of business problem solving tools such as PESTLE analysis in Business case studies. It appeared evident from the interviews of the importance of student's practising these skills within a relevant and realistic context. This was not only through the use of real life based scenarios, but was often carried out in groups, as would be the case if such scenarios were encountered in the workplace. Additionally, the importance of appropriate reflection on the task afterwards was also seen as a critical element of improving student's overall thinking skills.

Correspondingly, teachers in both surveys and interviews saw no particular barriers to the inclusion of problem solving activities, only that students could find it challenging and so engagement could sometimes be a constraint. Several interviewees gave the indication that this was to do with how conditioned students were into just passing exams and the high levels of 'spoon feeding' that accompanied this focus. However, on balance it appeared that problem solving was embedded and practised frequently in a variety of different ways. Yet, it was something that students would benefit from doing even more regularly.

Similarly, across all data strands, the frequency of reflective practise was high, regardless of subject or assessment method. Both teachers and students were in very close agreement in terms of its frequency. As previously discussed, reflective practise was a whole establishment focus and students and teachers were explicitly aware of what it was and when it was being practised. Correspondingly, teachers gave some extensive explanations of both the formal and informal methods they used to encourage reflection from 'next step' reflective tasks, peer critiques, one to one feedback and the use of starter and plenary reflection exercises. Teachers appeared to be well aware of its importance as a pedagogical practise. Again, few barriers were listed in relation to its practise, although 'time constraints' were again cited, as well as 'student ability'. Interviewees gave some further insight into issues relating to 'student ability'. It appeared that some students still struggled to grasp the importance of it compared to the grade they received and would not engage with reflective tasks as much as they perhaps should.

There is some evidence from the findings to suggest that for these skills at least, teachers are not following the 'didactic teaching and learning styles' to which some of the literature has inferred was the case (Gregson, 1992; Nunn, 2008). The findings relating to problem solving and reflection seem to very much align with the central tenets of 'meta cognition approaches to learning and teaching',

notably, experiential learning, problem solving and reflection which the literature concludes is essential for the embedding of such skills (Cotton, 2001; Nunn, 2008; Pegg, 2012).

The findings also disputed the conclusions, drawn in both academic literature and wider stakeholder reviews, that attitudes especially self-management and motivation are often overlooked (Blades *et al.,* 2012; Lexmond & Grist, 2011). The findings showed that at least in terms of positive attitude and self-management, their encouragement was a very frequent feature across KS5. Interviewees referenced a substantial range of ways of encouraging these attitudes from target setting, repetition of high expectations, longer homework assignments, modelling professional behaviours and regular discussion of the importance of these attitudes for the workplace. The findings did seem to agree that some students did struggle with these attitudes, as the literature and many employer reviews have concluded (CBI & Pearson, 2016; UKCES, 2015; Wilson *et al.,* 2014). However, the assertion that these are overlooked at establishment level didn't seem to be the case. The balance of evidence suggested that the opposite was true - that teachers and establishments did focus on these attitudes a great deal. They may not be formally assessed, but evidence of its practise was clear.

5.3.5 KS5 Curriculum and Subject Choices

The findings did lend support to those in the literature that have argued that the post-16 system, in its current incarnation, is too narrow and specialised to equip students with the broad array of skills practise needed for the modern workplace or society (Anderson, 2017; Baker, 2015; CBI, 2016; Dolphin, 2014b; Higton *et al.,* 2012; Hodgson & Spours 2014). Although, the findings did indicate that there were a few skills and activities that were likely to be included frequently in classroom teaching, regardless of the subject or its assessment method. Such skills and activities were: problem solving, reflection, the encouragement of workplace attitudes (positive attitude and self-management) and the use of real life examples. However, as discussed earlier in this section the nature of the subject, the prescribed content of its specification and the assessment method did appear to have a significant impact on the depth and breadth to which skills and activities, in general, were practised across the KS5 subject range. This was most conspicuous with regards to the depth and breadth to which numeracy, ICT and project work, and to a lesser extent literacy, were practised across particular subject areas, even when the focus of establishment policy.

It became apparent when collating the student responses that many students restricted themselves to particular subject area groupings. Common subject groups evident were Maths and Sciences, Creative Arts or English, Humanities and Languages. Consequently, the depth to which these students' practised numeracy, literacy, had access to ICT or did project work would vary

considerably. Those choosing a Maths and Sciences path would have very frequent numeracy practise covering breadth and depth in that skill, but would have much more superficial levels of literacy geared, in the main, to writing examination questions. Conversely, those taking a route encompassing mostly Languages and Humanities would have very frequent literacy practise and may have some specific numeracy practise, for example analysis of data tables and graphs, but the amount of numeracy practise would be noticeably diminished in terms of its depth and breadth.

Both these subject area groupings, with their dominant assessment method of examination and the removal of coursework in recent years meant project work was also minimised. It was often overlooked in favour of working through 'content heavy' curriculums and exam preparation. Correspondingly, ICT practise was not routinely integrated into these subject groupings other than for research purposes or the use of basic Microsoft Office functions. ICT was effectively side-lined as a non-essential practise, often facing significant 'time constraints' and 'content restrictions', as well as competition for the limited resources that establishments had at their disposable. Conversely, those taking Creative Arts did have access to a range of specialist ICT equipment and packages, as it was an integral part of their courses and would also have a substantial project work element. However, the depth of literacy and numeracy practise in these subjects would also be fairly superficial.

More broadly, this was a concern with most subject combinations encountered. Unless the combination included subjects with a substantial numeracy, literacy, project work or ICT component, it was very unlikely that students would achieve the depth and breadth of any of these skills to the extent they would, if taught as discrete subjects.

With the choice of subjects being a pivotal determiner of the depth and breadth of literacy and numeracy in particular, it can be argued that subject choice may have a significant impact on students' future career options. England is unique in not having some form of compulsory Maths and native languages study post-16 compared to most of it international counterparts (Wrigley, 2015). Kuczera *et al.* (2016) believed that the impact of this lack of compulsory English and Maths was evident in persistent lower levels of literacy and numeracy attainment on international measures such as PISA. Certainly, the findings did indicate that students' subject choices meant they could easily either do a great deal of one and very of little of another. This also lent support to conclusions drawn from previous reviews such as *The Tomlinson Report* (2004) and *The Leitch Review of Skills* (2006) alongside studies by Anderson (2014) and Baker Dearing Trust (2017), that such specialism into narrow subject areas post-16 determined students' career path at a very early age. It often lead to the

abandonment of a significant proportion of other subject areas and the variety in skills and knowledge that they bring. Students could effectively rule themselves out of large swathes of potential careers opportunities, as can be seen in the persistent STEM shortages faced in the UK. The restriction to a few subjects also impacted upon the frequency to which other skills and activities, especially, presentations, role play, debate and creativity would occur and the variety of ways they could be integrated. However, this was not as stark a contrast as the impact subject choices had on literacy, numeracy, ICT and project work.

The findings did tend to support conclusions drawn from previous research that vocational subjects such as BTECs are better suited than their A level counterparts in providing a broader range of skills practise (Blades *et al.,* 2012; Chell, 2011; Deloitte, 2010; Nunn, 2008). Whilst, BTECS did seem to provide a greater frequency of skills practise and a wider variety within them, the concerns raised regarding the frequency of numeracy practise across these subjects persisted as well. Whilst, there was evidence of numeracy practise, it was often only topic based or at a relatively superficial level compared to those who would take A Level Maths and Sciences. However, in relation to literacy, ICT and project work, which were the other skills and activities that seem to be impacted upon most by A-level choices, this was not as significant a concern with BTECs. BTECs included all of these in their subjects much more frequently than their A-level counterparts. Additionally, there seemed to be very few subjects in which students have the choice between either an A level or a BTEC route. Wolf (2011) may indeed be right that vocational routes still play a reduced role in the KS5 curriculum and access to them across a broad range of subjects is limited and marginalised.

On balance, the findings do support the growing consensus amongst both public reviews and academic research that the English USE system may need to be broadened and lengthened to a Baccalaureate style system characterised by a broad range of subjects, compulsory English and Maths and an extended project (Anderson, 2017; Baker, 2016; Compass, 2014; Dolphin, 2014b; Hodgson & Spours 2015; Tomlinson, 2004). The findings did indicate that the system at present does not allow for all skills to be sufficiently practised in the depth and breadth required for the modern workplace or society, especially when compared to our international counterparts.

5.4 Workplace Awareness and Business Engagement

This section briefly discusses the themes that emerged in relation to the research question: what sources of information and training do teachers and students receive regarding employability skills?

It will look at how teachers and students gained greater insight into employability skills, not only through the sources of information and training they could access, but also through the use of real life examples and engagement with businesses.

The literature, most notably in research that has originated from the public rather than the academic domain, has suggested that there is a lack of awareness and confidence amongst teachers and students with regards to the current working environment (CBI, 2015; House of Lords, 2014; IPSOS MORI, 2000). The findings did indicate there was a lack of confusion and understanding regarding the terminology of employability skills and what they may entail. However, the findings also showed that teachers, at least, had a good awareness of the business environment, especially in relation to their subject area. They made concerted efforts to embed real life examples within their subjects, create links with businesses and arrange speakers and visits.

The findings from both teachers and students' surveys showed they were in broad agreement about the consistent use of real life examples in their lessons across almost all of their subjects. Indeed, when teachers were asked about the barriers to the use of real life examples, over 90% of teacher respondents indicated there were none. Correspondingly, the teacher interviewees gave a wide variety of examples of how they made frequent use of authentic materials in their subjects. It was also evident that both establishments did make concerted efforts to organise speakers and visits, as well as, some subjects running subject specific academies. Interviewees also mentioned regular workshops, subject days and networking meetings. Both establishments had organised various careers talks, lectures, as well as, holding regular discussions about employment through tutorials. All of which occurred throughout the academic year.

The literature has made much of the lack of interaction between schools and businesses with several high-profile reviews by the likes of Belt *et al.* (2010), Dolphin (2014b) and OFSTED (2013b) raising significant concerns about the existing levels of business engagement. The findings were mixed in this regard. There was good evidence to suggest that both interviewed establishments went to great lengths to create connections with local businesses. Many teachers felt that, as an establishment as a whole, there was good coverage and a sufficient variety of business engagement in terms of speakers and visiting professionals across the academic year. However, some teachers did express a desire to increase the frequency of business engagement within their own subject, but access, timetabling considerations and cost implications limited this. In this regard, the findings did seem to disagree with the level of connections between businesses and schools, but were in agreement in relation to some of the barriers that hamper further engagement (YLEC, 2014).

Several interviewees also highlighted the lack of careers advice and work experience the students were able to access. For these interviewees, this impacted upon students' awareness of the work place and the skills they needed as a result. The removal of careers advice and lack of work experience available to students has featured frequently in discussions in the literature with regards to business engagement. The findings were in agreement that this was very much lacking and was an important method of improving students' awareness of employability skills and the working environment (CBI & Pearson, 2015; McCrone *et al.,* 2015; Skills Commission, 2014). Teachers also seemed conscious of some of the issues relating to how prepared students were for the workplace and what needed to change. These findings seemed to contradict some of the literature's assertions that teachers may be unaware of recent developments in the workplace and what was required to improve students' employability (Belt *et al.*, 2010). Indeed, this is somewhat surprising given the findings suggested that over 75% of teachers had received very little information or formal training on employability skills, or anything related to it, in the last two years.

Some interviewees did feel they were predominantly preparing students for HE rather than the workplace and this was also highlighted in the some of the literature. Concerns were raised in the interviews about levels of particular skills students had, notably numeracy, problem solving and communication skills. This mirrored existing literature concerns over these skills (CBI & Pearson, 2015; Kuczera *et al.,* 2016). However, this was more of a national policy constraint in terms of the curriculum and education system, rather than teachers' lack of awareness or attempts to integrate skills in their lessons, despite the constraints imposed upon them.

However, there also seemed to be a view that students were prepared in most of the basics. The issue was more one of improving awareness, not only of the skills they needed, but also of the workplace in general. This seemed to be linked to the lack of careers advice available and work experience. Again, teachers were aware of these restrictions, but the solution seemed to be needed to be implemented at a national policy level rather than at an establishment level, which was consistent with recommendations given by the literature (Anderson, 2014; Belt *et al.,* 2010; McCrone *et al.,* 2015; Skills Commission, 2014).

5.5 Chapter Summary

This Chapter provided a detailed thematic discussion of the findings relating to the two data strands, teacher and student surveys and teacher interviews. These themes were driven by the research questions that had been posed. Within these themes the findings were compared and contrasted with points of consistency and contrast highlighted. These findings were also compared against the existing literature to determine levels of agreement or disagreement. The following chapter will provide an overview of the key conclusions that were drawn from the research and provide recommendations not only for future research, but for existing teaching practice.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

The purpose of this research was to determine how well the KS5 curriculum prepared students for the workplace in terms of their understanding of the skills they need for the workplace and the frequency to which these skills are practised prior to leaving formal education. To address this a Convergent Parallel MMR approach, detailed in Chapter Three, was implemented. This entailed surveys of both KS5 teachers and students across three English educational establishments and interviews with KS5 teachers from two of these establishments.

Through the use of this approach, the research carried out a detailed examination of the depth of understanding of the concept of employability skills across KS5 teachers and students within these establishments and the sources of information and training they may receive regarding employability. It also delivered a thorough review of how frequently employability skills, and activities that may encourage these skills, were integrated across the range of KS5 subjects, as well as the form that they may take. Finally, the research highlighted factors that encouraged or hampered the integration of these skills and activities into learning and teaching.

This chapter now seeks to detail the 'meta-inferences' or conclusions that can be drawn from the research, addressing the research questions detailed in Chapter One. This will be followed by recommendations for the improvement of employability skills provision at KS5 at both the national policy level and at the establishment & classroom level. Finally, limitations of the research will be discussed, as a well as, some suggestions for further research.

6.2 Conclusions Drawn From The Research

6.2.1 The Impact of The Lack of Consensus Over Employability Skills Terminology

Debate over the concept of employability skills, both in terms of how it is defined and what it should entail, has been a persistent source of contention across both academic and policy literature. This is despite there being a burgeoning raft of definitions and frameworks of employability skills drafted by high profile national and international bodies, notably the CBI (2015), UKCES (2009),

WEF (2015) and OECD (2018). This persistent lack of consensus and the confusion that it exacerbates has evidently filtered down to the establishment level, hampering both understanding and integration of employability skills in the classroom. There was some broad awareness of employability, employability skills and the wider working environment, especially amongst teachers in their subject areas. However, there was little evidence of a consistent approach to the terminology used in relation to employability skills or any type of defined framework being utilised. A broad array of terms that were used to describe skills and distinctions made between 'functional' skills and 'soft' skills added to the confusion evident about the concept amongst KS5 teachers and students.

This was compounded by the lack of training or sources of information on employability skills and the wider working environment that teachers had access to. Even when training had been available it was often limited to a particular skill, for example literacy or numeracy training. It appeared that teachers were very much relying on their own knowledge and experience, and to their credit, sourcing the information themselves. Students had a greater variety of speakers, meetings and discussions about employment and careers. However, there seemed to be no consistent provision of information specifically relating to the skills they needed for the workplace. It was on a much more 'ad hoc' basis through discussion in class and tutorials. The lack of awareness students had on employability skills and when they were being practised was a particularly surprising and concerning finding.

The lack of consistency and awareness of what employability skills are and what these skills encompassed had a greater impact on the frequency of skills provision than expected. This lack of awareness of some skills was most noticeable in the different ways teachers interpreted what a skill or an activity entailed. For example, whether they took a broader or narrower view of what that skill or activity encompassed. The consequence of this was that some skills and activities were prioritised, whilst, practise in others was noticeably marginalised. What was particularly interesting was that this filtered down into the practise of specific elements of particular skills and activities. Confusion over what a skill entailed meant that certain elements of a skill would be prioritised over other elements.

What was clear, was that when a particular skill was part of an establishment policy, the case with literacy, numeracy and reflection, there seemed to be greater shared understanding of that skill and what it entailed, improved school wide guidance and resources and more collaboration through, for example, focused committees. This would filter down into the increased frequency to which that skill was practised in lessons and the improved awareness of students of that skill.

6.2.2 The Breadth and Depth of Employability Skills Practise Across the Current KS5 System

The research identified that the nature of the subject and the dominant assessment method used were pivotal determiners, not only of the frequency of skills practise, but the form that practise took. The method of assessment, especially, had a substantial impact upon the frequency and depth to which a certain skill or activity was practised. This was true of both the main types of assessment, examination or coursework, encountered in this research. Interestingly, it was not only teachers that were driven by the assessment criteria. According to the interviews, students also appeared very focused on what was assessed and less interested in tasks that didn't directly relate to the assessment criteria. As such, the method of assessment and the assessment criteria very much drove what was taught and how it was taught, or in the students' case, engaged with.

The adverse influence that the assessment method had on skills provision, in terms of reducing the frequency of certain skills, notably project work and ICT, was most evident in subjects which were almost exclusively exam based. The substantial influence that an exam based assessment method had on both these skills were particularly surprising. Neither should have been difficult, on the face of it, to integrate across all subjects, unlike numeracy where the nature of the subject could make it harder to integrate into some subject areas. However, the restriction of these skills was more down to the time constraints that a 'content heavy' exam based curriculum imposed on the variety of activities that could be included. With ICT, the limited resources available establishment wide compounded this further - meaning ICT resources were prioritised to subjects in which it was critical to the completion of the subject.

As the findings of the research agreed, much has been made in the literature about the adverse impact an exam-based system has on skills provision. Indeed, a substantial change to the assessment system to include more variety in assessment methods would help improve the frequency of skills practise. This should also include changes to the content of some subject specifications to provide a greater variety of subject material to encourage the frequency of skills practise, for example, the inclusion of areas for discussion or debate in combination with factual content.

However, the research also showed that changing the assessment method alone will not lead to the adequate coverage of all skills. The nature of some subjects will make it difficult, regardless of the assessment method, to incorporate certain skills. This seemed most evident in relation to literacy and numeracy. The current system of studying of three or four subjects often grouped into particular subject areas does not provide a broad coverage of all skills. To ensure that key skills such as literacy and numeracy are taught in the requisite depth and breadth, the research indicated that these would

benefit from being taught as discrete subjects. Whilst ICT, can be embedded more effectively across subjects, the research has shown that, with the exception of a few subjects concentrated in the Creative Arts and ICT, ICT provision was very narrow in the form that it took. To really improve student's breadth of ICT skills and increase their exposure to a variety of ways it can be utilised and the programmes available, ICT should also be taught as a discrete subject.

There is no doubt this would require a significant upheaval of the KS5 system towards a broad-based baccalaureate style general leaving qualification, as others, discussed in the literature review, have suggested and this research also supports. However, many of the skills could be incorporated more readily into the existing system if assessment methods were reduced and varied and content broadened in scope, to allow teachers greater autonomy and flexibility to incorporate a greater range of skills activities. The research has shown that teachers are already incorporating a variety of skills as part of their teaching practise in innovative and engaging ways, even with the significant constraints imposed upon them. Improved awareness of some skills such as creativity and problem solving and how activities such as role play, debate and presentations can be better integrated, formally and informally, would aid this a great deal.

6.2.3 Workplace Awareness and Business Engagement

Some in the existing literature have suggested that teachers' workplace awareness is limited. The findings from the research indicated that this was not entirely the case. There may well be confusion over the terminology used for employability skills and what a skill might entail, but overall teachers did have a sound awareness of the business environment. This was especially true in relation to their particular subject area. Teachers had embedded the use of real life examples adeptly in their subjects and used a wide variety of mediums and sources. This included attempts, in many subjects, to simulate real life scenarios. Although, this could still be embedded much more frequently, especially if some course content was adapted to enable this. Teachers did seem to be relying on their own knowledge and experience a great deal. As the research showed, they received very little information or training on employability skills or on the current working environment more generally.

The literature has also expressed serious concern over the lack of interaction between schools and business. However, the findings showed that the interviewed establishments went to great lengths to create connections with local businesses including a range of talks, visits, subject days and networking meetings throughout the year. With the limited resources and time constraints imposed, it appeared that both establishments did have a wide variety of opportunities for students to engage with people and businesses across the academic year. However, the removal of careers advice and

the voluntary nature of work experience post-16, meant students did not always have consistent exposure to the types of advice and experience which teachers felt were very beneficial to raising students' awareness of the working environment. This was in agreement with existing literature.

6.3 Acknowledgement of Limitations & Avenues for Further Research

Whilst the limitations of the research have been discussed previously within Chapter Three, there are a few further caveats worth noting. The research was limited to KS5 teachers and students' views of the frequency of skills and activity practise within their lessons. With greater time and resources, the inclusion of observations of lessons across the whole subject range would have provided another strand to compare and contrast the other findings with. This opens up another avenue for further investigation - to compare whether perceptions of how frequently an activity occurs equates to the observed findings. It may have also been worthwhile to carry out a more longitudinal study to see if the frequency of these activities were the same throughout the whole two years or if any events such as examinations skewed the frequency of particular activities.

Due to time and logistics constraints, the interviews were confined to KS5 teachers. Individual student interviews would have provided a valuable source of insight into the frequency of activities and the form they took, as the teacher interviews had. This was initially attempted, but the logistical difficulties and the time needed to ensure an adequate coverage of student interviewees from across the KS5 subject range, was too great a logistical challenge. Gaining further insight into students' awareness of employability skills and the working environment, as well as, how they view how well school prepares them for the workplace is very worthy of further investigation, but would require a team of researchers due its logistical complexities.

The research focused in the main on A levels and BTECs as these were the most common types qualifications across the establishments researched, but there are a whole host of vocational qualifications which would have been interesting to compare against. Similarly, IB programmes are being increasingly offered alongside A level curriculums in many establishments and it would have been fascinating to compare skills provision of the A-Level system against the IB programme within the same establishment.

6.4 Recommendations

6.4.1 National Educational Policy Level Recommendations

- At an educational policy level, it is recommended that a formal definition and framework be adopted. Ideally this would be consistent across all levels of the education system, however, at the very least one should be adopted and agreed upon for the English USE system. There are many excellent frameworks in the literature, but it is felt that the most appropriate one for the English USE is the UKCES 2009 definition and framework. However, the important thing is that a definition and framework is chosen and disseminated widely across the system. This would increase awareness of employability skills and help to ensure consistency in the terminology used at the very least. At best, it would help encourage greater integration of these skills into existing learning and teaching.

- The current 'either or' approach to assessment - examination or coursework, needs to be addressed. There seems no valid reason why subjects should be wholly one or the other and the addition of a variety of assessment methods would encourage skills practise that are currently being side-lined by restriction to one or the other method. However, this would as a consequence mean that the current distinction between an A-Level and a BTEC would be unnecessary. Students would be choosing a subject, not an assessment method.

- To provide the quality of skills practise needed for literacy, numeracy and ICT, these will need to be taught as discrete subjects. Reviews by Anderson (2017), Belt *et al.* (2010) and Tomlinson (2004) do seem correct in advocating that a wholesale change of the English USE system needs to occur. This research favours a broad baccalaureate style approach with compulsory English, Maths and an Extended Project that is already popular across many high performing competitors. However, this research also suggests the inclusion of ICT as a discrete subject, as its importance is so critical to functioning successfully in the modern workplace and society.

- The resourcing of careers advice and inclusion of work experience needs to be reconsidered. Students do not have consistent access to wide ranging careers advice and little access, at present, to experience a workplace first hand before leaving formal education.

6.4.2 Establishment & Classroom Level Recommendations

- There is no reason why secondary establishments could not adopt a definition and framework in the interim and disseminate it across the establishment. The research has shown that when a skill is the focus of establishment policy, awareness is increased and greater attempts are made to embed it into learning and teaching.

- Correspondingly, employability skills should be the focus of whole establishment policy with the requisite staff training and resources provided. Ideally, this would include a dedicated team or staff committee of the likes seen devoted to literacy and numeracy. This would, as above, improve awareness of skills and improve consistency in their provision, as well as, allow for the wider dissemination of good practise between subjects.

- Employability skills should be included in learning objectives so that they are clearly and consistently highlighted to students. Students need to be aware of when skills are being practised and the importance of them.

- Although, teachers face significant pressures and competing initiatives, if some skills and activities were viewed more broadly they could be more easily integrated into most subjects, especially for creativity, presentations, role play and debate. These do not require substantial changes to existing teaching practise, but can still be included at greater frequencies across most subjects more informally. Again, raising awareness is key to this.

- ICT resourcing and timetabling is an area that needs to be re-examined at senior management level. Not only in terms of providing more equitable access to subjects where ICT is not a critical element of a subject, but also the wider use of students' personal technology such as smart phones and their apps. The use of smartphones, which the overwhelming majority of students have ready access to, may be a way to better integrate ICT into their subjects and expose both teachers and students to a wider variety of ICT available. The examples given by some interviewees indicated this is already occurring, but could become much more widespread with senior level agreement.

6.5 Concluding Thoughts

It is the conclusion of this research that provision of the requisite depth and breadth of employability skills practise cannot be adequately achieved under the current English USE system. To ensure that employability skills practise is embedded comprehensively, it will require a fundamental overhaul of the English USE, where learners take a broader range of subjects and a wider variety of pedagogical and assessment methods are utilised. This should form part of a move towards a 'broader vision of learning' that encourages the development of the 'whole' person and where attitudes and aptitudes are developed equally alongside academic and technical skills. This will require a significant transformation in central government policy.

Although KS5 educational establishments are restricted by national limits imposed on curriculum content and methods of assessment, there is some scope and limited autonomy within these establishments for integrating and improving employability skills practise within the classroom. Significant strides have already been made to embed key functional skills namely literacy, numeracy, and to a lesser extent, ICT. There is also evidence that other skills such as reflection and problem solving are progressively being embedded within the classroom. There is also consistent use of group work and real life examples.

However, there is scope to go further, not only in raising awareness of the importance of employability skills amongst teachers and students, but to broaden the range of pedagogical and formative assessment approaches to embed their practise. Fundamental to this, however, is the commitment and drive from senior management not only to enhancing awareness of employability skills in their entirety, but also ensuring consistency in approaches across the subject spectrum in the way that previous establishment policies on individual skills such as literacy, numeracy and reflection have been achieved.

It is the assertion of this researcher that there is much evidence of innovative and inspiring practise already in classrooms, even with the substantial limits imposed upon teachers and secondary establishments. However, raising awareness, improving consistency of skills provision and the regular sharing of best practise could readily enhance the provision of employability skills practise further.

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APPENDICES

Appendix A: Table Showing Key Employability Skills Definitions and Frameworks

Note: skills highlighted in italics were mentioned under an umbrella category.

	UKCES, (2009)	CBI (2007) CBI, NUS (2011) CBI, Pearson (2016)	ATC21S Project (2012)	European Framework for Key Competencies for Lifelong Learning (2006; 2018)	WEF 21ST Century Skills Framework (2015)	OECD DeSeCo Project (2005), Education 2030 Project (2018)
Definition of Employability Skills	'Employability skills to be the skills almost everyone needs to do almost any job. They are the skills that must be present to enable an individual to use the more specific knowledge and technical skills that their particular workplaces require.' UKCES (2009, p.10)	'A set of attributes, skills and knowledge that all labour market participants should possess to ensure they have the capability of being effective in the workplace – to the benefit of themselves, their employers and the wider economy.' CBI (2007, p.11)	'Any skills that are essential for navigating the 21st century. Within the context of the assessment and teaching of ATC21S, skills so classified must also address the need for, manipulation of and use of information; indeed, they are the primary focus.' Griffin et al (2012, p.3)	Competences are 'a combination of knowledge, skills and attitudes…. Key competences are those that all individuals need for personal fulfilment & development, employability, social inclusion, sustainable lifestyle, successful life in peaceful societies, health conscious life management and active citizenship.' European Commission (2018, p.3)	'To thrive in today's innovation-driven economy, workers need a different mix of skills than in the past. In addition to foundational skills like literacy and numeracy, they need competencies like collaboration, creativity and problem solving and character qualities like persistence, curiosity and initiative.' WEF (2015, p.2)	'A competency is more than just knowledge and skills. It involves the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context…..Each competency must: contribute to valued outcomes for societies and individuals; help individuals meet important demands in a wide variety of contexts; and be important not just for specialists but for all individuals.' OECD, (2005, p.4)

Literacy	Using Language Effectively	Literacy		Literacy Competence	Literacy	*Use language, symbols and text interactively: as part of 'Using tools interactively' category*
Numeracy	Using Numbers Effectively	Application of Numeracy		Mathematical Competence	Numeracy	*Use language, symbols and text interactively: as part of 'Using tools interactively' category*
ICT Literacy	Using IT Effectively	Application of Information Technology	*ICT Literacy: as part of 'tools for working' category*	Digital Competence	ICT Literacy	*Use technology interactively: as part of 'Using tools interactively' category*
Research / Information Literacy			*Information Literacy: as part of the 'tools for working' category*			*Use knowledge and information interactively: as part of 'Using tools interactively category'*
Communication / Negotiation skills	Communicating	Communication	*Communication: as part of the 'Ways of working' category*	*Communication and Negotiation skills: as part of 'Transversal skills' category*	Communication	*Relate well to others & Manage and resolve conflicts: as part of 'Interacting in heterogeneous groups' category*
Problem Solving / Critical Thinking	Thinking and Solving Problems	Problem Solving	*Critical Thinking, Problem Solving & Decision Making: as part of the 'Ways of thinking' category*	*Critical Thinking, problem solving and analytical skills – as part of 'Transversal skills' category*	Critical Thinking / Problem Solving	*Reconciling Tensions and Dilemmas: as part of 'Transformative competencies' category*
Creativity / Innovation	*Creativity: as part of 'Thinking and problem solving skills' category*	*Application of Creativity Thinking: as part of problem solving category*	*Creativity and Innovation: part of 'ways of thinking' category*	*Creativity: as part of 'transversal skills' category*	Creativity	*Creating New Value: as part of 'Transformative competencies' category*

Intellectual Curiosity			*Learning to learn, metacognition - as part of the 'ways of thinking' category*	Learning to learn competence	Curiosity	
Collaboration / Teamworking	Working together	Teamworking	*Collaboration / teamwork - as part of the 'ways of working' category*	*Teamwork - as part of 'transversal skills' category*	Collaboration	*Co-operate, work in teams – as part of 'interacting in heterogeneous groups' category*
Self-management / Initiative	Self-management	Self-management	*Life and Career - as part of the 'living in the world' category*	*Work autonomously and to work and organise to persevere with one's own learning – as part of personal, social and learning competence.*	Initiative	*Form and conduct life plans and personal projects – as part of 'acting autonomously' category* *Taking responsibility – as part of transformative competencies' category*
Leadership / Influence / assertiveness	*Being Assertive: as part of 'working together and communicating' category*	*Assertiveness: as part of self-management category*			Leadership	*'Defend and Assert, rights. Interests, limits & needs' – as part of 'acting autonomously' category*
Business & Customer Awareness	Understanding the Business	Business & Customer awareness		Entrepreneurship Competence		
Positive Attitude	A foundation of a Positive Approach	Positive Attitude		*Positive Attitude: as part of 'transversal skills' category*		

Ethics / Personal & Social Responsibility			*Citizenship: local and global. Personal and social responsibility: including cultural awareness and competence: as part of 'living in the world' category*	Personal and Social Competence, Civic competence, Cultural awareness and expression competence	Cultural and Civic Literacy, Social and Cultural Awareness,	*Ability to act within the big picture: as part of 'acting autonomously' category*
Flexibility / adaptability		*Flexibility: as part of self-management category*			Adaptability	
Resilience / Grit		*Resilience: as part of self-management category*		*Resilience: as part of personal, social and learning competence*	Persistence / Grit	
Reflectiveness / Reflective Learning		*Reflective learning – as part of self-management category*		*Evaluate one's learning and seek support when appropriate: as part of personal, social and learning competence.*		Reflective thought and action – as an underlying feature
Other				Multilingual competence Science, technological, engineering competence	Scientific Literacy Financial Literacy	

Appendix B: KS5 Teacher Questionnaire

PROVISION OF EMPLOYABILITY SKILLS WITHIN KEY STAGE 5

TEACHER QUESTIONNAIRE

As part of my Doctorate in Education at the University of Warwick, I am carrying out a small research project. The area that I am investigating is the provision of employability skills at KS5. The questionnaire is anonymous. Thank you for taking the time to fill this questionnaire in.

1) EMPLOYABILITY SKILLS

In your view, what are the **MAIN SKILLS** which **employers** want an **employee** to have (*Max of 9*):

_____

_____

_____

PLEASE BASE ALL YOUR ANSWERS ON AN 'AVERAGE' WEEK

2) MAIN SUBJECT TAUGHT AT KS5 (A level or equivalent)

- Please answer the following questions on the subject you teach at **KS5**

a) SUBJECT _____

b) In this subject how often do the students: (*please tick the appropriate box*)

	Never					Every Lesson
Practise Literacy	☐	☐	☐	☐	☐	☐
Use Maths	☐	☐	☐	☐	☐	☐
Use ICT	☐	☐	☐	☐	☐	☐
Do group work	☐	☐	☐	☐	☐	☐
Do presentations	☐	☐	☐	☐	☐	☐
Do role play	☐	☐	☐	☐	☐	☐
Debate	☐	☐	☐	☐	☐	☐
Do project work	☐	☐	☐	☐	☐	☐

c) How often is the importance of a **POSITIVE ATTITUDE** mentioned in class in a week?
(Positive attitude = ready to participate, accept new ideas, take responsibility and accept criticism).

Never					Every Lesson
☐	☐	☐	☐	☐	☐

d) How often is the importance of **SELF-MANAGEMENT** brought up in class in a week?
(Self-management = punctuality, using your own initiative and overcoming challenges).

Never					Every Lesson
☐	☐	☐	☐	☐	☐

e) How often do students get to actively **REFLECT** on work in class in a week?
(Reflect = reread over past work, discuss where they went wrong and correct own mistakes).

Never					Every Lesson
☐	☐	☐	☐	☐	☐

f) How often do students get to be **CREATIVE** in class in a week?
(Creative = *use imagination, be given time to explore and play with new ideas and perspectives).*

Never					Every Lesson
☐	☐	☐	☐	☐	☐

g) How often do students get to **PROBLEM SOLVE** in class in a week?
(Problem solve = *overcome obstacles and find a solution to a problem by themselves).*

Never					Every Lesson
☐	☐	☐	☐	☐	☐

h) How often do students look at **REAL LIFE EXAMPLES** in class in a week?
(Real life examples = real life case studies, newspaper / magazine articles and video clips).

Never					Every Lesson
☐	☐	☐	☐	☐	☐

4) POTENTIAL BARRIERS TO ACTIVITIES

a) Are there any **BARRIERS / OBSTACLES** that prevent you from doing the **FOLLOWING ACTIVITIES** as often as you would like?

- Practise Literacy   _____
- Use Maths   _____
- Use ICT   _____
- Group work   _____
- Role play   _____
- Presentations   _____
- Debate   _____
- Project work   _____
- Reflect   _____
- Be Creative   _____
- Problem Solve   _____
- Real life examples   _____

5) EMPLOYABILITY TRAINING

a) Have you received any **STAFF TRAINING** on increasing students' employability skills / transferable skills / key skills within the last two years?   YES   ☐   NO   ☐

If **YES**, what training did you receive?

_____

_____

Thank you for your help.

Appendix C: KS5 Student Questionnaire

Provision of Employability Skills within Post 16 – Student Questionnaire

As part of my Doctorate in Education at the University of Warwick, I am carrying out a small research project. The area that I am investigating is the provision of employability skills at KS5 (post 16). The questionnaire is anonymous. Thank you for taking the time to fill this questionnaire in.

What year are you in? (*Please tick one*):   Year 12 (Year 1) ☐   Year 13 (Year 2) ☐

1) List the **MAIN SKILLS** you think **employers** want an **employee** to have (no more than 9:

_____

_____

_____

PLEASE BASE ALL YOUR ANSWERS FROM NOW ON AN 'AVERAGE' WEEK

2a) **SUBJECT 1** _____ **(**Write down your **first AS / A level or equivalent** course)

In this **FIRST SUBJECT,** how often do you: (please tick the appropriate box)

	Never					**Every Lesson**
Practise Literacy	☐	☐	☐	☐	☐	☐
Use Maths	☐	☐	☐	☐	☐	☐
Use ICT	☐	☐	☐	☐	☐	☐
Do group work	☐	☐	☐	☐	☐	☐
Do presentations	☐	☐	☐	☐	☐	☐
Do role play	☐	☐	☐	☐	☐	☐
Debate	☐	☐	☐	☐	☐	☐
Do project work	☐	☐	☐	☐	☐	☐
Be creative	☐	☐	☐	☐	☐	☐
Problem solve	☐	☐	☐	☐	☐	☐
Reflect on own work	☐	☐	☐	☐	☐	☐
Use real life examples	☐	☐	☐	☐	☐	☐

b) SUBJECT 2 _____ **(**Write down your **second AS / A level or equivalent** course)

In this **SECOND SUBJECT,** how often do you: (please tick the appropriate box)

	Never					Every Lesson
Practise Literacy	☐	☐	☐	☐	☐	☐
Use Maths	☐	☐	☐	☐	☐	☐
Use ICT	☐	☐	☐	☐	☐	☐
Do group work	☐	☐	☐	☐	☐	☐
Do presentations	☐	☐	☐	☐	☐	☐
Do role play	☐	☐	☐	☐	☐	☐
Debate	☐	☐	☐	☐	☐	☐
Do project work	☐	☐	☐	☐	☐	☐
Be creative	☐	☐	☐	☐	☐	☐
Problem solve	☐	☐	☐	☐	☐	☐
Reflect on own work	☐	☐	☐	☐	☐	☐
Use real life examples	☐	☐	☐	☐	☐	☐

c) SUBJECT 3 _____ (Write down your **third AS / A level or equivalent** course)

In this **THIRD SUBJECT,** how often do you: (please tick the appropriate box)

	Never					Every Lesson
Practise Literacy	☐	☐	☐	☐	☐	☐
Use Maths	☐	☐	☐	☐	☐	☐
Use ICT	☐	☐	☐	☐	☐	☐
Do group work	☐	☐	☐	☐	☐	☐
Do presentations	☐	☐	☐	☐	☐	☐
Do role play	☐	☐	☐	☐	☐	☐
Debate	☐	☐	☐	☐	☐	☐
Do project work	☐	☐	☐	☐	☐	☐
Be creative	☐	☐	☐	☐	☐	☐
Do Problem solve	☐	☐	☐	☐	☐	☐
Reflect on own work	☐	☐	☐	☐	☐	☐
Use real life examples	☐	☐	☐	☐	☐	☐

d) SUBJECT 4 _____ **(**Write down your **fourth AS / A level or equivalent** course)

In this **FOURTH SUBJECT,** how often do you: (please tick the appropriate box)

	Never					Every Lesson
Practise Literacy	☐	☐	☐	☐	☐	☐
Use Maths	☐	☐	☐	☐	☐	☐
Use ICT	☐	☐	☐	☐	☐	☐
Do group work	☐	☐	☐	☐	☐	☐
Do presentations	☐	☐	☐	☐	☐	☐
Do role play	☐	☐	☐	☐	☐	☐
Debate	☐	☐	☐	☐	☐	☐
Project work	☐	☐	☐	☐	☐	☐
Be creative	☐	☐	☐	☐	☐	☐
Problem solve	☐	☐	☐	☐	☐	☐
Reflect on own work	☐	☐	☐	☐	☐	☐
Use real life examples	☐	☐	☐	☐	☐	☐

3) CHARACTERISTICS / ACTIVITIES

a) How often is the importance of a **POSITIVE ATTITUDE** mentioned by teachers in a week?

Never ☐ ☐ ☐ ☐ ☐ ☐ Every Lesson

b) How often is the importance of **SELF-MANAGEMENT** brought up in class in a week?

(Self-management = punctuality, using your own initiative)

Never ☐ ☐ ☐ ☐ ☐ ☐ Every Lesson

4) EMPLOYABILITY

a) Have you received any **advice or lessons** on improving your employability skills (skills you would need to gain employment) within the last two years?   YES ☐   NO ☐

If **YES**, what advice or lessons did you receive?

_____

_____

Thank you for your help.

Appendix D: K55 Teacher Interview Schedule

GENERAL INFO
1) What subjects do you teach at KS5 Level?

EMPLOYABILITY SKILLS
1) What employability skills do you think an employer wants from an employee?
2) ***Show list UKCES employability skills Framework***
   - What do you think of this framework?
   - Are any skills you feel are missing?
   - Are there any skills you feel should not be there?

ACTIVITIES
Interviewee to: Please base your answers for the next section on an average school week.

For each activity ask interviewees about:
- **FREQUENCY:** How often do you spend .... in an average week?
- **ACTIVITIES**: What activities / ways do you to practise ....
- **BARRIERS:** Are there any barriers / restrictions to ....

Example Literacy
- **FREQUENCY:** How often do you spend practicing literacy in an average week?
- **ACTIVITIES**: What activities do you do to practise students' Literacy skills?
- **BARRIERS**: Are there any barriers that restrict you from incorporating Literacy skills practise into your lessons?

Activities
- Numeracy Skills
- Use ICT
- Group Work
- Presentations
- Role Play
- Debate
- Project Work
- Creative Work
- Problem solving
- Students reflecting on own work
- Use Real Life Examples
- Encourage Positive Attitude
- Encourage Self-Management

EMPLOYMENT QUESTIONS
- How well prepared for employment do you think students are at the end of KS5?
- How do you think we could improve the employability of students?

Appendix E: Breakdown of Survey Responses by Establishment and Subject

	KS5 Students					KS5 Teachers			
	Establishment					Establishment			
Subject	**A**	**B**	**C**	**Totals**		**A**	**B**	**C**	**Totals**
Art	1	4	33	38		1	1		2
Product Design	2	2	11	15		1	1	3	5
Photography	1		15	16		1		1	2
Music	2	1	12	15			2	4	6
Drama	1	4	16	21		1	2	3	6
Economics	2	11	8	21					
Business	4	1	27	32				4	4
BTEC Business	17			17		1		3	4
ICT	10	1	16	27		2	2	3	7
Maths	14	23	171	208		4	2	4	10
Physics	8	2	103	113		2	2	1	5
Chemistry	7	10	158	175				2	2
Biology	8	20	165	193		1	1		2
Geology	2		27	29					
Geography	6	11	71	88		4	2		6
Languages		11	86	97		1	6	3	10
English	5	21	186	212		5	2	2	9
History	1	14	55	70		1	3		4
Politics		4	7	11			1		1
Philosophy	1	4	15	20		1	2	1	4
Psychology	2	19	87	108		1	1		2
Health & Social Care			18	18					
BTEC Health & Social Care	2			2		1		3	4
Physical Education		6	7	13			3	2	5
BTEC Sport	11			11		5		3	8
Respondent Totals	**107**	**169**	**1294**	**1570**		**33**	**33**	**42**	**108**

Appendix F: Breakdown of Teacher Interviewees by Subject Area

Subject Area	Teacher Interviewees
Art & Design	T1/Art T2/Art
Business	T1/Business T2/Business
English	T1/English T2/English
Maths	T1/Maths T2/Maths
Sciences	T1/Sciences T2/Sciences
Humanities	T1/Humanities T2/Humanities
Sports	T1/Sports T2/Sports
ICT	T1/ICT
Health & Social Care	T1/Health

Appendix G: Breakdown of Barriers Listed by KS5 Teachers by Activity

Activity		Literacy	Numeracy	ICT	Group Work	Presentations	Role Play	Debate	Project Work	Creative Work	Problem Solving	Reflection	Real Life Examples
Types of Barriers Listed by KS5 Teacher Respondents	Course Restrictions	3%	6%	2%	3%	6%	8%	3%	15%	21%	2%		2%
	Time Constraints	4%	2%	2%	16%	20%	8%	8%	13%	9%	2%	10%	
	Subject Relevance	1%	20%				11%	2%		5%			1%
	More Effective Methods						4%						
	Student Engagement		1%		6%	2%	7%		1%		12%		
	Student Ability					3%		1%			15%	9%	1%
	Student Confidence					2%							
	Behaviour Concerns				4%		3%	1%					
	Group Dynamics				3%								
	Class Size				3%		1%						
	Class Space				1%								
	Availability of ICT			37%									
	Quality of ICT			10%									
	ICT Issues					2%			2%				
	Plagiarism Concerns					2%			1%				
	Outside Help Concerns								1%				
	Access to examples												4%
	Time to source examples												2%
	Teacher Competence		3%										
% of No Barriers Given		**92%**	**68%**	**49%**	**64%**	**63%**	**58%**	**85%**	**67%**	**65%**	**69%**	**81%**	**90%**