

## DOCTORAL THESIS

### **An Exploration of the Perceptions of Subject Leaders of Design and Technology about their Leadership Practices in Sustaining and Developing the Subject in the Secondary School Curriculum**

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**An Exploration of the Perceptions of Subject Leaders  
of Design and Technology about their  
Leadership Practices in Sustaining and  
Developing the Subject in the Secondary School  
Curriculum**

by

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## **ABSTRACT**

Research in subject department leadership underscores the importance of subject leaders and much of this research is situated on long-established views on models of educational leadership and management (Bush, 2008). This approach has not taken into consideration the complex settings of the subject departments that subject leaders work in. This study explores the perceptions of subject leaders about their practice in sustaining and developing Design and Technology in the secondary school curriculum. The study's contribution of knowledge is in the leadership of Design and Technology departments in secondary schools. However, in this study, to understand how subject leaders of Design and Technology perceive their leadership practice the contextual and social settings of departments are of importance.

To address the limitations in subject department leadership literature, this study uses Engeström's (1987; 1999; 2001) Cultural Historical Activity Theory (CHAT) as a suitable analytical lens to understand and analyse the perceptions of subject leaders of Design and Technology in their department social contexts. The subject leaders at the focus of this study worked in six different departments of Design and Technology in secondary schools. The study is qualitative in nature and data was collected through semi-structured interviews, field notes and document analysis. Thematic analysis is first applied to data and then cultural historical activity theory (CHAT) is used as an analytical lens.

Findings from this study suggest that subject leaders view their roles similarly or differently in monitoring teaching and learning, building relationships and showcasing Design and Technology. Subject leaders, appropriate tools differently to work on the objects of the activity in the Design and Technology department leadership activity systems. Moreover, findings show that in building relationships subject leaders

differed in their approach to working with the departmental staff and their school's senior leaders. In addition, findings highlight that the various tools that subject leaders use are guided by the culture of the department. The study concludes by suggesting further research on an understanding of how senior leaders in schools perceive the work of subject leaders of Design and Technology. Additionally, the study suggests that subject leaders forming new ways of working would be useful; to explore whether collaborating Design and Technology departments in different schools could adopt a similar approach in encouraging pupils to study the subject at General Certificate for Secondary Education (GCSE) level.

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## ABBREVIATIONS

A level -	Advanced level
AS level -	Advanced Subsidiary level
CDT -	Craft, Design and Technology
CHAT -	Cultural Historical Activity Theory
D&T -	Design and Technology
DATA -	Design and Technology Association
DfES -	Department for Education and Skills
EBACC -	English Baccalaureate
GCE -	General Certificate of Education
GCSE -	General Certificate of Secondary Education
ICT -	Information Communication Technology
NCC -	National Curriculum Council
SLT -	School senior leaders
STEM -	Science, Technology, Engineering and Mathematics
UK -	United Kingdom
USA -	United States of America
UTC -	University Technical College

## **University of Roehampton Ethics Approval**

The research for this project was submitted for ethics consideration under the reference EDU 16/106 in the School of Education and was approved under the procedures of the University of Roehampton's Ethics Committee on 08.08.16.

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.0 Introduction**

This study explores the perceptions of subject leaders of Design and Technology about their practice in sustaining and developing the subject in the secondary school curriculum. The subject leaders' perceptions are investigated in the context of six Design and Technology subject departments in secondary schools in England. Research in subject leadership acknowledges the importance of subject department settings in influencing subject leaders' practice. Therefore, there is merit in subject leaders' perceptions about their work being explored.

This chapter provides an overview of the thesis. It starts by explaining where the study sits concerning the literature on subject leaders of these subject departments in secondary schools. The chapter also includes the rationale for undertaking this study as a teacher and a Design and Technology subject leader. Design and Technology is introduced as a distinct subject as defined in the National Curriculum for England. This is followed by an explanation of the suitability of exploring practice from the analytical lens of cultural historical activity theory (CHAT). The aim of the study and research questions are presented, as is the research methodology that the study followed. The final section of the chapter outlines the structure of the thesis.

#### **1.1 Subject leaders and subject departments**

In England following the introduction of the National Curriculum in 1988, defined subject areas established boundaries around the work of subject leaders and emphasise subject-based teaching (Bennett, Woods, Wise and Newton, 2007). This type of teaching is organised around a subject department, for example, Design and



Technology. Therefore, it is difficult to separate the work of the subject leader from the subject department in which they work (Turner, 2003a). Subject leaders are influenced by the department's settings, which partly explains the differences in the interpretations and meaning of their practice. Despite subject leaders' importance in schools, few studies have considered the leadership practices of subject leaders of Design and Technology departments in secondary schools.

Historically, the subject department has been regarded as the central organisational framework for secondary school teachers (Siskin, 1994). Subject departments are seen to provide the most common organisational vehicle for school subject knowledge (Goodson and Marsh, 1996) and are the central point of reference for subject leaders' and teachers' identities and careers (Ball and Lacey, 1995). These departments influence the perceptions of the teachers who work in them, including individual identities of teachers, practices, and policy enactment (Stodolsky and Grossman, 1995).

Department designations provide subject leaders with their professional identities and provide boundaries dividing teachers into distinctive worlds (Siskin, 1991). This is evident in schools when referring to a group of teachers, for example, science department teachers or Design and Technology department teachers. The curriculum subjects also play a role in defining many secondary teachers' identities (Childs, Burn and McNicholl, 2013). Subjects tend to be the preserves of specialist teachers and these teachers are organised in departments (Goodson, 1993), otherwise known as subject teams. Subject leaders (or heads of department) are also influenced by subject departments, this is because subject departments exhibit distinctive cultures (Childs et al., 2013).

The work of subject leaders in subject departments is seen as complex and demanding (Bassett, 2016; Bennett et al., 2007). They have a supervisory role involving monitoring the work of teachers in their departments, which may involve lesson observations, learning walks and reviewing work that has been produced by pupils (Aubrey-Hopkins and James, 2002; Fleming, 2012; Wise, 2001). They work together with senior leadership team (SLT) in the school, other teachers, school governors, parents, and pupils amongst others. Establishing positive working relationships is a key to their success (De Nobile, 2018a). Their work also has a significant influence on the work of teachers in the department and on pupil learning. Therefore, there is need to view the leadership practice of subject leaders from the context of department settings and the school's culture.

The justification for this study is located in my professional experience as a teacher and a subject leader of Design and Technology. For nearly twenty-one years, I have worked as a teacher in four secondary schools. Having spent nine years as a classroom teacher of Design and Technology, I took up the subject leader's role in a large comprehensive school and have witnessed several changes to the Design and Technology curriculum driven by the National Curriculum. In my role as a subject leader, I have had the opportunity to see varying classroom practice from teachers, worked with many teachers on issues affecting the department and liaised with parents and outside agencies to improve the provision of Design and Technology in my school. This experience has been a good source of professional reflection, both as a teacher and as a subject leader.

This study attempts to understand the practices of Design and Technology subject leaders in sustaining and developing the subject in the secondary school curriculum through an exploration of their perceptions. The study moves away from looking at the roles and responsibilities of subject leaders that are based on leadership theories

and seeks to uncover their perceptions about their practice, which are influenced by contextual factors and contribute to different departmental cultures (Bennett, Newton, Wise, Woods and Economou, 2003; Fleming, 2012). Ignoring the cultural circumstances of subject departments is unlikely to be useful in exploring the meanings subject leaders afford to their practices in sustaining and developing Design and Technology.

Research in subject department leadership underscores the importance of subject leaders in schools. Much of this research is situated on long-established views on models of educational leadership and management (Bush, 2008). This in turn has put importance on the personal traits of subject leaders rather than understanding their views on the role as experienced in the contextual setting of departments. Research that is based on traditional notions of leadership creates a difficulty in understanding how subject leaders understand their practices and how they view their role (Harris, 2013). Rather it focuses on the roles and responsibilities of subject leaders in providing leadership and direction for the subject that they lead (Bennett et al., 2003).

Focusing on the traditional leadership models to understand the practice of subject leaders restricts the consideration of the nature and discourse of the academic subject knowledge (Siskin, 1994), which allows subject leaders to contribute to the subject subcultures in a department setting (Grossman and Stodolsky, 1995). Research on subject leaders which is based on the understanding of leadership models also fails to capture the complexity that is afforded by the department that shapes the perceptions of the leaders about their practices. This study contributes to the literature by focusing on the leadership of Design and Technology departments in secondary schools, taking into account the contextual and social settings of their departments. The study's approach redirects the study of leadership in Design and

Technology departments from that of formal leadership models to considering the complex settings of individual departments.

## **1.2 Design and Technology in the National Curriculum in England**

Since 1988, when Design and Technology was introduced in the National Curriculum in England, it has undergone numerous changes and struggled with its perceived low status as a school subject (Paechter, 1993). In the years preceding this study, Design and Technology faced numerous challenges. For example, the introduction of the English Baccalaureate (EBacc) in England in 2011 led to a dramatic decrease in the number of pupils studying Design and Technology at GCSE level (Hardy, 2015a). This is attributed to EBacc's emphasis on the academic importance of maths, English, science, humanities, and languages, which inevitably impacts on the status of other subjects (Miller, 2011).

Design and Technology is perceived by many to be of less value (Bell, Wooff, McLain and Morrison-Love, 2017). This could affect the way subject leaders in Design and Technology perceive their practice of sustaining and developing the subject. It is from this perspective that the survival of Design and Technology is probably maintained by its subject leaders in schools. Although, there is literature on Design and Technology, for example (Barlex and Steeg, 2016a; Benson, 2009; Constantinou, 2019; Harris and Wilson, 2003), there is little research that has specifically focused on how subject leaders of Design and Technology perceive their practices. My undertaking of this study is informed by my desire to improve my own practice and those of others in the subject departments of Design and Technology, thus filling that gap. The understanding of leadership practice adopted in this study comes from Spillane (2006), who takes practice as a product of joint interactions of school leaders and their teams and aspects of their situation.

### **1.3 CHAT as an analytical lens for this study**

The CHAT concepts of subject, object, tools, activity and activity system are used to understand the complex settings of departments. CHAT focuses on interrogating practices and pays attention to motives inherent in an activity's object (Douglas, 2015). In CHAT, an activity, (for example, sustaining and developing Design and Technology in the curriculum) is undertaken by a subject (here the subject leader of the department) using tools (such as department meetings and lesson observations) to achieve an object (the desired outcome of the activity) (Kuutti, 1996).

CHAT is used in this study as an analytical lens to explore subject leaders' practices in the activity of sustaining and developing the subject of Design and Technology in the secondary school curriculum. It helps to illustrate the social settings of the department in which subject leaders work, which allows the context to be investigated. The situation of leadership is not just the context in which leadership practice unfolds, it is the defining element of leadership practice (Spillane, 2006). This enables an understanding of how leadership practices are established in Design and Technology department leadership activity system. CHAT considers how subjects use tools when working on an object of an activity and allows the researcher to question how the subject sees it. Using CHAT as an analytical lens afforded an understanding of the tools that mediate the relationship between subject leaders of Design and Technology and others involved in their departmental activities.

An activity emerges through a process that transforms the subject, the object, and the relationship between the two and their context (Davydov, 1999 cited in Yamagata-Lynch, 2003:102). The department leader, as a subject in the activity system, will use tools to work towards an object, for example the object could be about team learning

through sharing good practice. These tools are appropriated by the subject to act on the object or pursue the desired outcome. Appropriation refers to how people adopt ways of thinking and acting through their participation in social practices (Grossman, Smagorinsky and Valencia, 1999). Tool appropriation is the process of adopting a tool when working on an object (Douglas, 2012). This means that when the subject adopts a tool to use, the tool specifies the way the subject carries out the action.

The activity system is created from the perspective of the subject leader working in it, and with those others working in the department. Activity systems interact with one another. Subject leaders' work is complex and requires them to be involved in different activities in more than one activity system (Douglas, 2015). Subject leaders, while participants in the Design and Technology department leadership activity systems work in more than one activity system. For example, they may also work with the senior leaders in their school. The two activity systems may have a partially shared or a jointly constructed object (Yamazumi, 2008). Particularly appropriate to this thesis, it emphasises the importance of the collective within a system of activity (Douglas, 2015), focussing on the settings of individual departments. This is relevant to subject leaders in sustaining and developing Design and Technology because there are several department staff and others that they interact with in their department settings to give form to leadership practice (Spillane, 2006).

#### **1.4 Aim and research questions**

This study aims to explore the perceptions of subject leaders of Design and Technology about their practice in sustaining and developing the subject in the secondary school curriculum. Despite the attention that has been given to the role and responsibilities of subject leaders in general, little focus has been given on how the characteristics of a subject might impact on their work (Turner, 2003b). This means that when considering practice, there is potential strength in capturing the

distinctiveness of department contexts that constitute the primary point of reference or professional home for subject leaders (Siskin, 1995).

This study considers the perceptions of subject leaders in Design and Technology departments. It recognises the importance of their perceptions about their practices, which are viewed using the analytical lens of CHAT to highlight the similarities and differences in sustaining and developing Design and Technology in the school curriculum. The following CHAT specific research questions (RQ) are asked of each subject leader:

RQ1. How are tools used and appropriated by subject leaders in Design and Technology department leadership activity systems?

RQ2. How do subject leaders of Design and Technology understand the object and outcomes of the Design and Technology department leadership activity systems?

RQ 3. How are Design and Technology department leadership activity systems interacting with other activity systems?

These questions enable a discussion of the similarities and differences in subject leaders' work on the object of their department leadership activity systems. The first identifies the tools that are appropriated by subject leaders in the Design and Technology department leadership activity systems in the activity of sustaining and developing the subject in the secondary school curriculum. It enables an understanding of why and how tools are viewed differently by subject leaders in the different department contexts. Tools can be either material or conceptual and their development is shaped by the needs, values, and norms of the cultures in which they are created and used (Foot, 2014). The purpose of the second research question is

to reveal how subject leaders understand and view the object in the department leadership activity systems.

The third research question seeks to describe the interaction between the Design and Technology department leadership activity systems and other activity systems. This interaction in part explains how subject leaders view the object of the Design and Technology department leadership activity system differently as a result of working in other activity systems. This research question also enables an understanding of how the interacting activity systems create the shared object. This study contributes to the understanding of practice in the complex settings of Design and Technology subject leaders in school subject departments.

The importance of considering contexts of subject department moves away from studying subject leaders from the point of traditional models of leadership, which stress on understanding practice from a personality trait viewpoint. The emphasis on context is important because 'subject departments environments shape but are also shaped by individuals' (Douglas, 2015:14). This may in turn affect the practice of individual subject leaders.

This study is beneficial to practicing subject leaders, aspiring subject leaders and the community of teachers of Design and Technology in understanding subject leaders' work. In my role as a subject leader, the study has created an awareness of the context and the role of culture in Design and Technology departments. For educational organisations, the findings highlight issues that restrain or empower the development of Design and Technology in the school curriculum. Therefore, those supporting Design and Technology subject leaders need a good understanding of these issues to know where to offer support for the subject to thrive in their schools.



## **1.5 Research methodology**

This qualitative study adopts a multiple case study approach to collect data on perceptions of practice from six subject leaders in different Design and Technology school departments. A multiple case study enables the exploration of a contemporary phenomenon in-depth within its real-life context (Yin, 2009). The participants were purposively selected from my professional network from Design and Technology departments that varied in size, culture, location, and their context. In terms of this study, the differences and similarities in the perceptions of subject leaders is captured across different sites (Stake, 2006). A case study was chosen because of its 'emphasis on looking, in depth and this provides rich data' for the researcher to analyse (Douglas, 2015:51).

Data collection during field visits involved semi-structured interviews, the taking of field notes (about the environment of the department: department corridors, displays around the departments) and the analysis of documents such as minutes of department meetings, learning walks proformas and computer room booking spreadsheets. The research data were subjected to thematic analysis to identify recurring themes after initial coding and categorising items (Braun and Clarke, 2006). The case studies are the first part of the findings reported. The intention is to identify and describe (Douglas, 2015) the subject leaders of Design and Technology and their departments to determine the settings for leadership practices. Another aim in providing the specifics in the case studies is to recognise them as distinct cases rather than to simplify them to Design and Technology departments at large.

I analysed data using thematic analysis to understand subject leaders' leadership practice situations in their departments. Therefore, this was predominantly organisational to place the data into themes; for example, monitoring teaching and learning, building relationships, and showcasing Design and Technology. The data

was also viewed from the analytical lens of CHAT (Engeström, 1987; 1999; 2001) which provided a stronger theoretical input than would be possible using thematic analysis alone (Douglas, 2015). The design was a systematic way of understanding leadership practices. CHAT helped to explain why the leadership of these departments was the way it was. The analytical focus was on the perceptions of participants, the relationship between them and others and the purpose of their practices.

## **1.6 Thesis structure**

This study has nine chapters. Following this introductory chapter, are three reviewing the literature relevant to the study. In chapter 2, I review literature about subject leaders in school departments. It starts by considering their place in the hierarchical organisational structure of schools and then the department as an important context of subject leaders' work. In the chapter subject leaders' practices are discussed with particular attention to those practice in their role in monitoring teaching and learning, building relationships and promoting subject departments.

Chapter 3 focuses on Design and Technology as a secondary school subject in the National Curriculum in England. It explores the subject's history before the National Curriculum and what changed with its introduction in 1988. The current issues facing Design and Technology in secondary schools in England are also considered as is the status of Design and Technology as a subject in the curriculum. The chapter concludes by identifying the significance of exploring the practice of subject leaders of Design and Technology departments.

Chapter 4 outlines what CHAT is and how it is used in educational research. It starts by discussing the origins, concepts and principles of CHAT and then presents it as

an analytical lens that helps to understand and analyse human activities in their social contexts and appraises CHAT as an analytical framework for studying practice in Design and Technology departments. The chapter expands by looking at examples of CHAT in education research and reviewing the advantages and limitations of studying practice using CHAT.

Chapter 5 describes the methodology. It starts by stating the philosophical assumptions that underpin the study and considering the ontological and epistemological approaches. It explains how the chosen multi-case study design and research methods were designed, the rationale and methods for the recruitment of participants and the procedures followed during field visits for data collection. The chapter concludes by addressing the ethical issues surrounding the approach to the study.

Chapters 6, 7 and 8 present the data analysis for the six subject leaders. Each chapter has two data analysis sections. The first section of each data analysis chapter uses thematic analysis (Braun and Clarke, 2006) to descriptively analyse the subject department contextual settings and the leadership work of the six subject leaders. The use of thematic analysis allowed an initial understanding of the social organisation of the subject department contextual settings. Data in this section is discussed under a main theme and sub themes as appropriate. The thematic analysis sections lead and are preparatory for the CHAT analysis sections.

In Chapter 6, the first of the three data analysis chapters, the findings of the study on teaching and learning practices of the six subject leaders are presented. The chapter starts by introducing the layout of the data analysis chapters. The data from the six subject leaders on their tasks in monitoring teaching and learning is presented

alongside each other. The sub themes that are discussed are learning walks, book reviews and lesson observations. The findings presented constitute data excerpts from field visits that support the first theme of subject leaders' tasks in monitoring teaching and learning.

The introductory thematic analysis in Chapter 6 is further viewed from the analytical lens of CHAT to explain how tools are appropriated to mediate subject leaders' work on the objects of the Design and Technology department leadership activity system. In the chapter the CHAT analysis section answers the first research question which asks how tools are used and appropriated by subject leaders in Design and Technology department leadership activity systems. In explaining the different ways in which the Design and Technology department leadership activity systems' tools are used, the section explores why tools are appropriated differently by the six subject leaders in six different subject department contexts. This chapter and the subsequent one starts to answer the second research question.

Chapter 7 focuses on the similarities and differences in subject leaders building their relationships with their teams and the schools' senior leaders. The chapter also takes forward the discussion on department leadership activity systems' tools by focussing on the objects in the Design and Technology leadership activity systems, which are viewed as the true motive of the activity (Engeström, 1999). The objects of the department leadership activity systems are seen as affording the direction for the subject leaders' leadership practice and building relationships. The CHAT analysis section in Chapter 7 addresses the second research question by discussing how subject leaders of Design and Technology understand the object and outcomes of the Design and Technology leadership activity systems.

Chapter 8 discusses showcasing Design and Technology, examining how the participants saw their departments as struggling for pupils at Key Stage 4. It also considers school policies that enhance or constrain Design and Technology across the case studies. The CHAT section in Chapter 8 starts by considering each subject leaders' perceptions about showcasing of Design and Technology using the analytical lens of CHAT. The intention is to understand how tools mediated the work on the object of the activity of sustaining and developing Design and Technology.

Chapter 8 extends the discussion on each case study to analyse examples of Design and Technology department leadership activity system interaction. The interaction affected the objects of Design and Technology department leadership activity systems and therefore impacted on the subject leaders' leadership practice. Activity system interaction helps to suggest why the Design and Technology department leadership activity systems' objects differed. The chapter addresses the third research question which asks how Design and Technology department leadership activity systems are interacting with other activity systems.

Chapter nine concludes the thesis. It considers how the research study findings might contribute to the understanding of subject leaders' work in subject departments. The chapter starts by discussing the main findings, followed by a consideration of the study's implications for theory, practice and policy. Further research in the understanding of subject leaders' practice in subject departments are also suggested.

## CHAPTER 2

### LITERATURE REVIEW: SUBJECT LEADERS IN SECONDARY SCHOOL SUBJECT DEPARTMENTS

#### 2.0 Introduction

Subject leaders of departments occupy an important position in secondary schools. Their work is complex and demanding (Bennett et al., 2007; Bassett, 2016). Other than being specialist subject teachers and leaders of teaching and learning, the relationships between the department's teachers and the school pivot around them. My work as a subject leader has made me aware of how leadership shapes teaching and learning in schools, particularly at a department level. This has shown me that subject leaders practice leadership alongside their department colleagues. They collaborate with their department colleagues which are driven by the circumstances in which they find themselves. Consequently, understanding how leadership is practiced in a subject department setting forms the base of this qualitative, multiple case study that focuses on perceptions about practice.

The approach taken in reviewing literature for this study comes from the need to increase the understanding of not only the practice of subject leaders in departments but how several interconnected concepts, including middle leadership in schools, subject status and department subcultures shape practice. This chapter presents a review of the literature on subject leaders to inform and guide this study which will explore the perceptions of subject leaders of Design and Technology about their practice in sustaining and developing Design and Technology. This study is premised on the position that leadership practice is a bundle of activities exercised by a person or a group of persons, which reflect the circumstances they find themselves in, and with some shared outcomes in mind (Leithwood, 2012). Leadership practice is generated in the interactions of leaders (for example subject leaders), followers (for

example department staff), and their situation (the subject department contextual settings); each element is essential for leadership practice (Spillane, 2006).

The importance of leadership is second only to classroom teaching (Leithwood, Harris and Hopkins, 2020) but most of the research justifying this claim, is about the influence of the principal or headteacher (Leithwood, 2016; Harris, 2004). The significance of other leaders in schools acknowledges they are increasingly focusing on learning, which is the central purpose of educational organisations (Bush and Glover, 2014). Although dated, the literature has identified the practice and attributes of subject leaders and focused on the work of subject leaders in departments (Busher and Harris, 1999; Wise, 2001; Busher, 2005; Harris, 2005; Bennett et al., 2007).

These practices include examples in monitoring teaching and learning (Bennett et al., 2007; Wise, 2001), building relationships within and outside of their departments (Glover and Miller, 1999; Poultney, 2007) and promoting the department through the quality of relationships it has with the rest of the school (Busher and Harris, 1999). This 'bundle of practice' and others correspond to the UK's national standards for subject leaders in the areas of strategic direction and development of the subject, teaching and learning, leading and managing staff, and efficient deployment of staff and resources (Teacher Training Agency, 1998).

In understanding how subject leaders work, it is crucial to explore them in their department environments as that will afford a closer view of what they perceive they do as leaders. The work of subject leaders is seen to challenge the longstanding notions of leadership which have put importance on the personal traits of subject leaders rather than understanding their views on the role experienced in the setting of their departments (Hammersley-Fletcher, 2002; Bush, 2008). Research based on the traditional views of leadership focuses on the roles and responsibilities of subject

leaders in providing leadership and direction for the subject that they lead (Bennett et al., 2003; Teacher Training Agency, 1998).

Although there is no agreed definition of leadership (Yukl, 1999) and some suggest it might even be unwise to narrowly define it (Leithwood and Riehl, 2003), leadership in schools is seen as complex (Bassett, 2016). In this thesis, leadership is taken to be the activities engaged in by subject leaders, in interaction with others in the contexts of subject departments around specific tasks (Spillane, Halverson and Diamond, 2004). The importance of such interaction is that it strengthens the bond between individual teachers and teachers collaborating in departments (Hofman, Hofman and Guldmond, 2001). This makes the social interaction aspect in schools a critical part of leadership practice (Harris, 2013). To better understand the practice of subject leaders of Design and Technology, it is important to understand how leadership is constituted through the relationships that are formed with others in a subject department in schools.

Establishing strong leadership relationships is important in, for example its potential to develop schools (Bush and Glover, 2014); its effects on pupil learning (Brundrett, 2004; Leithwood, Day, Sammons, Harris and Hopkins, 2006); school effectiveness and improvement (Bruggencate, Luyten, Scheerens and Slegers, 2012); and training for future leaders (Rhodes, Brundrett and Nevill, 2008). A growing body of evidence continues to document the effects of leadership in schools (Leithwood and Riehl, 2003) and its place as a vital component of successful schools (Bush, 2008) as its influence (Gronn, 2000). Therefore, for school leaders and what they do in leading their departments matters.



## **2.1 Subject departments**

This section focuses on departments as the environment in which secondary school teachers teach. The school subject department, as a unit is underexplored (Puttick, 2017) and most of the research that exists is fairly old (Douglas, 2015). Consequently, little has been written about Design and Technology subject departments. Historically, the subject department has been regarded as the central organisational framework for secondary school teachers (Siskin, 1994). In secondary schools, curriculum subjects form the first organisational unit of the institution (Lopes and Costa, 2019). Departments, which often take their descriptions from curriculum subject names, label teachers with their professional identities and provide boundaries dividing teachers into distinctive worlds (Siskin, 1991). This is evident in schools when referring to a group of teachers, for example, as Science teachers or English teachers.

The curriculum subjects play a role in defining many secondary teachers' identities (Childs, Burn and McNicholl, 2013). Subjects have tended to become the preserves of specialist teachers who normally organised in subject departments (Goodson, 1993) which provide the most common organisational vehicle for school subject knowledge (Goodson and Marsh, 1996). For secondary school teachers, departments are the organisational units in which many policies and practices related to their work are established and enacted (Stodolsky and Grossman, 1995). Some researchers have concluded that in European and North American settings, departmentalisation in secondary schools is a universal feature (Siskin, 1991; de Brabander, 2000).

Secondary schools in the United Kingdom (UK) and other parts of the world, for example the United States of America (USA) are organised by departments. Consequently, secondary school teachers most often describe themselves as subject

matter specialists and see their social ties primarily in their departments rather than to the school rather (Lee, Bryk and Smith, 1993). The Design and Technology in schools is an example of a subject that forms a subject department. Departments are not the only subgroups in a school, but they are the likely point for important subgroups, particularly in terms of teachers sharing talk about teaching. Teachers in a department may also belong to other groups such as a pastoral team or year group teams (Douglas, 2011).

Although departments vary widely in size, teachers to develop an organisational identity and sense of collegiality in their departments (Leithwood, 2016). This leads to subject departments exhibiting distinctive cultures (Childs et al., 2013) which results not only in different departmental policies and practice but also in different responses to the same external policies (Siskin, 1991). This form of identity defines the nature and discourse of the academic subject knowledge (Siskin, 1994) which allows teachers to contribute to the subject subcultures (Grossman and Stodolsky, 1995) in a department setting. Therefore, departmental cultures exert influence on subject leader practices which are the key focus in this study.

The different cultures in departments may influence the way subject leaders view their role due to the social complex settings that facilitate a shared culture. This complex facilitation of subcultures according to Siskin (1994), is possible because teachers in departments:

are so located because they are subject specialists who share specialised knowledge, reference, and language of their subject matter. Departments, then, are fundamental units to consider in understanding the complexities of both the sociocultural and organisational terrain of the high school. (Siskin, 1994: 155-156).

In this quote, Siskin (1994) describes subject departments, not merely as organisational units or specific parts of a school. They are presented as entities which are centred on subject specialisms, with their distinctive approaches towards knowledge and mastery of the subject matter. This may explain why different subject leaders view the status of their subject in comparison to others in their school differently (Bennett, 2006). Departments occupy an important position in secondary schools as the source of a great deal of political and cultural power in the relationships between schools as a whole and classroom teacher (Melville, Jones and Campbell, 2014). This in turn affects how subject leaders create and maintain relationships in subject departments.

The conception of a subject department could be understood in the community that sustains it. The community is established through the building of relationships and hence is constituted through social interactions in a formal educational institution with its associated hierarchies, power relations, micro-politics, expectations, and norm (Puttick, 2017). Norms in subject departments can differ from organisational norms, since departments differ in features such as the degree of definition or the number of distinct fields included in the school subject (Stodolsky and Grossman, 1995).

Departments are also seen as communities that provide a climate for teachers to openly exchange ideas about curriculum content and pedagogy and learn from each other (Vanblaere and Devos, 2018). In their research Melville and Wallace (2007) conclude that departments should be regarded as both communities that offer teachers a sense of identity and meaning and as organisations that can operate their own political agendas. On the other hand, the location of departments as separate units within a hierarchical school structure frequently leads to a strong sense of territorialism, leading to a lack of collegiality between the heads of departments and sometimes to strong departmental subcultures (Bennett et al., 2007). The idea of

teachers working differently in departments may explain why subject leaders of the same subject view their roles differently.

By their very design, departments place the subject in the foreground (Siskin and Little, 1995). However, school subjects differ in their degree of status within the school and larger community (Grossman and Stodolsky, 1995). This could be seen in how the subject is viewed by the society including teachers, pupils, parents, school governors, school leaders, curriculum developers and others. Bleazby (2015) explores why some school subjects have a higher status than others and differentiates between those subjects that are perceived to be at the top of the curriculum and those that are of a low status. Mathematics and sciences occupy a privileged position because they appear to epitomise certain knowledge. Subjects with the lowest status including Design and Technology do not correspond to established academic disciplines and lack disciplinary boundaries (Bleazby, 2015). The place of a department in schools may depend on how its status is perceived internally and externally.

School departments vary in size, for example they range from multidisciplinary departments such as Design and Technology or Science departments with many staff to departments staffed by one or two people or even one person (Busher and Harris, 1999). Different departmental structures can be defined by configuration, staff membership and subject expertise. There are five different department types: federal, confederate, unitary, impacted, and diffuse departments (Busher and Harris, 1999). Departments formed of a single subject such as mathematics or a group of subjects such as science or the humanities (Thorpe and Melnikova, 2014) could be defined as unitary and federal, respectively.

A Design and Technology department is a large multi-subject department composed of several independent subjects including resistant materials, product design, graphics, systems and electronics, textiles, cooking and nutrition, and hospitality and catering. It is therefore a confederate department (Busher and Harris, 1999) in which a group of subjects share some aspects of teaching and learning. The formations and composition of a subject department unavoidably affect the leadership styles of a subject leader of a department. In a confederate department, the subject leader is not sufficiently powerful to ensure that the staff members of the department work together on key decisions (Busher and Harris research,1999). Consequently, leadership is likely to involve a great deal of micropolitical activity between the allied subject areas.

The functioning of departments is not without conflict. Paechter (1993) describes the opposition on formation of a new subject of Design and Technology from previously independent subjects of Craft, Design and Technology (CDT) and Home Economics, with teachers being assigned to the new Design and Technology subject from 1988. Each set of teachers saw the need to keep the identities of their previous subjects. The outcome was not only dependent on the power of the subject, but also on the teachers involved, how they perceived themselves as teachers, their relationship to teaching, and their career histories (Paechter, 2003).

The extent to which departments are composed of teachers from diverse disciplines may also contribute to the degree of cohesion of the department (Grossman and Stodolsky, 1995). It is widely accepted that subject departments act as the dominant organisational structure in the day-to-day life of teachers and students (Downey, Byrne and Souza, 2013) and leading a department depends on many factors including the department culture, size, composition, status, and the nature of the

subject. This demonstrates some of the complexities in departments which creates opportunities for subject leaders' practice.

## **2.2 Subject leaders and their role in monitoring teaching and learning**

To understand the perceptions that subject leaders have about their practice, it is important to review the literature around the roles and responsibilities of middle leaders because of their position in the school leadership hierarchy. Departments in secondary schools are led by a teacher with a teaching and learning responsibility. Bennett et al. (2003) classify subject leaders as middle leaders in the hierarchical organisational structure of schools and the literature uses a variety of terms to describe them (Bennett et al., 2003; 2007; Harris et al., 2019; Puttick, 2017; Thorpe and Tran, 2015; Wise, 2001). These include head of faculty, head of department, middle manager, mid-level leader, subject coordinator, and subject leader.

The shift in labels has been attributed to the changing ideas on the middle leadership role. Regarding the changing ideas in middle leadership Bell (1996) and Bell and Ritchie (1999) claim that:

Changing ideas on the middle leadership role are visible in the changing language used to describe it- from informal subject specialist, through primary school curriculum co-ordinator or secondary school head of department, to middle manager to subject leader to middle leader. (Bell and Ritchie 1999 cited in Bennett et al., 2003:4).

Bennett et al. (2003) identified two tensions regarding those occupying middle leadership roles and responsibilities: between expectations that their role had a whole-school focus and their loyalty to their department; and between a growing school culture of line management within a hierarchical framework and a professional rhetoric of collegiality.

A review of middle leaders in schools concludes that subject leaders felt dual pressures of accountability and responsibility from the levels below and above them (Bennett et al., 2007). The top level is the school's senior leaders whilst the lower level is composed of classroom teachers in a department. Schools are complex organisations (Melville et al., 2014). In the hierarchical order, a subject leader is in the middle, fitting in between the senior school leaders and the teachers in the department (Bennett et al. 2003; Busher and Harris, 1999). This position accords subject leaders a crucial role in developing and maintaining the nature and quality of pupils' learning experience (Bennett et al., 2007). This view is also supported by De Nobile (2018a) who asserts that middle leadership (including leading subject departments) is not just about positions of authority or hierarchy, but the influence people have in the space between senior leadership at one end, and teachers and other staff.

The authority of subject leaders not only emanates from their formal position but also from their emphasis on subject-based teaching with a team of teachers. This makes the subject leader responsible for much if not all of their colleagues' teaching. Therefore, given the increasing responsibilities of subject leaders in schools (De Nobile, 2018b), there is a need to better understand their perceptions about practice as they perform the role of monitoring teaching and learning. In a secondary school, a subject leader plays a decisive role in the effective operation of the work of their department. This not only require subject knowledge and teaching expertise, but also the ability to manage and lead a team (Earley and Fletcher-Campbell, 1989).

In larger secondary schools, a subject leader could be responsible for ten or more staff and the teaching and learning of hundreds of students. This position means that subject leaders have a significant leadership role towards developing successful

schools (Brown, Rutherford and Boyle, 2000). In their leadership position, subject leaders influence others by leading the team, developing its vision, and setting its direction (Thorpe and Melnikova, 2014). The importance of subject leaders lies in leading teaching and learning to improve pupils' experiences (Leithwood, 2006). Subject leaders attempt to do this in environments that espouse collegiality. The subject leader aligns the subject department staff to a shared vision, which appears to be crucial in leading teaching and learning in departments.

There is considerable confusion in schools about the precise role of subject leaders, particularly in the strategic development of the subject area and the organisation (Glover et al., 1999). Subject leaders have formal responsibilities, accountabilities and they usually have a significant teaching load (Dinham, 2007). Some researchers contend that the role of the subject leader is undefined, open to interpretation, multifaceted in nature (Weller, 2001) and under researched in relation to the role of the headteacher (De Nobile, 2018a; Aubrey-Hopkins and James, 2002).

The variety of subject leaders' roles are seen to be increasing in complexity (Thorpe and Bennett-Powell, 2014). This complexity for subject leaders is viewed to take them away from leading a team of teachers to working at a wider level in school (Poultney, 2007). Whether the work of a subject leader is viewed as essential or not in the leadership of schools their perceptions about the role and how they function 'in the middle' are important (Lárusdóttir and O'Connor, 2017). It is also important to understand their 'leadership practice' in the context of individual departments. Exploring the practice of subject leaders of Design and Technology is essential in understanding both department and school leadership.

The strength of such leadership is illustrated by Leithwood (2016), who acknowledges that:



Although departments vary widely in size, all are smaller than their host schools, making it easier for teachers to develop an organizational identity and sense of collegiality within their departments. Such collegiality leads to shared understandings and cultures of professional collaboration which have the potential to improve instruction. (Leithwood, 2016:122)

Leithwood suggests that the subject leader's role of improving teachers' identity goes together with the quality of classroom practice in the departments that they work in through fostering collective practice. The above excerpt reveals that departments present the subject leader with an opportunity to enhance pupils' outcomes given the shared sub-cultures of the teachers in those departments compared to the whole school.

Additionally, a subject leader is at the centre of a subject department affairs given their expertise as Brundrett (2004) illuminates:

Subject leaders will have mastered the craft of teaching and will be experts in developing the learning of children and students (Brundrett, 2004:10)

This is premised on the idea that subject leaders are knowledgeable practitioners, who dominate the affairs of their departments. They are the custodians of the success of their departments. This implies that subject leaders can lead a team and persuade others to improve teaching and learning. They create a setting where teachers in a department would accept monitoring of their work to support their improvement and that of students (Busher and Harris, 1999). Subject leaders influence student attainment by facilitating high-quality learning environments in their departments.

The monitoring of teaching and learning in the 'bundle of practice' calls for subject leaders to use systematically collected evidence to justify their claims and inform decision-making (Leithwood, 2012). Subject leaders' monitoring of colleagues' work

in classrooms is achieved through observation of their teaching, for example during classroom observations, learning walks and the scrutiny of pupils' books. Learning walks are structured classroom visits by subject leaders, school senior leaders and other colleagues to gather data about teaching and learning through observation and interaction with students (Baker and King, 2013). Although subject leaders have refused to be seen as monitoring the work of their colleagues (Bennett et al., 2003), they facilitate settings where teachers in their department accept such monitoring. Consequently, subject leaders work towards promoting a shared approach to pedagogical or curriculum leadership within the subject.

The subject leader role has developed from a culture where headteacher leadership in a school has been perceived as responsible for school wide improvement. In a school, a subject leader is considered to make a difference in the educational system of a professional learning community, by being responsible for the efficient and effective performance at the subject department level (Friedman, 2011). Effective leadership at all levels in schools is important and subject leaders are the driving force behind any school (Earley and Fletcher-Campbell, 1989). Hence, subject leaders are key to improving the quality of the learning for pupils and promoting collegial practices in departments.

### **2.3 Subject leaders and building relationships**

The organisation of schools has resulted to departmentalisation, which implies that the decision-making power concerning educational affairs is delegated to the departmental level (Witziers, Slegers and Imants, 1999). Accordingly, departments have become settings from which teachers as professionals share views and collaborate. Subject leaders enhance this collaborative working by promoting collegiality (Bennett, 2006) which is a shared power among some or all members of the organisation who have a mutual understanding about the objectives of the

institution (Brundrett, 1998). Collegiality assumes that professionals such as teachers in a school have common values and shared objectives (Bush, 2003). This is not always the reality in professional workplaces, such as subject departments.

Collegiality entails subject leaders building collaborative cultures in their departments and extend the same to the other stakeholders (Leithwood, 2012; Hardy, Gyekye and Wainwright, 2015). These other stakeholders include school senior leaders, pupils, teachers, parents, school governors and subject advisory associations. Subject leaders play a role in defining and sustaining collegial subcultures by ensuring that departments operate as socially cohesive communities (Busher and Harris, 1999). Collegiality is considered a component of successful department leadership and is achieved when all members work collaboratively with a high degree of commitment to learn and can bring organisational change and improvement.

A culture of department staff learning is facilitated by leadership, which is a key aspect of departmental culture (De Lima, 2008). Departmental culture, such as promoting a collective learning approach, places departments as the most important entity for promoting professional communities (Busher and Harris, 1999; Visscher and Witzers, 2004). They are viewed to be cohesive, with the subject leader facilitating members to meet frequently, formally, and informally (Bennett et al., 2003), to improve their learning. The central task of the effective subject leader is to create a culture of trust within their departmental team members that will make it possible to discuss issues of practice rather than maintaining them as individual matters (Bennett, 2006).

Similarly, Dinham (2007) notes that subject leaders can improve department performance through developing a common purpose and commitment, fostering collaboration and building a productive team. They facilitate department staff professional practice by building a team that is socially cohesive to allow discussions

on teaching and learning and about improving their practice. Their practice of building trusting relationships between the department staff and the school senior leaders cements their position as Brundrett (2004) illustrates:

Subject leaders will also be at a level in the organisation which enables them, possibly uniquely, to act as a fulcrum between those working in the classroom and the senior management team of the school. The subject leader is frequently the figure who interprets, negotiates and enacts the policy and may, indeed, write the relevant document for the initiative for their subject or subjects. In this way, middle managers are the glue that holds together schools. (Brundrett, 2004:10)

Subject leaders are not only essential in schools but influence the relationship between their subject department staff and the senior leaders in their schools.

Therefore, a subject leader works to provide an environment of stability and security within which their colleagues can work (Bennett, 2006) by:

acting as a buffer, bridge and broker to mediate between departmental needs and expectations and the wider demands of the school's senior leadership. (Bennett, 2006:12)

This inevitably calls for a brokering function (Busher and Harris, 1999) of the subject leader because:

being seen to defend the interests of the subject will provide them with credibility and status among their subject colleagues. However, ensuring that colleagues are aware of wider school expectations will make it possible to align subject teaching policies with those of the school as a whole. (Bennett, 2006:12)

This suggests that a subject leader requires interpersonal skills to be able to support their colleagues and communicate their schools' objectives at a department level (Poultney, 2007). These skills are important for creating opportunities to lead in subject departments. Thus, the subject department social settings are essential in that they provide a platform for their practice.

Accordingly, aspects of subject department leadership focus on how a subject leader encourages a group of staff to develop and maintain a group identity (Busher and Harris, 1999). Although departments vary widely in size, it is easier for teachers to develop an organisational identity, and a sense of collegiality (Leithwood, 2016). Departments provide a special sense of identity for staff and some teachers see their careers tied closely to the development of subjects (Ball and Lacey, 1995). Siskin (1997) argues that for high school teachers, the subject is not merely an activity, taking part of a day, it is an identity. This is intensified by the tendency of secondary schools to operate within hierarchical structures, which also constrain the degree to which subject leaders can act collegially (Bennett et al., 2003). Teachers in a school do not necessarily share values, subject definitions, and interests (Jephcote and Davies, 2007). Therefore, the practice of building relationships with teaching colleagues and encouraging their growth is important for subject leaders.

Subject leaders promote a shared approach to pedagogical or curriculum leadership within the subject (Bennett, 2006). This way of working means that leadership is seen as support instead of guidance and direction, where individual expertise rather than the formal position, is valued and respected. Although a subject leader will have a formal responsibility in directing staff in a subject department, it is departmental colleagues and not a formal position that accords legitimacy and the subject leader must have the status of a leading professional (Bennett et al., 2007). The subject leader needs to be well connected, and able to bring various external and internal

players to support the success of the department. Thus, a subject leader's role would be that of a liaison or a representative (Busher and Harris, 1999). This requires subject leaders to network externally to other subject and industry experts whose knowledge could support the work of the department (Leithwood, 2016).

#### **2.4 Subject leaders and promoting subject departments**

There are many reasons why teachers may want their subject promoted. One such example reason is that teachers of low status subjects may often find it difficult to have their voices heard in wider curriculum and management decisions (Paechter, 1993). Subject teachers expect subject leaders to work in the wider school context so that they could raise the status of their subject departments right across the school (Poultney, 2007). They are willing to work with their school's senior leaders to improve the efficiency of their subject departments. Similarly, subject leaders appear to make connections with parents, pupils, and the school's senior leaders. This is to encourage the involvement of parents and other stakeholders who could influence on a pupil's performance. Therefore, promoting and sustaining Design and Technology requires creating a culture that supports the building of trusting relationships within and among the department staff, senior school leaders, pupils, parents, and other external stakeholders.

Design and Technology subject leaders work with other specialist teachers in their subject department, where tasks are broken down into their detailed specialist components, which are then performed by different individuals (Gronn, 2000). Since its inclusion in the National Curriculum there has been discord between the constituent subjects of Design and Technology, and this has been attributed to their varying individual curriculum content (Paechter, 1993). The 1988 National Curriculum for England merged various subjects and referred to them as Design and Technology although they were quite different and to date Design and Technology has continued

to struggle with its image in schools, especially after 2000 when it was dropped as a compulsory subject in Key Stage 4.

This change in status meant that schools in England had the decision on whether to include Design and Technology in their curriculum. One problem has been a decline in the number of pupils opting to take Design and Technology at GCSE (Hardy, 2017). This, coupled with other factors such as the high cost of running a Design and Technology department may contribute to its lack of backing from senior school leaders. As Design and Technology continues to struggle in schools, subject leaders have engaged in activities that raise the image of the subject. Subject leaders contribute to raising the profile of the department in their school because they ensure that their practices and those of the department staff improve the quality of education provided in their departments, meet the needs and aspirations of pupils and raise standards of achievement in schools (Aubrey-Hopkins and James, 2002).

## **2.5 Contribution to the development of the research problem and the formulation of the research questions**

The importance of the role of subject leaders in schools is well-documented and several studies have looked separately at departments, subject leaders, and their work in secondary schools. Research on mid-level leadership including subject leaders has continued to increase (Harris et al., 2019; De Nobile, 2018b). This thesis will add to the knowledge base of the practice of subject leaders by considering their interactions in departmental settings rather than focusing on their individual actions. The review of the literature revealed that subject leaders aim to support, persuade and guide staff to achieve the agreed personal, department level or whole-school objectives to promote pupil progress. Subject leaders need to invest time in building trusting relationships with departmental teachers.

The overall research question for this study responds to the literature on Design and Technology subject departments which is scarce (Visscher and Witziers, 2004; Harris and Jones, 2017). The research question asks about the perceptions of subject leaders of Design and Technology about their practice in sustaining and developing the subject in the secondary school curriculum. It develops from the interpretations that subject leaders make of their roles and responsibilities in their departments and their role in the effective operation of those departments, requiring not only subject knowledge and teaching expertise, but also the ability to manage and lead a team (Earley and Fletcher-Campbell, 1989). This makes departments important social settings.

This research question is linked to the view that leadership is the activities engaged in by leaders, in interaction with others around specific tasks (Spillane, Halverson and Diamond, 2004; Spillane, 2006) and environments, the most influential of which, for secondary school teachers, is the department. Considering earlier research on the roles of subject leaders, this study explores the perceptions that subject leaders have about their practice. It thus contributes to the understanding of how they think about their work and why they choose to do what they do. This could help in improving subject leaders' practice in leading a department.



## CHAPTER 3

### LITERATURE REVIEW: DESIGN AND TECHNOLOGY AS A SECONDARY SCHOOL SUBJECT DEPARTMENT

#### 3.0 Introduction

The previous chapter considered the literature on the subject departments and subject leaders in the secondary school department context. In chapter two, subject departments were recognised as important contexts to investigate the practice of subject leaders. Moreover, some literature on general school leadership was considered to illuminate how it connects with Design and Technology subject department leadership. This chapter provides a review of Design and Technology as a curriculum subject in schools in England.

The chapter appraises the research that has considered Design and Technology as a school subject (Barlex and Steeg, 2017; Bell et al., 2017). It starts by focusing on the history and significance of Design and Technology as a curriculum subject, which is characterised by perpetually shifting curriculum content (Bell et al., 2017) in the National Curriculum in England. It explores the issues that pertain to Design and Technology in the curriculum, for example the status of the subject. The final section of the chapter explains the unique practice of subject leaders of Design and Technology.

#### 3.1 Introduction of Design and Technology to the National Curriculum in England

This section considers a historical exploration of Design and Technology. This is important because as a curriculum subject, Design and Technology did not exist before its introduction into the English National Curriculum in 1988. Several subjects

were merged to make Design and Technology, a new subject that was considered as a distinct department, inter-disciplinary tensions notwithstanding. The discrete subjects have their own culture that may represent views on the nature of the subject (Paechter, 1995).

### **3.1.1 *Design and Technology pre-1988***

The history of Design and Technology in the UK shows that controversy and division have been present throughout. In Britain as in many other countries, early education was provided by the church and was an academic preparation for the upper classes (Wakefield and Owen-Jackson, 2013). Originally, trade and craft skills were learnt through apprenticeship, and it was not until the mid-16<sup>th</sup> century that these became a formal part of the education system (Gillard, 2011, cited in Wakefield and Owen-Jackson, 2013:7). However, Mulberg (1992) notes that:

There is evidence of technological activities in school before 1902, that is the date at which 'manual work' was introduced to English state schools and many of our issues with design and technology education may be traced back to this era. Woodwork was a mandatory subject for boys while 'housewifery' was the option for girls. (Mulberg 1992 cited in Wakefield and Owen-Jackson, 2013:8)

This suggests that the early form of Design and Technology was gender-based unlike established subjects like Mathematics, English, and Science. This is supported by James and Goodhew's (2011) view that Design and Technology first featured in the curriculum as a pre-training element for vocational work and was gender-specific; boys studied Woodwork and metalwork while girls took home economics and needlework, which were regarded as a pre-apprenticeship grounding in handicrafts (Miller, 2011)

A major milestone in education in the UK was the Report of The Consultative Committee on Secondary Education in 1938, better known as the Spens Report (Wakefield and Owen-Jackson, 2013). It made several recommendations that shaped the provision of technical education, and the current form of Design and Technology has its roots therein. The Report introduced the idea of technical schools alongside grammar schools. This was codified in the Education Act 1944 which introduced the 'tripartite' system of education which provided grammar schools for academic pupils, technical schools to teach mechanical and engineering skills and secondary modern schools for the academically less able. Wakefield and Owen-Jackson (2013) are of the view that technical schools failed to properly establish themselves and a great opportunity was missed

In the years that followed the 1944 Education Act, Benson (2009) explains that in secondary schools:

Whilst there were no regulations prohibiting girls and boys from taking particular specialisms, often girls were not given the opportunity to take, for example, woodwork and metal work and had to opt for needlework and cooking, and vice versa. (Benson, 2009:17)

This reveals the extent to which Design and Technology related subjects were arranged based on gender and this model pervades to some extent to this day (Benson, 2009). Technology or handicrafts as it was known, followed this model up to the late 1960s and emphasised the development of careful and accurate craftsmanship through participation in workshop activities (James and Goodhew, 2011). In the early 1970s, the economic recession affected the amount of money available for the education budget and tighter controls on spending were introduced (Benson, 2009). In 1976 James Callaghan, the current UK Prime Minister, gave a speech at Ruskin College in which he declared that too many pupils from 16-18 years

were studying Arts and humanities and not Science and Technology, something which he felt would not lead directly to increasing economic and commercial wellbeing (Benson, 2009).

It was also during the 1970s that two important developments took place as James and Goodhew (2011) highlight:

First, the implementation of the Equal Opportunities Act 1974 required all aspects of practical subjects to cater for both girls and boys. Second, the school leaving age was raised from 15 to 16 years, which resulted in more pupils in schools, especially those of lower ability who previously would have left at age 15 years. These students were not considered sufficiently able to study the more academic examination subjects and took practical subjects, such as metalwork or home economics, instead. (James and Goodhew, 2011:322)

There was good intent in neutralising the gender-based approach to technology-related subjects and adopting a more encompassing approach. However, a new concept that academically challenged pupils were made to study technology-related subjects was far from all-inclusive.

In the 1980s, several initiatives developed curriculum ideas that fundamentally influenced the development of Design and Technology in secondary schools to what it is today. One such initiative included two projects: Project Technology and the Design and Craft Education Project. These led to the reform of the secondary school curriculum and the introduction of two new subjects: Technology and Design (Eggleston, 1996, cited in Benson, 2009: 18). By the early 1980s, there had been the creation of Craft, Design and Technology (CDT) and by 1985, GCSE courses were approved in only two groupings – CDT and Home Economics (Wright, 2008). CDT

brought together manual, intellectual and organisational skills (Benson, 2009) and formed the basis for the National Curriculum subject Design and Technology which was introduced in the late 1980s (James and Goodhew, 2011).

### **3.1.2 *Design and Technology in the 1988 National curriculum for England and Wales***

As a distinct curriculum area, Design and Technology was introduced by the Education Reform Act 1988, which was a major reform of educational policy in England and Wales. Initially, the first published National Curriculum in England and Wales it covered only English, Mathematics and Science from 1989 but it was followed in March 1990 by Design and Technology and other foundation subjects. Some suggest that the introduction of the new curriculum was a response to the UK government's recognition of the importance of technology to the British economy (Layton, 1995 in Wilson and Harris, 2004: 47). Subsequently, England and Wales created the concept of Design and Technology and were the first nations to establish it as an entitlement for all children aged 5 to 16 (Kimbell and Perry, 2001).

The National Curriculum was organised around 10 subjects, three of which formed the core: Mathematics, English and Science). The other seven including Technology formed the foundation subjects. As a foundation subject, Design and Technology became an area of learning and experience for all pupils between the ages of 5 and 16 and, initially, it was a compulsory subject for Key Stages 3 and 4 (pupils aged 11 to 16). In compiling the National Curriculum, the content of each subject area was developed by working parties, mainly working in isolation from each other. The course content of Design and Technology was developed by a working group composed mainly of people from business and industry and those with secondary or higher education backgrounds (Benson, 2009). The Design and Technology Working Group produced its interim report which, following consultation, established technology as a

compulsory subject. The subject incorporated Design and Technology and Information Technology, in Key Stages 1 to 4 (ages 5 to 16) in schools in England and Wales (Department of Education and Science and Welsh Office, 1990).

The choice of the term, 'Design and Technology' highlighted the implicit link between Design and Technology and Information Technology but also links with Mathematics, Science and several other subjects. The curriculum content was a tussle between various interested groups as Benson (2009) explains:

The chairperson of the Design and Technology Working Group, Lady Parkes, was lobbied by different pressure groups as the work progressed – the design lobby led to the inclusion of the word 'design' in the title; the science lobby pushed for a focus that would lead the subject down the 'appliance of science path'; the home economists were afraid of losing food and textiles to Design and Technology and wanted them to be separate; and the business and vocational lobbies wanted to keep their places in the curriculum, rather than have them integrated into Design and Technology. (Benson, 2009: 19)

The decision on a suitable subject name reaffirmed the view that the curriculum content for Design and Technology traversed many academic disciplines with each choosing to be included or left out. The academic side from Science and the vocational side comprising Woodwork, Metalwork, Home Economics and Textiles had divergent views.

However, there was a suggestion that Technology did not need to become a discrete subject on its own and that many of its skills and knowledge bases could be identified, even located, in other areas of the curriculum. This immediately brought into question the position of Technology on the curriculum (Wakefield and Owen-Jackson, 2013). Therefore, what played out clearly in the early stages in enacting Design and

Technology as a curriculum subject was its disciplinary basis; that is, whether it was an academic or vocational subject or both. This puzzle has followed Design and Technology as a subject in school ever since.

Some commentators have commented on how Design and Technology is viewed. Since it was created virtually overnight from a heterogeneous amalgam of hitherto individual disciplines, Design and Technology is an educational construct (Bell et al., 2017). This implies that Design and Technology as a subject exists only through an educational need, rather than one that dovetails into a specialist field of further study or a post-graduate career (Bell et al., 2017). The constituents of Design and Technology also developed from a group of subjects with a history of being low status, non-academic and sought at working-class and less able students (Paechter, 1993). However, for others curriculum reform and educational policy (Department for Education and Science and Welsh Office, 1990) are the sole determinants for the creation of Design and Technology as a curricular entity.

In addition, Bell et al. (2017) who argue that:

Outside of the boundaries which define compulsory education, design and technology does not exist, but its constituent components which include product design, electronic products and textiles technology do. (Bell et al. 2017:540)

These components exist singly with their own knowledge bases which has been problematic in seeing them as one subject. In the UK examination-based education system, at Key stage 4 and 5 Design and Technology's omission from the EBacc set of subjects (DfE,2017a) it is downgraded to a less desirable subject.

Recognising the tensions that would emerge following the new name, Department for Education and Skills [DfES] (1988) said that:

Our understanding is that whereas most, but not all, design activities will generally include technology and most technology activities will include design, there is not always total correspondence. Our use of design & technology as a unitary concept, to be spoken in one breath as it were, does not therefore embody redundancy. It is intended to emphasise the intimate connection between the two activities as well as to imply a concept, which is broader than either design or technology individually and the whole of which we believe is educationally important. (Accordingly, we use design & technology as a compound noun taking the singular form of verbs in what follows. (Department for Education and Science and Welsh Office, 1988:2)

This passage highlights the enormous task DfES and the Welsh Office had in convincing the various interest groups of their justification and adoption of a name for the new subject. It appears that it was a compromise name that was assimilated given the tensions that were being experienced both at the time and later.

The 1988 Design and Technology Working group's suggestion that they were bringing a unitary approach to pupils' educational experiences in schools is captured below:

Most schools will already be providing for pupils' educational experiences of the kind we are describing, although not always in a formally co-ordinated and recognised way nor under the description Design and Technology. Others will not, and for them a more fundamental appraisal of their curriculum may be necessary. (DfES/Welsh Office, 1988:1)

The working group views from the above quote were intended to normalise and bring uniformity in the teaching of Design and Technology.



Inevitably, the new universal approach brought in newness, which the National Curriculum Council (1991) highlights three aspects of the newness:

First, never before has an attempt been made to teach Design and Technology. Secondly, Design and Technology differs from other subjects in the National Curriculum in that it does not have an established tradition of teaching and learning. Thirdly, the departure is new in that there has obviously been little research into pupils' understanding and learning in Design and Technology to all children throughout the 11 years of compulsory schooling (National Curriculum Council, 1991:1-3).

However, despite the novelty that was intended in introducing a new subject called Design and Technology, unusually the previous technical areas remained as subject specialisms - food, textiles, resistant materials, graphics - but were in a common design framework (Miller, 2011). The new outside moulding was different with a new name and assumed philosophy, but the core largely remained the same bringing with it a long-held perception of craft and low rank (Wooff, 2017).

These subject specialisms have themselves undergone identity drift over the decades since they were initially established as Wooff (2017) explains:

Woodwork and Metalwork recently combining to form 'Resistant Materials', Engineering Design and Technical Drawing coming together to form 'Graphic Products' and even cookery (or cooking) metamorphosing via home economics into 'Food Technology' and arguably into the vocational offshoot of 'Catering and Hospitality'. These subjects were initially combined, along with a subject typically aligned with art and design, sewing, or needlework, which itself became 'Textiles Technology' (Wooff, 2017:26)

The constituent subjects for Design and Technology were changed from the craft-based names to more fashionable ones. This was perhaps to move away from the

low status value that was attached to the previous subjects of Design and Technology. However, Design and Technology, as constituted in the English National Curriculum, continues to be subject to rapid and complex education, economic and social policy changes and remains under constant danger of dilution or fracture (Wright, 2008). The latest of such amendments, which are discussed below were seen in the National Curriculum for England that took effect in 2014.

It is now over 30 years since England introduced a National Curriculum and there have been four reviews in 1993, 1999, 2005 and 2012 resulting each time in changes to either content, assessment or both (Hardy, 2015a). The content and assessment structure of Design and Technology has always been greatly affected during these reviews. Students studying Design and Technology at Key Stage 3 before the 2014 revision were generally offered a rotation of Food Technology, Textiles Technology, Resistant Materials and Systems and Control, with some schools offering more options such as Graphic Products, Electronics and Product Design (Miller, 2011). Likewise, the subjects were offered at Key Stage 4 as examination subjects.

In its current form since the 2014 National Curriculum revision, there has been a new single Design and Technology GCSE taught in schools (Hardy, 2015b) or subject specialisms (Miller, 2011) and students learn how to use a broad range of materials including wood, paper, textiles, systems and electronics (Hardy, 2015b). Since 2014 there has been a new food preparation and nutrition GCSE which means a food technology specialism is now divorced from Design and Technology. Thus, Design and Technology is a complex curriculum subject that has undergone numerous structural changes since its introduction. The main issue is pinning down exactly what Design and Technology is, given the many specialisms that fall under it.

### **3.2 Current issues with Design and Technology in secondary schools in England**

Design and Technology as a national curriculum subject in England and Wales has been consistently marginalised (Bell, 2016). There is an array of issues that affect Design and Technology because of the National Curriculum revisions. Recent studies have articulated some of the issues affecting Design and Technology in secondary schools (Constantinou, 2019; Hardy, Gyekye and Wainwright, 2015). The Design and Technology Association (DATA) (2018), a subject advisory body, suggests that to offer a holistic Design and Technology it is important that schools develop offerings to ensure that all aspects of the curriculum are covered (Mitchell, 2018). It has identified four challenges facing Design and Technology in secondary schools (DATA, 2018):

- A critical shortage of qualified Design and Technology teachers
- The need for a modern Design and Technology curriculum and workforce
- The effect of school accountability measures and league tables
- The serious decline in GCSE numbers

Design and Technology Association (2018)

These factors are systematic and appear to suppress the subject in schools which in turn makes the survival of Design and Technology an important focus for subject leaders and if not addressed, will make Design and Technology unsustainable (DATA, 2018). This then is the key challenge facing subject leaders.

The relationship between departments and the full curriculum of the school varies, although all the schools have had a strong subject-based departmental bias (Ball and Bowe, 1992). This means that the curriculum has maintained the traditional subjects that have defined structural elements of learning in secondary schools. The National Curriculum subjects are widely used to organise schools' subject matter and teachers

are grouped in subjects depending on their specialisms. These groupings create the boundaries within which a subject matter is taught.

Within these boundaries in most schools is some sort of curriculum hierarchy that is, an assumption that some school subjects are more valuable and are regarded more highly than others (Bleazby, 2015; Constantinou, 2018). School subjects such as Mathematics and Science fall in the high-status category and reflects their greater economic and social value (Bleazby, 2015). They are also seen as more academic. Other subjects including Design and Technology occupy a position of esteem below English, Mathematics and Science. Apart from narrowing the curriculum and depriving students of the opportunity to develop a wide repertoire of knowledge and skills, this hierarchy also contributes to the perpetuation of social inequality (Constantinou, 2019; Bell et al., 2017).

The classification of core and foundation subjects in the national curriculum also creates a hierarchy of subjects in schools. In 1998 when the National Curriculum was introduced it was split into subject areas with Mathematics, Science and English forming the core and Technology, History, Geography, a Modern Foreign Language, Art, Music and Physical Education as the foundation subjects (Ball and Bowe, 1992). There were also some cross-curricular subjects: Economic and Industrial Awareness, Careers Education, Health Education, Education for Citizenship and Environmental Education. The new Government-nominated National Curriculum Council (NCC) deemed these to be 'essential parts' of the whole curriculum (NCC, 1990, cited in Ball and Bowe, 1992:97).

The 2014 National Curriculum states that every state-funded school must offer a curriculum that is balanced and broadly based (Department for Education (DfE), 2014). It still has English, Mathematics and Science forming the core and Art and

Design, Citizenship, Computing, Design and Technology, Languages, Geography, History, Music and Physical Education as foundation subjects. All schools are also required to teach religious education at all Key Stages and secondary schools must provide sex and relationship education (DfE, 2014). Arts (Art and Design, Music, Dance, Drama and Media), Design and Technology, humanities (Geography and History) and Modern Languages are not compulsory National Curriculum subjects after the age of 14 (DfE, 2014).

Compared to the first National Curriculum, one of the similarities is the retention of core and foundation subjects. The core subjects have not changed and have kept the same names, but the foundation subjects have increased in breadth and some like 'Technology' have been rebadged. A major difference is that some foundation subjects are no longer compulsory at Key Stage 4 (ages 15-16). Of course, a lot happened between 1988 and 2014 thus necessitating both tangible and intangible curriculum changes. The DfE (2014) asserts that the National Curriculum provides an outline of core knowledge around which teachers can develop exciting and stimulating lessons to promote the development of pupils' knowledge, understanding and skills as part of the wider school curriculum. Therefore, although organising their teaching around the subjects in the National Curriculum, schools have the flexibility to structure their own curriculum.

Design and Technology was originally a compulsory subject in the curriculum but was removed as a compulsory subject at Key Stage 4 in the 2004 National Curriculum review. More recently, the promotion and engagement in STEM (Science, Technology, Engineering and Mathematics) and latterly the English Baccalaureate (EBacc) as strategically important subjects that do not include Design and Technology are also causes of concern (Miller, 2011). The EBacc is a set of subjects

that includes English Language and Literature, Maths, the Sciences, Geography or History and a language (DfE, 2017a).

This marginalisation by other subjects has contributed to the low perceived value of Design and Technology as an area of study. For example, Bell et al. (2017) argue that Design and Technology:

as a subject is evidently not fully appreciated or understood by those working outside of compulsory schooling, all of which contribute to its perception as it being a subject lower in status than its STEM, and EBacc counterparts. (Bell et al., 2017:541)

This view reaffirms the locus of Design and Technology, as viewed by various groups outside of schools, which in turn drives how it is viewed by the school community. A statistical analysis of uptake of GCSE subjects during the years 2000 - 2006 found that the Design and Technology 'subjects are, in general, not favoured by the high attaining students' (Rodeiro, 2007 cited in Miller 2011:21).

Recently Design and Technology has been omitted from the main school performance measure, progress 8, which is designed to analyse individual pupil progress over the course of their secondary education (DfE, 2017b). The introduction of the EBacc, a combination of subjects that the government thinks are important for young people to study at GCSE, brought a new dimension to the hierarchy of subjects. Unlike languages, history and geography which were foundation subjects, Design and Technology was not elevated to high status to join the EBacc group of subjects.

In defining the status of subjects Bleazby (2015) acknowledges that:

while the status of particular school subjects can fluctuate, depending on how they are configured, there is a fundamental element of the curriculum hierarchy that remains constant: i.e., the more abstract, theoretical, cognitive, objective, universal and certain a subject's content appears, the higher is its status; while the lower end of the curriculum hierarchy has always been dominated by subjects associated with concreteness, practicality, corporeality, subjectiveness and, thus, contentiousness. (Bleazby, 2015:677)

Thus, a subject's status in a school depends on the nature of the subject. The hierarchy helps shape the subject matter arena in which teachers work (Grossman and Stodolsky, 1995). This hierarchy contributes to the undermining of certain subjects, especially those perceived to be non-academic.

This is exemplified when pupils in England are making subject choices at the end of Key Stages 3 and 4. The application of subject choices in some instances is a culture of pupils in schools being expected to select academic subjects at GCSE in preference to subjects viewed as vocational (Greevy et al., 2013). In the struggle to be seen as a relevant academic subject rather than a vocational subject, Design and Technology has sought to establish knowledge and values that align with academic rather than vocational characteristics to justify its place in the curriculum (Bell et al., 2017). Design and Technology seems to sway in a spectrum that on one end has academic and the other vocational attributes. To spectators, the place of Design and Technology in such a spectrum is unstable.

In an earlier review, Paechter (1993) points out that subject status varies from school to school and is influenced by several factors, some of which are personal and individual. These factors intersect with forces from outside, such as local and national policy and curriculum initiatives; the 2014 National Curriculum and the EBacc

performance measures are examples of such forces. At the onset, Design and Technology was unusual as its rise in status in 1988 with the introduction of the National Curriculum stemmed almost entirely from government intervention and happened over a relatively short period (Paechter, 1993). However, in just over 30 years, Design and Technology has found itself on familiar grounds again in marginal, low status confines.

The shifting of policy around Design and Technology is of interest to me as a Design and Technology subject leader in a secondary school. Part of this study's title - sustaining and developing the Design and Technology in the secondary school curriculum - reflects the subject leaders' arduous task of defending the subject's retention in their schools. Hence, there is a need to be aware of the external and internal factors affecting the subject. Greevy et al. (2013) found that 14% of schools questioned said that Design and Technology has been withdrawn from the school curriculum. Subsequently, GCSE entries in Design and Technology decreased sharply between 2016 and 2021 and the Joint Council for Qualifications (JCQ) (2016, 2021) reports a decrease of 52.8% from 173,532 to 81,774 in the number of pupils who studied Design and Technology in England compared to an increase of 9.6% in all GCSE entries (FFT Education Datalab, 2021).

More recently, the number of entries for GCSE Design and Technology fell from 98,468 in 2020 to 91,185 in 2021, a fall of 7.4% (DATA, 2021). Similarly, entries in A-level Design and Technology have reduced by 22.5% compared to a fall of 1.4% in all A-level entries over the last six years (FFT Education Datalab, 2021). This decline in the numbers could be traced back to 2004 and the removal of the requirement for all pupils in England to study Design and Technology at GCSE. The drop has continued, particularly since the government introduced the EBacc subjects, which are prioritised over others. Squeezing out Design and Technology in the school



curriculum reduces the opportunities it offers to pupils; for example, the skills and abilities to engage positively with the designed and made world and to harness the benefits of technology (DATA, 2018). This may mean that, in England, Design and Technology is unlikely to address the shortage of skills in various industries, particularly in engineering and related fields. If this decline continues, we can anticipate that the struggle to address the shortage of engineers will continue for many years to come (James Dyson Foundation, no date).

The total number of entries in EBacc subjects increased over the same period by 40,580 (1%) and entries for non-EBacc subjects decreased by 21,255 (2%) between 2020 and 2022, continuing the trend seen in previous years (Office of Qualifications (Ofqual), 2021). These changes would seem to support the government's ambition to see 75% of pupils studying the EBacc subject combination at GCSE by 2022 and 90% by 2025 (DfE, 2019a). Achieving this EBacc target means a decline in the number of pupils opting to study Design and Technology at GCSE. This trend may suggest that all stakeholders in the Design and Technology curriculum face an uphill struggle to make the subject attractive to pupils and demonstrate that it is intellectually challenging, essential and can lead to a rewarding career path (Hardy, 2015a).

This affordance may imply that in England, Design and Technology is likely to address the shortage of skills in various industries, specifically in engineering and related fields. However, if this decline continues, we can anticipate that the struggle to address the shortage of engineers will continue for many years to come (The James Dyson Foundation, undated). The total numbers of entries in EBacc subjects (English language, history, geography and a foreign language) have been increasing slowly between the same period of time. Entries for EBacc subjects increased by 40,580 (1%) and entries for non-EBacc subjects decreased by 21,255 (-2%) in 2021 compared to 2020, continuing a trend seen in previous years (Office of Qualifications,

[Ofqual], 2021). These changes would seem to support the government's ambition to see 75% of pupils studying the EBacc subject combination at GCSE by 2022, and 90% by 2025 (DfE, 2019a). Achieving this EBacc target, means the decline of the number of pupils opting to study Design and Technology at GCSE is likely to continue. This trend may suggest that all stakeholders in the Design and Technology curriculum face an uphill struggle to make the subject attractive to pupils and demonstrate that it is intellectually challenging, essential and can lead to a rewarding career path (Hardy, 2015a).

Fundamentally, the core curricula of Design and Technology is rightly concerned with procedural knowledge (knowing how), but a neglect of the underlying conceptual knowledge (knowing that) has led to the subject being perceived as having less worth than other subjects in the curriculum and concerned only with skills (Barlex and Steeg, 2017). Indicating the undisputed place of certain school subjects unlike Design and Technology Barlex and Steeg (2016b) argue that:

The contribution of Mathematics, English and Science to a young person's overall education is simply not contested. History, Geography, and second languages have established themselves as highly desirable and there is significant encouragement by head teachers and parents for pupils to study such subjects to the age of 16 years. To be taken seriously by those concerned with young people's education a subject outside the EBacc must be very clear about the contribution it makes to their learning, particularly regarding its uniqueness (i.e., the learning is not provided by any of the other jigsaw pieces) and its rigour (both practical and intellectual). This is the challenge facing Design and Technology (Barlex and Steeg, 2016b:8)

Design and Technology as a subject must thus shed the tag of a low-level craft subject and become a modern, relevant and useful subject in the eyes of stakeholders.

Unfortunately, right from its genesis, Design and Technology has attracted the low-level label. Barlex and Steeg's views explain some of the issues facing Design and Technology and for its survival, they need to be addressed. The EBacc accountability measures that prioritise some subjects have led to the decline in the numbers of pupils taking Design and Technology at GCSE level and A-level and its continued existence in schools is in jeopardy (Constantinou, 2019). The views of the Design and Technology subject leaders in this study capture an understanding of their perceptions about their practice to sustain and develop Design and Technology in their schools. Understanding the local settings of the department provides subject leaders with the opportunities to develop their practice by tackling the challenges that are presented by the shifts in Design and Technology.

Design and Technology subject leaders are or will at some point be affected by each of the above issues in the leadership of the department in their schools. Finding a sustainable solution or managing the issues at a personal, department or school level is a way of sustaining and developing Design and Technology in the school curriculum. The analysis of findings in this study, illuminate the perceptions of Design and Technology subject leaders have about their practice, as they seek to defend the subject in the school curriculum.

### **3.3 The practice of subject leaders of Design and Technology departments in schools**

The role of the Design and Technology subject leader remains a comparatively under-developed area of department leadership. If the subject is to reverse its decline in GCSE uptake and start to make a significant contribution to the education of young people, understanding leadership practice around epistemology, clarity of purpose,

good practice and informed stakeholder perception (Barlex and Steeg, 2016b) is important. According to Barlex and Steeg (2016b):

The task of rebuilding design & technology is one that will require the whole design & technology community to pull together in the same direction. (Barlex and Steeg, 2016b: 3)

Design and Technology subject leaders do not work alone to sustain and develop the subject, but they need the concerted support of their schools' senior leaders, teachers, governors, pupils and parents to restore the subject.

As discussed in Chapter 2, the Design and Technology subject leader is a mid-level leader. Depending on the size of the school, they could be leading a team of more than four teaching staff plus one or more technicians. In the UK, large secondary schools with Design and Technology departments will have a second-in-charge or specific teachers are put in charge of Design and Technology specialist subjects or Key Stages. Under their leadership in the department, subject leaders also oversee the work of technicians who are either catering-related, textiles or hard materials technicians. In some schools, the Design and Technology department is merged with Arts and Design or Information Technology, thus making a larger department with more staff to lead. Equally, influencing Design and Technology stakeholders who include the senior leaders in schools, governors, teachers, parents and pupils will largely need to be undertaken by the subject leader (Barlex and Steeg, 2016a).

Design and Technology began with studying woodworking, needlework, cooking, building work and metalwork. Many factors including government intervention in education have led to the current Design and Technology curriculum. However, Design and Technology still faces a range of challenges. It is still associated with its parent craft subjects, hence not seen as academically challenging and so occupies a

low-level status in the curriculum. Since its introduction, a range of meanings and uses of the term 'Design and Technology' have developed (Wilson and Harris, 2004). During the development of the National Curriculum, Design and Technology was defined as a subject in which pupils design and make useful objects or systems, thus developing their ability to solve practical problems (Department for Education and Schools, 1988). Thus, Design and Technology in secondary schools is labelled as a skills-based craft subject.

As a single subject Design and Technology is comparatively new and draws together diverse areas such as home economics, technical drawing, sewing and CDT. Design education has thus been a part of the National Curriculum since its inception (McGimpsey, 2011), primarily as a part of Technology, and has held a controversial place on the school curriculum with some arguing that it should not be there at all (Owen-Jackson, 2013). One of the tasks of Design and Technology as a subject is to bring the nature of design and the nature of technology together in a way that is both workable and rigorous (Barlex and Steeg, 2017). There are numerous opportunities for Design and Technology to flourish in schools and the perceptions that subject leaders hold will help to understand how the subject is led.

### **3.4 Contribution to the development of the research problem and the formulation of the research questions**

This study focuses on the perceptions of Design and Technology subject leaders in sustaining and developing Design and Technology in the curriculum. Different departments could have different leadership practices and subject leaders will attach different meanings to their practice, so it makes sense to study some of them in their cultural social settings. Examining the different social-cultural contexts of Design and Technology departments will allow comparison and identification of subject leaders' practices. Design and Technology departments were picked for this study because of

my interest as a teacher and a subject leader in Design and Technology. The various subjects with their different cultures that form Design and Technology departments, their marginalisation and struggle to be seen as an academic subject create distinctive contexts for understanding leadership practice.

Considering the above literature on Design and Technology, cultural historical activity theory offers a perspective for analysing diverse practices of subject leaders in socio-cultural contexts of departments and across multiple contexts. The social situations of departments are important when considering leadership. The study focuses on understanding leadership practices in subject departments and questions how subject leaders perceive their practices in Design and Technology department contextual settings. This study emphasises on exploring the leadership practice of subject leaders of Design and Technology in the department settings. Specific research questions were asked within the CHAT framework as a means of exploring the issues of leadership practice in Design and Technology department leadership activity systems. These concepts of CHAT that were used to frame the study's research questions are explained in detail in Chapter 4.

## CHAPTER 4

### LITERATURE REVIEW: CULTURAL HISTORICAL ACTIVITY THEORY (CHAT) AS AN ANALYTICAL LENS FOR VIEWING PRACTICE

#### 4.0 Introduction

This chapter considers CHAT as an analytical framework for viewing practice to understand department leadership. The chapter discusses CHAT in relation to department settings. CHAT supports this understanding by considering Design and Technology departments as connected to the practice of subject leaders rather than being separated.

The focus on understanding the practice of Design and Technology subject leaders is essential in affording an insight into how subject leaders sustain and develop Design and Technology in the school curriculum. Exploring subject leaders' perceptions about their practice also allows an understanding of why different Design and Technology subject leaders work differently. CHAT offers an analytical lens for understanding complex work environments such as school departments in which specific practices used by subject leaders alongside department colleagues and other stakeholders sustain and develop Design and Technology in the secondary school curriculum.

The focus of analysis in CHAT considers the social situation (Douglas, 2015). In understanding the approaches in which subject leaders go about their work, CHAT shines a light on the varying and complex forms of human practices, both at the individual and social levels (O'Donoghue and Harford, 2020). These practices are mediated rather than directly affected and regulated by interactions with other people and the world (Lee, 2011). Thus, interactions between a subject leader and the

department staff are contextualised activities that are culturally embedded. This means CHAT can offer a rich analysis of collective human interactions in context, such as in leading an aspect of teaching and learning in a department.

This chapter examines the concepts of CHAT, how it is used in educational research and its appropriateness in this study. Using CHAT as an analytical lens to view data in this study requires an explanation of the significant concepts (mediation, activity systems, activity, tool appropriation and identification of the object). These concepts and other interrelated notions that describe CHAT are explained in sections 4.1 - 4.5. The last section of the chapter outlines the research questions from a CHAT perspective.

#### **4.1 Origins, concepts, and principles of CHAT**

CHAT is a term coined by Cole in 1996 (Edwards, 2011) and is philosophically rooted in Marx's concept of reality (Foot, 2001). It brought together Cole's interest in cultural psychology and how culture is reflected in thinking and acting, with what he had learned about cultural approaches in Russian psychology. The origins of CHAT have been tied to the ideas of classical German philosophers such as Kant and Hegel, the writings of Marx and Engels (Tkachenko and Ardichvili, 2017) and 1920s Russian scholarship (Yamagata-Lynch, 2010). Russian psychologists Vygotsky, Luria and Leontyev, whose works were translated during the 1970s and 1980s, formed the foundations of CHAT by developing the activity theory in the 1920s as an alternative to the West's interest in psychoanalysis and behaviourism (Nussbaumer, 2012).

The theoretical tradition of CHAT has evolved through three generations of research (Engeström, 1999). The first focused on mediated action, the second on the individual in collective activity and the third on multiple interacting activity systems and boundary-crossings between them (Engeström, 2001). The first generation of activity

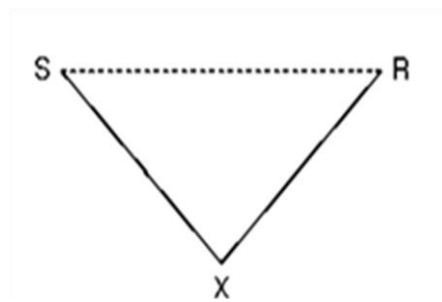


theory, centred on Vygotsky, created the idea of mediation (Engeström, 1999; 2001) centred around Vygotsky's association of human consciousness with tools in that he believed that one's contact with the world was indirect or mediated by them (Wertsch, 2007). These mediators are how individuals act on and are acted on by the social situation (Douglas, 2015).

Vygotsky's students and colleagues developed activity theory, proposing that the unit of analysis with which to examine human consciousness was activity (Jarzabkowski, 2010). An activity is the engagement of individuals toward a certain goal or objective (Ijira and Gregory, 2009); for example, the activity of sustaining and developing the subject of Design and Technology in the secondary school curriculum. Activities can be either individual or collective, but they are always social (Kaptelinin, 2005). Human activities are multifaceted and are not short-lived events or actions; rather, they are systems that produce events and actions and evolve over lengthy periods of sociohistorical time (Engeström 1987, Engeström, 1999).

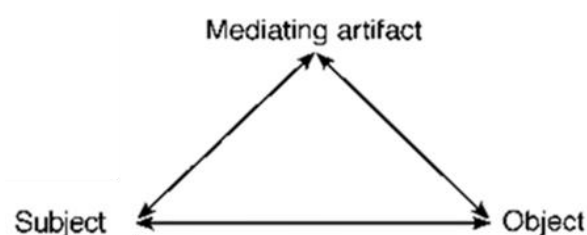
Vygotsky's greatest contribution to activity theory was that human interactions with the environment cannot be direct but are instead mediated using tools and signs (Vygotsky, 1978). He recognised that all human action is shaped by what we know and that we do not simply act on the world but do so according to how we can make sense of it (Edwards, 2011). Therefore, by analysing those tools we can get an understanding of what is considered important in an activity as tools indicate how one interprets and tackles a task (Douglas, 2015). Figure 4-1 represents how Vygotsky brought together tools and human actions, although he did not use a triangle to represent this action (Douglas, 2015). The idea of mediation as shown in the Figure is crystallized in Vygotsky's triangular model in which the conditioned direct

connection between stimulus (S) and response (R) was transcended by a complex, mediated act (Engeström, 2001).



**Figure 4-1 Vygotsky's model of mediated action: S- Stimulus, R- Response, X- intermediate link-mediation. (Engeström, 2001:134)**

The intermediate link creates a relationship between a stimulus and a response (Vygotsky, 1978). A contemporary representation of Vygotsky's idea of cultural mediation of actions is commonly expressed as the triad of subject, object and a mediating artefact (tool), as represented in Figure 4-2. The tools facilitate the action of the subject on the object and mediate the interaction of individuals with the object (Engeström, 2001). Vygotsky's mediated action consists of a subject or actor, an object (either an entity or a goal) and mediational tools (Foot, 2001).



**Figure 4-2 Vygotsky's model and its reformulation by contemporary CHAT scholars. (Engeström, 2001:134)**

Figure 4-2 represents Engeström's view of how Vygotsky brought together cultural artefacts with human actions to dispense with the individual and social dualism (Engeström, 1999). This approach was centred on the individual. In considering how the use of tools differed between subject leaders in this study, the intention was to

understand how subject leaders perceive their practice in their departments. Tools could take a different meaning and use dependent on the department context and the interpretations made by the subject leader. However, there are shared examples of practice between participating subject leaders as they are all leading a similar curriculum subject.

## **4.2 Identification of activity systems**

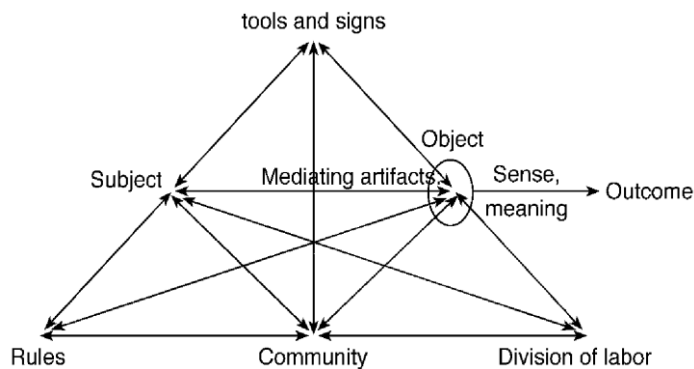
The development of activity theory as summarised by Foot (2001) moved away from individuals and centred around three core ideas that form the basis of CHAT:

(1) humans act collectively, learn by doing, and communicate in and via their actions, (2) humans make, employ, and adapt tools of all kinds to learn and communicate; and (3) community is central to the process of making and interpreting meaning (Vygotsky, 1978 cited in Foot, 2014:330)

These core ideas emphasise the interdependency of humans as they interact in social activities. The 'unit of analysis is a collective, artefact-mediated and object-oriented activity system' (Engeström, 2001: 136). This helps us to understand human activity by exploring the relationships among people, tools and the object as they influence and are shaped by social structures, culture and history in a community (O'Donoghue and Harford, 2020).

Vygotsky's model of mediated action has been extended to include community, rules and division of labour, which broadens his idea of mediation (Engeström, 1987). This is referred to as Engeström's second generation of activity theory (Figure 4-3). The second generation is built around Leontyev's concept of activity, in which the unit of analysis is expanded from individual mediated action to a collective activity system (Sannino and Nocon, 2008). Leontyev went beyond the individual to a collective

activity by incorporating community and division of labour into Vygotsky's model, making it more of a systems approach (Nussbaumer, 2012).



**Figure 4-2 The structure of a human activity system (Engeström, 2001: 135)**

Activity is a relatively durable system in which the division of labour separates different goal-oriented actions and combines them to serve a collective object (Engeström and Sannino, 2010).

The insertion of cultural artefacts into human activity was revolutionary in that the basic unit of analysis overcame the split between the individual and the untouchable societal structure (Engeström, 2001). This seeks to represent the interaction of people with each other. Hence, the relationship between subject and community is mediated by rules. In an activity, individuals interact with the wider cultural and historical context in which they are engaged, so developing consciousness in an overtly social way that is both conditioned by and responsive to the wider collective (Jarzabkowski, 2010). That is, to apply to groups of people rather than to individuals.

A human activity system (Engeström, 1987) is often represented graphically as a set of elements in a triangular arrangement (Hirsh and Segolsson, 2019). The activity system is a collective formation with a complex mediational structure that serves as the primary unit of analysis in CHAT (Igira and Gregory, 2009). It is multi-vocal and is created from the perspectives of the subjects working in it, for example participating

subject leaders working in Design and Technology departments (Engeström, 2001). An activity system is a tool for mapping out complicated information in an organised manner to isolate the most important factors that need to be addressed (Yamagata-Lynch and Smaldino, 2007). The upper triangle of the human activity system is the representation of the first generation of activity theory shown in Figure 4-2.

All the components in the activity system model are in a direct relationship with each other, meaning each component influences the activity and interactions between the others. The concepts of an activity system which are identified by specific terms are briefly explained below. These concepts guide this study on the complex settings of departments.

- The **subject** of an activity system is the person or group of people whose perspective is the focus of the analysis, for example, a subject leader of a Design and Technology department.
- The **object** is the goal or motive of the activity system as a whole, not necessarily that of individual members (Wilson, 2014), for example, collective learning in a department. Object-orientedness characterises all human activity in the sense of motive or desire, whether the object of activity is material or psychological, individual or collective (Igira and Gregory, 2009). The concept of the object of activity is a promising analytical tool providing the possibility of understanding not only what people are doing, but also why they are doing it (Kaptelinin, 2005).
- **Tools** or **artefacts** mediate subjects' work on the object (Lee, 2011); for example, learning walks, lesson observations, book scrutiny, department meetings, team room conversations and department documentation.
- **Community** refers to other people who must be considered simultaneously with the subject as constituents of human activity systems to which the activity

system belongs (Cole and Engeström, 1993; Lee, 2011); for example, a subject-specific advisory organisation like DATA, curriculum advisers, the school's SLT, teachers, pupils, parents and other department heads in the school.

- **Rules** refer to the behaviour appropriate to the system (Lee, 2011). These are the norms and sanctions that specify and regulate the expected correct procedures and acceptable interactions among the participants (Cole and Engeström, 1993); for example, the accepted ways of working in a department like handing in books for scrutiny every Friday.
- **Division of labour** refers to the continuously negotiated distribution of tasks, powers and responsibilities among the participants of the activity system (Cole and Engeström, 1993; Wilson, 2014); for example, the leadership structure in the department or the roles of teachers or technicians within the department.

The activity system model forms a useful bridge between school department structures and the actions of subject leaders (Gronn, 2000). The human activity system is multi-voiced in that it models collective activity undertaken by actors with differing roles, positions and perspectives and is multi-layered; that is, composed of conscious actions and unconscious, routinised operations (Foot, 2014). The concepts of activity systems are not static or stable elements that exist in isolation from each other, but they are connected (Ho et al., 2016) and thus influence each other:

All of the elements influence the others and are influenced by social, cultural and historical factors, such as background knowledge, personal bias, availability of tools and other factors. (Koszalka and Wu, 2004: 492-493)

This shows that the social contexts influence an activity. Therefore, when considering leadership, the collective cultural life of a department or other setting is developed and maintained (Wilson, 2014). Thus, CHAT concepts provide a way to understand

the relationships between activities that are culturally and historically developed (Engeström, 2000). In CHAT the idea of activity centres on human collectives rather than individuals, therefore, activity is a process-as-whole rather than a linear sequence of discrete actions (Foot, 2014). CHAT views activity in an activity system as the collective, object oriented, tool mediated actions of a group as influenced by culture, history, economics and / or material things (Foot, 2014). Therefore, leadership practice emerges through collaboration as object-oriented, activities in socially and historically embedded contexts. Therefore, through CHAT individual interpretations defined by social and historical perspectives and experiences can be studied.

Through CHAT, the work of subject leaders can be analysed by considering their use of tools in the social settings of departments that include department staff who are part of the community. This explains the subject leaders' way of working and how the departments and interactions influence their decisions. In this study, it illustrates the social situation of subject leaders in departments by understanding these processes as culturally and historically nested (Douglas, 2015). For this research, the second-generation activity system was used to analyse the contextual and historical features of each Design and Technology department.

An activity system is created from the perspective of the subject leader working in it, others working in the department, pupils, parents, and the school community. The subject leader, as a subject in the activity system, by using tools will act on the object to produce their desired outcomes. The subject constructs the object of an identified activity, for example the activity of sustaining and developing Design and Technology in the secondary school curriculum. There are other activities in a Design and Technology department leadership activity system such as working with parents (which could also be seen as a tool in the initial activity).

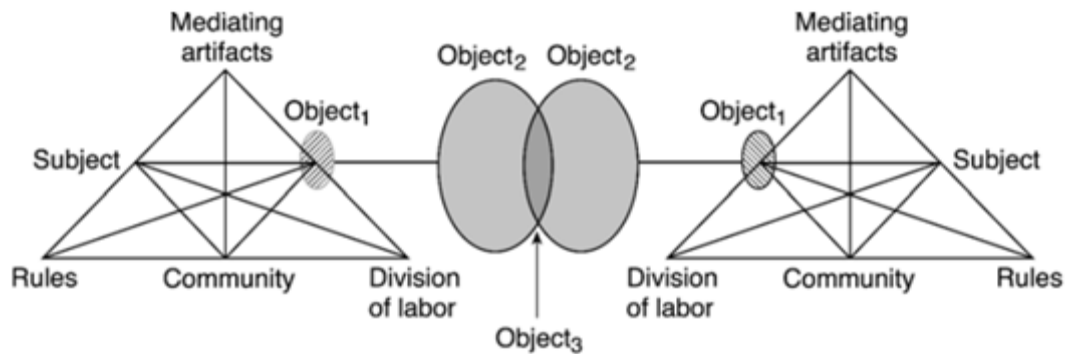
The object in a Design and Technology department leadership activity system (which is the activity system in this study) in the activity of sustaining and developing Design and Technology in the secondary school curriculum could be about working with parents to improve the performance of pupils Design and Technology examinations. Participants rarely talk in terms of tools, activity system or how the object of an activity is constructed (Douglas, 2015). However, analysing how subject leaders say they use tools could suggest the various objects in this study's Design and Technology activity systems. Objects are important because they distinguish one activity from the other. This provides the possibility of understanding not only what subject leaders are doing, but also why they are doing it (Kaptelinin, 2005).

More than one activity system could interact, this is because the work of subject leaders in schools is complex and demanding may be involved in many activities within and outside of their department (Bennett et al., 2007; Bassett, 2016). Design and Technology subject leaders may work in more than one activity system, forming an intricate web of interacting activity systems. For example, a subject leader may be a member of their school's senior leadership team or work as an examiner with a particular examination board. Hence, the understanding of the Design and Technology department leadership activity system object could be seen differently because of their participation in other activity systems (Douglas, 2015).

The third generation of activity theory which is attributed to Engeström (2001) explains the concept of interaction between activity systems. It expands the unit of analysis to encompass relations between multiple activity systems. Thus, the unit of analysis is a joint activity (Douglas, 2015). Vygotsky argued that human development is based on the interactions of individuals in social and cultural contexts mediated by tools and signs. This interaction brings a collective activity that illustrates the interactions



between tool-mediated activity and rules, community, and division of labour (Engeström, 1999).



**Figure 4-3 Two interacting activity systems as minimum model for the third generation of activity theory (Engeström, 2001).**

Engeström developed the third generation of activity theory to understand dialogues, multiple perspectives and networks of interacting activity systems (see Figure 4-4). It transcends the limits of a single activity system and adopts multiple activity systems that mutually interact as its unit of analysis. The interacting systems may have a partially shared or a jointly constructed object (Yamazumi, 2008). On the left side of the Figure, the subject leader and others (the subject) uses tools to achieve the desired Object<sub>1</sub>. The successes of these actions (depicted as Object<sub>2</sub>) are mediated by tools and other factors such as rules. The activity system may interact with another activity system on the right-hand side.

In the process of working out how to improve teaching and learning in the department, there will be collaboration between the subject leader and the senior leaders. Therefore, the objects of the respective activity systems overlap to create a shared Object<sub>3</sub>. The object of the Design and Technology department leadership activity system may also be understood differently by the participants in the activity systems:

Each individual activity is also affected by other surrounding activities that may have a primary tool, community, rule or some other activity element focus. Thus, activity has motive and is complex. (Koszalka and Wu, 2004:492-493)

Third generation activity theory endorses the fact that all activity systems are part of a network of activity systems that in its totality constitutes human society (Roth and Lee, 2007). The essential task of an activity system is to grasp the systemic whole of the activity, not just its separate components. The Engeström model makes possible the analysis of a multitude of relations in the triangular structure of activity (Foot, 2001). The third generation of activity theory was most appropriate for this study because it helps explore how the practice of subject leaders is influenced by the department's contexts and the other activity systems in a school.

### **4.3 Appropriation of tools**

In activity theory, an activity is undertaken by a subject using tools to achieve an object, thus transforming it into an outcome (Kuutti, 1996). This means that an activity emerges through a process that transforms the subject, the object and the relationship between the two (Davydov, 1999, cited in Yamagata-Lynch, 2003: 102). Tools are employed by the subject to act on the object or pursue the desired outcome. Appropriation refers to how people adopt ways of thinking and acting through their participation in social practices (Grossman, Smagorinsky and Valencia, 1999). Tool appropriation is the process of adopting a tool when working on an object (Douglas, 2012). This means when the subject adopts a tool to use, the tool specifies the way the subject carries out the action.

The subject often shapes and enhances the tool to make it more effective and useful which can change the way the subject completes a task (O'Donoghue and Harford, 2020). When a tool is adopted in an activity system it reveals something about the relationship between the subject and their object at the point at which the tool was appropriated. Tools can be classified either as material or conceptual (Foot, 2014). Material tools are tangible and, in our context, could include learning walks, proformas, computer systems used to analyse pupils' data and computer room

booking forms. Conceptual tools could include a subject leader's subject knowledge in a Design and Technology specialist subject.

In this study, tool appropriation allows an understanding of how participating subject leaders perceive the object of the activity of sustaining and developing the subject of Design and Technology in the secondary school curriculum. It involved the examination of both conceptual and practical tools appropriated by subject leaders. An important strength of CHAT in understanding subject leaders' perceptions of their practice is its notion that tool mediation is fundamental to all human activities. This significance of tools as mediators of activity focuses attention on the activity itself rather than the interaction between the subject and the tool. Therefore, the subject is doing something other than using the tool and this affords an understanding of how the tool supports the subject and how they see the object that they are working towards.

Tools in an activity system are culturally and historically developed and these historical aspects may influence their current use because 'tools as crafted at a point in time and adapted over time - their development is shaped by the needs, values and norms of the culture(s) in which they are created and used' (Foot, 2014: 332). For example, the use of learning walks to develop practice will be improved over time. When analysing the significance and use of tools, 'one can consider a number of claims that characterise them in the department's cultural history' (Douglas, 2015: 37). Similar tools produced for department leaders may be available but may be appropriated differently in different department leadership activity systems.

In a department, a tool may be rejected and act as a rule in the activity system. For example, a subject leader may use a book check exercise to ensure that teachers are complying with the rules instead of using it to develop collective learning; that is, as a

tool for improving classroom practice. The book checks tool is therefore being used restrictively, that is 'instrumentally and acts as a rule in the activity and so does not work on its intended object' (Douglas, 2015: 37). This change from tool to rule happens when the tool is understood by the subject as an 'administrative demand' (Engeström, 1990: 90). This is to meet a particular requirement rather than the subject appropriating the tool to work on the object of the activity.

However, analysing only what subject leaders do with their tools does not constitute analysing the activity systems because an activity system is analysable in multiple dimensions; for example, cultural and historical (Foot, 2014). Each tool used in a Design and Technology department leadership activity system thus reveals something about the relationship between subject leaders and their object at the time at which the tool was appropriated or created.

#### **4.4 Identification of the object**

Activities are specific goal-directed actions and the object towards which the activity is directed represents the activity's motive. The object defines the activity and provides a motive:

The main thing that distinguishes one activity from another, lies in the difference between their objects. It is the object of activity that endows it with a certain orientation. In the terminology I have been using the object of activity is its motive. Naturally, this may be both material and ideal; it may be given in perception, or it may exist only in imagination, in the mind. So, different activities are distinguished by their motives. (Leontyev, 1977: 6)

The object is the deep-seated and ongoing motivation in an activity setting that gives purpose to that activity and is ultimately translated into outcomes (Lofthouse and Leat, 2013). The identification of the object of an activity is an important concept in CHAT because it says something about the purpose of the activity.

Three terms comprise the facets of an object in the CHAT framework, as Foot 2014 explains:

First, an object is a thing-to-be-acted-upon. Second, is it an objectified motive. Third, it is a desired outcome. In CHAT, each object has all three of these facets, and any of these facets may be constructed or perceived differently by various members of the community. (Foot, 2014:333)

In this study, it was important to identify what subject leaders see as the object in the activity of sustaining and developing Design and Technology. This could be in an activity that all members of a department may be working towards, and it is, therefore, a collective activity in which the subject leader's role is important. The study explores the object of an identified activity to highlight practice.

#### **4.5 CHAT in educational research**

CHAT has been extensively applied to research education settings (O'Brien et al., 2012). Some scholars suggest that CHAT is increasingly popular in education research (Sannino and Sutter, 2011; Roth and Lee, 2007). However, there is little evidence that it is being used to study leadership in school Design and Technology departments. There is also a suggestion that CHAT is being progressively used to examine issues in teacher education (Wilson, 2014). For example, Douglas (2012) uses CHAT as a lens to view data generated on capturing the object of initial teacher education (ITE) by studying tools in use in four school departments. The findings illustrate differences in the kinds of teacher learning concerning how the object of the ITE activity system was constructed and the tensions that emerged in interaction with other related activity systems.

In their study of leadership in two disadvantaged primary schools, Oswald and Engelbrecht (2013) use CHAT to discuss the results. The authors organised data

using three concepts of activity systems: rules, community and division of labour. Their findings provide evidence that school leadership in two schools profoundly affected teacher learning for inclusion. In a case study on how leadership for ICT projects was distributed in a Singapore school, Ho et al. (2016) use activity theory as an interpretive lens to examine the distribution of leadership. The study identified two interrelated activity systems which were mutually supportive and performed by senior and middle management who had access to different tools.

Drawing from a framework of third generation activity theory, a CHAT analytical framework is useful for focusing research efforts on the challenges and possibilities of emerging new forms of expansive learning (Yamazumi, 2008). Yamazumi uses the framework to analyse the complex relationships between the various activity systems involved. The study concludes participants should focus on expanding a shared object of activity (Yamazumi, 2008). Similarly, in Design and Technology departments CHAT would be useful in understanding how the object of the activity is viewed in the interacting activity systems.

The increasing use of CHAT in educational context suggests a growing acknowledgement of its usefulness in understanding complex social settings and bringing to the fore human activity. Employing CHAT to analyse professional practices is beneficial, in that the CHAT framework according to Foot (2014) provides:

ways of using practice-based theory to reflect on one's previous, current and anticipated practices and the multilevel sociocultural, political-economic and institutional contexts of one's field of practice (Foot, 2014: 345)

CHAT provides a lens that recognises what people do and cannot be separated from the influence of context (Gretschel, Ramugondo and Galvaan, 2015). With its emphasis on settings (Douglas, 2012) such as those of Design and Technology departments, CHAT recognises that activities are social.

#### **4.6 How CHAT is used in this research**

In using Engeström's activity system models, this study explores the perceptions of six subject leaders in Design and Technology departments. The activity of sustaining and developing Design and Technology is compared between the subject leaders. The comparison includes the tools that were used and how they were appropriated. It also enables consideration of how the object is understood in the Design and Technology activity systems and enables an understanding of how different activity systems interact with one another in a school.

Particularly appropriate to this study, Gronn (2000) suggests two advantages that CHAT affords while studying leadership. First, the elements of the activity system model are sufficiently encompassing to rectify the typical contextual gaps and omissions in discussions of leadership. It thus allows consideration of practice identified in a Design and Technology department leadership activity system. However, there is often a difference between what people do and what they say about what they do, a distinction that can be maintained without duplicitous intent to gain insight into practice (Spillane et al., 2004). This understanding is possible as CHAT recognises that each subject leader's professional and personal experiences and their positions in society, work and family influence their construction of the object of the activity (Foot, 2014). This study mainly generates data on what subject leaders say they do.

The second advantage is that CHAT provides a thorough analysis of the pragmatics of accomplishing organisational work (Gronn, 2000). It offers an analytical lens that can describe, analyse and facilitate subject leaders' perceptions of practice in a school department and can aid in understanding how subject leaders' leadership 'practices have developed over time and in relation to other practices in the

department' (Douglas, 2015: 45). CHAT is distinct from other qualitative methodologies in its analytical approach in considering human interactions and relationships in particular social contexts and situations (Wilson, 2014). As a framework, it focuses attention on leadership as a social phenomenon, a process that takes place in social systems that have evolved culturally and historically (Wilson, 2014). In this study, leadership is seen as the process of facilitating individual and collective efforts to accomplish shared objectives (Yukl, 2010).

CHAT research generally adopts an interpretivist paradigm to challenge the process of analysis of cognitive processes (MacCormick, 2013). Therefore, by viewing leadership as one of the many activities of subject leaders in their departments, I can explore how participants interpret the object of the activity. This is helpful because CHAT 'allows an exploration of whether people share their understandings of objects and outcomes of systems by considering their use of tools' (Douglas, 2015: 45). In the CHAT framework, appropriation of tools happens in day-to-day subject leaders' leadership activities. Participating subject leaders' use of tools in mediating their leadership work can be analysed in terms of how those tools are used reveals what subject leaders see as the object of the activity.

By using CHAT, an activity is given meaning in the social context in which it is carried out comprising people as subjects in a community using tools (Fuller et al., 2013). An activity comprises dynamic relationships between people, mediational tools and the activity's object. The essential task of CHAT analysis is to grasp the systemic whole of an activity (Foot, 2014). Data were only collected from subject leaders because the focus was on their perceptions of practice to reveal their leadership practice. A CHAT analysis was applied after data was subjected to thematic analysis (see Chapter 5).



#### **4.7 Locating the study's research questions in CHAT**

Relatively little is known about the how of school leadership; that is, knowledge of how school leaders develop and sustain those conditions and processes believed necessary for innovation (Spillane et al., 2004). This is because of the inattention to leadership practice with frameworks for studying leadership activity in departments being scarce and those that exist tend to focus on individual agency in shaping what leaders do (Spillane et al., 2004). Human activity, such as leadership practice in a department, is multifaceted, mobile and rich in variations of content and form (Engeström, 1999). In studying practice, this requires a framework that would not decontextualise the activity.

Therefore, to understand the perceptions of Design and Technology subject leaders about their practice, this study intended to explore the leadership activity in Design and Technology departments using CHAT. Investigating how Design and Technology subject leaders view their role and identifying how Design and Technology leadership activity differs between leaders provides information on practice such as building relationships with staff and promoting a positive learning environment. The work of Design and Technology subject leaders has been under-theorised and using activity theory as an analytical lens reveals practice and perceptions that emerge through leadership activities.

This research sought to explore the perceptions of Design and Technology subject leaders about their practices of sustaining and developing the subject in the secondary school curriculum. However, because CHAT was used to analyse the data, RQs that use CHAT concepts (subject, object, tools and activity system) were formulated. Therefore, to guide the analysis of data for this study on perceptions about practice in departments, the following RQs were asked.

**RQ1.** How are tools used and appropriated by subject leaders in Design and Technology department leadership activity systems?

**RQ2.** How do subject leaders of Design and Technology understand the object and outcomes of the Design and Technology leadership activity systems?

**RQ3.** How are Design and Technology department leadership activity systems interacting with other activity systems?

RQ1 and RQ2 sought to analyse the data and identify participants' understanding of the Design and Technology department leadership activity systems' object through how they developed and used tools. The CHAT concepts of tools, objects and outcomes of a Design and Technology leadership activity system were used to discuss the findings. The questions illuminated other activity systems in which participants were involved and how the object was viewed. RQ1 and RQ2 were considered when analysing how the object was viewed and tools were appropriated in Design and Technology department leadership activity systems. RQ3 explores how Design and Technology department leadership activity systems interact with other activity systems in the school. It also highlights possible tensions, seen as contradictions, in the practice of subject leaders in their workplaces.

This chapter introduced CHAT as an analytical framework to analyse the perceptions of subject leaders about their practice and explored how CHAT could be applied in complex social settings of departments. It affords a framework for analysing the practice of subject leaders because of its emphasis on social contexts. The six concepts of CHAT - subject, tools, object, rules, division of labour and community

forming a human activity system model - offer an opportunity for the exploration of subject leaders' practice in departments (Engeström, 2001).

Using CHAT also allows for two or more interacting activity systems to be analysed. This presents an opportunity to understand how a Design and Technology leadership activity system interacts with other activity systems in schools; for example, schools' senior leaders' activity systems, when working on an object of an activity. This offers a way of explaining how subject leaders' practice is influenced by their working in other activity systems. This is important because subject leaders work in many other activities in their school; for example, to improve the quality of teaching and learning and raise the profile of their departments.

## CHAPTER 5

### METHODOLOGY

#### 5.0 Introduction

In this chapter, I present the research methodology that was used in obtaining answers to RQs in this study that explored the perceptions of six Design and Technology subject leaders about their leadership practices. This study combines a multiple case study and the theoretical framework of CHAT. Multiple case study was chosen because the understanding of cases requires experiencing the activity of the case as it occurs in its contexts and its particular situation (Stake, 2006). The situation in departments shapes the activity of subject leaders and the experiences and the perceptions of their leadership practice.

CHAT informed the data analysis by providing a theoretical framework for viewing data to understand the subject leaders' practice in the settings of departments. The selected research methodology required a design that would enable data from subject leaders to be collected, analysed and conclusions made to understand their perceptions about sustaining and developing Design and Technology in the school curriculum. This study is designed in an interpretative and qualitative multiple case study approach. A qualitative approach is still the most frequently used methodological approach when researching mid-level leaders and leadership in schools (Harris et al., 2019).

Qualitative research, as defined by Creswell (2014) is:

an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the

participant's setting, data analysis inductively building from particulars to general themes, and the researcher making the meaning of the data. (Creswell 2014:4)

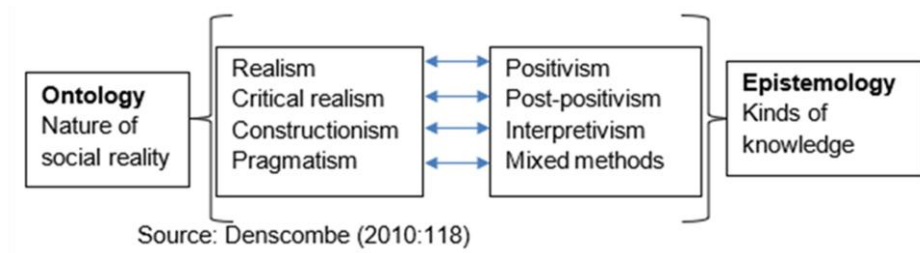
This research involves interacting with subject leaders, talking and listening to them in their departments using interviews as a method of collecting data. The data were first analysed using thematic analysis (Braun and Clarke, 2006) and then the CHAT framework was used as an analytical lens.

This study's qualitative approach aligned with the assertion that leadership in education entails a cluster of subtle and relational phenomena (Knapp, 2017). The use of a multiple case study design offered the prospect of producing results that are less likely to be deemed individual. As there were only six participants, the study did not aim at generalisations from the data but sought to contribute knowledge through the understandings, views and interpretations that participants had about their own practice. The small number of case studies allowed an in-depth investigation of the subject leaders' perceptions. Secondary school departments in this research are understood as bounded places of leadership activity.

## **5.1 Philosophical assumptions**

This section focuses on a brief review of the literature on social research philosophies that guided this study. A constructionism ontological stand and an interpretivist epistemological position underpinned the study. There are many approaches to carrying out social research (Robson, 2011) and an approach is 'rather about how you think about the social world' (Thomas, 2009: 71). The core of a research project is to identify problems then propose a research process that is both appropriate for their purpose or to answer the research questions.

A research design process includes consideration of philosophical foundations (Denscombe, 2010). That is to say that different ways of viewing the world and different understandings about how knowledge is sought and gained in social enquiry (Thomas, 2009). Ontology, epistemology and paradigm (see Figure 5-1) below, are important concepts, which need to be understood when considering a research methodology (Denscombe, 2010).



**Figure 5-1 Denscombe (2010) simplified model of basic social research philosophies.**

In the sections below a discussion on the ontological and epistemological assumptions of the interpretive research paradigm (Cunliffe, 2011) is presented. Ontology is what reality is like (Punch, 2014) that is, referring to the nature of social phenomena. This includes the beliefs that researchers hold about the nature of social reality (Denscombe, 2010). Constructionism is one of the philosophical underpinnings of qualitative research, which implies that social properties are constructed through interactions between people, rather than having a separate existence (Robson, 2011). The research questions for this study are in the confines of constructivism because the intended outcome was based on the meanings attached to the perceptions of subject leaders about their practice.

Therefore, a constructivist ontological position was important because of the meanings that subject leaders constructed through their interaction in the social settings of their school and the Design and Technology department. Interactions help individuals or groups of people to make sense or meanings of phenomena; for example, leading a department. A social constructivist method is used to describe a

constructivist approach that explains how individuals make sense of their world (Robson 2011). Participants in this research knew their department staff and interacted with them as individuals or as a group as they carried out their leadership roles.

Studying people for example subject leaders in department Thomas (2009) contends that:

For social scientists there is a problem since we are studying people, on their own or together, and people do strange, unpredictable things, gather themselves in peculiar ways, act irrationally, learn and change. [Ontology] helps us to understand that there are different ways of viewing the world- of viewing what there is to study. (Thomas, 2009:85-86)

This aligns with this study that investigates motives as interpreted by subject leaders in their workplaces. For example, the actions and motives of participants in this study could be guided by their endeavour to sustain and develop Design and Technology in the school curriculum. This study, therefore, took a social constructivism approach to understand leaders' perceptions in the departmental setting in which they construct their beliefs (Madhlangobe and Gordon, 2012).

Aligning with a constructivist position, the research design led to the collection of substantial, credible and meaningful data that represented the views of the participants. In social constructivism, individuals seek an understanding of the world in which they live and work, thus developing subjective meanings of their experiences (Creswell, 2013). The subject leaders in this study were able to express their views to explain their actions and motives. From a constructionist position, data from participants were varied and multiple.

Epistemology refers to the ways that humans create their knowledge about the social world (Denscombe, 2010). Positivism and interpretivism are the two fundamental positions (Bryman, 2016). From an epistemological position, this study was rooted in an interpretivist approach with a strong commitment to constructionism ontology (Bryman, 2016). Interpretivism's epistemological position aligns with the constructionist ontology as it focuses on how the social world is interpreted by those involved in it (Robson, 2012). It sought to explore how participants interpreted and perceived their practice. The participants' practices could be understood through the meanings they attach to their work.

Locating this research from an interpretivist epistemology, it is important to be aware of two main ontological assumptions. First, social reality is subjective and hence participants were able to explain themselves in their own words or through artefacts that they had produced. Secondly, people react to the knowledge that they are being studied (Denscombe, 2010), thus the range of data that was collected in this research was a mixture of what was generated in a research-conscious environment and when not. The former involved interviews and the latter included documents produced by participants before participating in this research. The data were analysed to understand participants' construction and interpretation of their leadership role as they interacted with other people in their workplace. Therefore, adopting an interpretivism stance enabled an understanding of the participants' perceptions of what and how practice in Design and Technology departments is understood and realised.

## **5.2 Qualitative research approach**

The section discusses why a qualitative research approach was appropriate for this study. As a new researcher, I am aware of the complexity inherent in deciding on the right approach. Qualitative research gave the best possibility of answering the RQs



in this study. The field of qualitative research is complex (Punch and Oancea, 2014). The label began to be used in the 1960s to identify deviations from the quantitative forms of research that were then dominant (Hammersley, 2008). Qualitative research has been defined by Hammersley (2008) as:

a form of social enquiry that tends to adopt a flexible data and data-driven research design, to use relatively unstructured data, to emphasise the essential role of subjectivity in the research process, to study a small number of naturally occurring cases in detail, and to use verbal rather than statistical form of data analysis. (Hammersley, 2008:12)

Comparing my research against Hammersley's (2008) view, the participants were studied in their work environments to understand how they viewed their practice. Subject leaders' subjective views were collected through interviews and documents. The strength of employing qualitative research was the ability to provide a complex word-based description of how subject leaders of the six departments perceived the issues being investigated.

Qualitative research considers participants' settings where the phenomena are happening, such as the Design and Technology department of a school (Creswell, 2014). With a qualitative approach, the subject leaders were able to describe their views, interactions with others in their daily lives and the meanings that they attached to these experiences. Qualitative methodology is a strategy that emphasises words rather than quantification in the collection and analysis of data (Bryman, 2016). Data was collected through interviews and documents that define subject leaders' daily lives (Denzin, 2017).

A qualitative methodology was appropriate because it sought to understand the subject leaders' experiences and meanings in their work settings. Subject leaders

were able to explain the interpretations they attached to their leadership activities in their own words. This meant that data collected from departments were inductively generated (Punch and Oancea, 2014).

### **5.3 Case study design**

This study's design combined the CHAT research framework as a lens to view data and a multiple case study which allowed understanding subject leaders' practice in their natural settings (Yin, 2009). Case studies also allow the display of social organisation of activities, as they are revealed through involvement in the natural setting of the activity (Lampert-Shepel, 2008). In this study, subject leaders' perceptions are understood as constructed and developed during socially constructed and culturally mediated human activity in contextually different departments. A multiple case study design also provides an opportunity for exploring perceptions about leadership practices in real departments which were important in identifying and describing the social-cultural setting for the participants.

The use of CHAT with multiple case studies afforded qualities that complemented qualitative research methodology. The emphasis of CHAT on the need to identify the unit of analysis was considered in the research design. CHAT allows researchers to consider the practices identified in an activity system in a broad context, considering how and why they developed (Douglas, 2015). Therefore, the research design for this study reflects my beliefs about the nature of data and how it could be generated in Design and Technology departments.

The term research design encompasses all the decisions involved in planning and executing a research project, from identifying the problem to reporting and publishing the results (Punch and Oancea, 2014: 142). Research design is about a plan and structure for the research (Thomas, 2009). It situates the researcher in the empirical

world and connects the research questions to the data (Punch, 2014; Thomas, 2009). This revolves around considering the range of methods of data collection you can use; making sure that your method is appropriate; avoiding too many data collection methods; and making sure you do not collect too much data (Silverman, 2014). Figure 5-2 shows how Punch and Oancea's (2014) explanation of research design connects with research questions and data.



Source: Punch and Oancea (2014:142)

**Figure 5-2 How research design connects with research questions and data.**

This research took a qualitative approach where subject leaders were spoken and listened to in semi-structured interviews. Their perceptions were captured through document analysis and field notes. An ethnographic study would have been appropriate but due to the constrained time frame for this study, such a design would miss the aspect of long immersion in the culture (Thomas, 2009). A full-scale ethnography means carrying out a detailed and demanding study with fieldwork and data collection over a long period (Punch, 2014). Consequently, a case study design was chosen as a more suitable means of gathering the perceptions of subject leaders.

This research took a multiple case study design for two reasons. First, it involved professionals in schools with distinctive boundaries. Second, a multiple case design enabled a more in-depth understanding of the cases through a comparison of their similarities and differences. There are contested concepts of a case study on whether it is a method, genre or an approach (Hamilton and Corbett-Whittier, 2013). For

example, a case study is a method (Yin, 2009) although, it is also seen as more of a strategy than a method (Punch and Oancea, 2014).

However, the choice of a case study depends on the researcher's research purpose. This study sought to collect data on subject leaders' opinions on their practice. Therefore, a case study method was suitable because it enabled a close exploration of data in a specific context. It thus contributed to the knowledge of individual, group organisational, social, political and other related phenomena (Yin, 2009). The study involved research into a small set of cases (Thomas, 2009). Each department was unique, although the organisational structures of the field sites were similar. The departments existed in their schools as self-contained entities with distinct boundaries (Denscombe, 2010).

Each case was studied in detail to understand the similarities and differences between them. The departments formed the bounded system of interest (Stake, 2009). This was an intensive study of each of the six subject leaders, which allowed the development of an analysis of perceptions about practices (Gustafsson, 2017). The selected departments provided an opportunity for gaining an understanding of a setting that is lived and experienced by an individual or a group of people. In using a case study design, the desire to probe deeply highlighted the views of individuals about their own practice (Denscombe, 2010).

In a case study, data can be gathered by direct observation, interviews to facilitate recording, documentation and the use of photography (Stake, 2009). All these data could take a qualitative form to retain the holistic and meaningful characteristics of real-life events (Yin, 2009). Retaining such meaningful characteristics is an advantage in using case studies to understand multifaceted social phenomena such as the leadership of a department. Despite its popularity as a method, it has

something of an aura of methodological second best about it (Thomas, 2010). This is because there is a belief that research methods have a hierarchy that reinforces the idea that case studies are only a preliminary method and cannot be used to describe or test propositions (Yin, 2009). Notwithstanding much of empirical work in the world being produced by case study research, as a methodology, it is generally held in low regard or is simply ignored (Flyvberg, 2011).

Similarly, regarding the status of case study method, Yin (2009) believes that:

Case study research is remarkably hard, even though case studies have traditionally been considered to be “soft” research, possibly because investigators have not followed systematic procedures. (Yin, 2009:21)

This explains the demanding nature of a case study in structuring, collecting data, analysing and reporting. The conception of being ‘soft’ is overcome by the importance of rich in-depth data collection, encouraging a deeper understanding of the issues and practices (Hamilton and Corbett-Whitier, 2013). The different perspectives ensure that practice is not explored through one lens, but rather through a variety of lenses, which allows for multiple facets of the phenomenon to be revealed and understood (Baxter and Jack, 2008). The earliest examples of qualitative research on leadership tended to be based on a single case study research design (Bryman, 2004). However, it has gradually given way to multiple case study designs, which offer the prospect of producing results that are less likely to be deemed to be idiosyncratic. This study moves away from this view by using multiple subject leaders in different workplaces.

Given that cultural norms may vary from a department in one school to one in another, a multi-case study design was adopted (Barnett and McCormick, 2012). Departments exhibit different cultures and individuals working in them have different beliefs and

values. Data for each case study was collected and analysed separately to answer the research questions. Multiple case studies offer the prospect of producing results that are less likely to be deemed to be individual, unlike a single case study, thus reducing concerns about representativeness and generalisability. As an exploratory study, each case in a multiple case study design contributes to the richness of the data (Flyvbjerg, 2011). Using a multiple case design allowed the comparison of how practice differed across school departments. Several cases were studied to form a collective understanding of the practice of subject leaders. The adoption of a qualitative approach permitted participants to respond in detail to their own experiences. The emphasis was not simply to collect unbiased data (Zhang and Brundrett, 2011).

In this study, educational leadership is a cluster of subtle, relational phenomena appropriate for qualitative inquiry (Knapp, 2017). This relationship is characterised by an assumption that subject leaders work together with other members of staff in the department and the wider school. The study was conducted in its natural settings where there are people (Abbott and McKinney, 2013). An interpretative approach was adopted to explore how subject leaders perceive their leadership practice in sustaining and developing Design and Technology in the secondary school curriculum.

This research was carried out as an in-depth multiple case study guided by a combination of interpretive and constructionism philosophies. It set out to gather, record and analyse the experiences of subject leaders and not to predict or propose what practices and enacted values might lead to a set of predefined outcomes (Busher, 2005). The natural setting for the 'case' was in a Design and Technology department within the confines of a secondary school. This is because "qualitative researchers study things in their natural settings, attempting to make sense of, or

interpret, phenomena in terms of the meanings people bring to them” (Denzin and Lincoln, 2005:3).

#### **5.4 Recruiting participants**

In choosing to use a multiple case study approach, sampling logic was not used following a reflection of the number of case replications as Yin (2009) suggests that:

each case must be carefully selected to so that it either (a) predicts similar results (this is an example of a literal replication) or (b) predicts contrasting results but for anticipatable reasons (this is an example of a theoretical replication). An initial step in all these replication procedures is the development of a rich, theoretical framework. (Yin, 2009:54)

In this study, the sample cases provide rich data to answer the RQs. The assumption was that all the six subject leaders had knowledge that would lead to an understanding of their perceptions about their practice on sustaining and developing the subject in the school curriculum.

The cases were handpicked through a purposive sample which simply involves the pursuit of the kind of person in whom the researcher is interested and professes no representativeness (Denscombe, 2014; Thomas, 2009). Purposive sampling operates on the principle that you can get the best information by focusing on a relatively small number of instances deliberately selected based on their known attributes (Denscombe, 2014). Although the aim was not to produce a representative sample, a suitable and appropriate sample was necessary to gain in-depth qualitative data from knowledgeable participants (Denscombe, 2014). Therefore, a deliberate sample that also fitted the available resources and the research design was selected.

Six Design and Technology subject leaders in six schools offering Design and Technology in their curriculum, all in London, were identified as possible field sites. The official titles of the participants varied from school to school, but all participants were teachers of specialist subjects in Design and Technology and led a team of teachers in a Design and Technology department. The six departments were different in terms of their culture and composition. Although a small-scale study, I was seeking a fine-grained analysis of participants' responses to provide important insights into their practices (Melville, Jones and Campbell, 2014). The six were opportunistically chosen because I was able to gain access to their schools. Those schools were not representative of schools across London or across England. Equally, the Design and Technology departments were not representative or samples to be generalised, but they were put together to form a multi-case study that gave insight into practice.

A common criticism of the case study concerns its generalisability (Punch, 2014). Time and cost are a hindrance to social research. Consequently, a fundamental question is to what extent findings from a sample or case apply to other instances that were not included in the study (Denscombe, 2010). This is a question of generalisability and this multiple case study like any other was not exempt. In qualitative research, the choice of cases should always be theoretically guided (Silverman, 2013). Generalisability depends on the purpose of the research, that is what is unique about a case or what it has in common with other cases (Punch, 2014). It is a balancing act, and a researcher must decide on the role generalisability plays.

In this study, the focus was on understanding how subject leaders perceive their practice as subject leaders and construct meanings in their department social and cultural contexts. The context of the research was more important than the generalisability of the results. I chose the six Design and Technology subject leaders because I felt they could help me understand their own practice in departments.



Increasing the number of cases would not have allowed understanding them in detail as individual cases. Using a single case would bring an understanding of the perceptions of a single subject leader about their practices if the emphasis were just to focus on what was unique about the case. However, I decided to have a wider sample to explore what is possibly common between the cases. There were no criteria regarding the number of years the participants had been in their role or the number of years in the teaching profession. There were also no known criteria in choosing the participants based on gender, age or ethnic background. The decisions on the cases were purely pragmatic.

The initial contact was made through a professional network of school headteachers. I asked my headteacher for an introduction to a caucus of her peers so that they could grant access for research in their schools. She wrote an email requesting the other headteachers to consider permitting their Design and Technology departments to participate in this study. At the time of designing this research, I was seconded to the SLT in my school and the request from my headteacher to the other headteachers captured this. Five headteachers responded positively, and I followed up with an introductory email (see Appendix C) in which I introduced myself and the study. I also attached an electronic copy of a request to undertake research in their school (see Appendix B). The headteachers were asked to forward my introductory email to the Design and Technology subject leader in their school.

Three subject leaders (SL1, SL2 and SL3) replied and showed their willingness to participate. They then received a more detailed email (see Appendix D) that explained the purpose of the research. An electronic copy of the consent form (see Appendix A) was attached and made the voluntary nature of participation in the study clear, notwithstanding that their headteacher had forwarded my request. I met the fourth subject leader (SL4) through a professional development meeting at his school. A

follow-up meeting was held in my school and a professional relationship was established. I sent SL4 an informal request by email requesting his participation. He agreed, and his recruitment proceeded as described above.

In recruiting more participants, I went through the websites of secondary schools in London to find those with a Design and Technology section and I got the contact details for potential participants. Two (SL5 and SL6) showed interest and agreed to participate. Their recruitment then proceeded as above. The willingness of the sample to participate was an important factor as it meant that they were more likely to be open and frank about their perceptions. This was a convenience sample since it comprised participants who were easy to contact and reach.

A purposive sample was originally envisioned but proved impractical. The final sample was sufficient to provide rich data through semi-structured interviews strengthened by analysis of documents and detailed field notes to provide descriptions of each case. It is sometimes appropriate to select a sample based on knowledge of a population and the purpose of the study (Babbie, 2010). The sample for this research was made up of people who had in-depth knowledge about leading a Design and Technology department. They had constructed realities through living situations in their interactions in their departments and the cultural settings in their schools.

## **5.5 Participants pen portraits**

The participating subject leaders were working in Design and Technology departments that varied in size, culture, location and context. SL1), Adam, was the head of the faculty of Arts, Design and Technology. He had been a subject leader for more than 10 years. He was a product design teacher leading a team of eleven specialist teachers and three technicians. His department was in an academy for 11

to 18-year-olds with over 2,000 pupils. Academies receive funding directly from the government and are run by an academy trust rather than by the local authority.

Nikki (SL2) was the head of the Art and Design and Technology Department and a product design and textiles teacher. At the time of data collection, her department was small (see Table 5-1), consisting of three specialist teachers, a materials technician, and a food technology technician. Nikki had been a teacher of Design and Technology for more than five years and a head of department for over three years. Nikki's department was in an academy for 11 to 18-year-olds, with over 800 boys and girls on roll. Subject leader three (SL3), Jim (pseudonym used hereafter), had been a teacher of Design and Technology for more than fifteen years and a subject leader for over six years. Jim led a small team of three specialist teachers and two technicians of Design and Technology. Jim's Design and Technology department is in a mixed academy for 11 to 18-year-olds with over 1,200 pupils on roll.

SL4 hereafter referred to as Jack, was the head of the engineering department in a University Technical College. A university Technical College (UTC) is a type of secondary school in England that is led by a sponsor university; it is for 14 to 19-year-olds and delivers technical education as well as core curriculum subjects which include English, maths, and science. At the time of data collection, Jack was leading a team of nine specialist teachers and three technicians of engineering and Design and Technology in a UTC, which had over 600 pupils. Subject leader five (SL5), Jaspal (pseudonym used hereafter), was the head of Art and Design and Technology faculty, a position he had held for over six years. Jaspal had taught Design and Technology for over ten years. Jaspal's department was in an 11–18-year-olds' comprehensive school with over 1,500 pupils on roll, including sixth form. At the time of data collection Jaspal's department comprised a small team of four specialist teachers of Design and Technology and two technicians.

The sixth subject leader (SL6), Theo (pseudonym used hereafter) had held the position for just less than one year. However, he had a teaching experience spanning over twenty-five years. Theo was leading a small team of three specialist teachers and one technician in Design and Technology. Theo's Design and Technology department was in a mixed academy for 11 to 18-year-olds and had over 1,000 pupils on roll at the time of data collection for this research. Table 5-1 below summarises the participants details.

Subject leader	Length of years as a subject leader	Department type: based on the number of teaching staff  Large: over 10 Medium: 6 – 10 Small: 1 - 5	Number of department technicians	School type	The subjects that constitute Design and Technology	Class sizes
Adam	Between 6 – 10	Large	3	Academy	Key stage 3 (11 to 14-year-olds) <i>resistant materials, graphics, textiles, cooking and nutrition, and electronics.</i>	Several groups that were no more than 20 pupils
					Key stage 4 (15–16-year-olds) <i>D&amp;T timbers, D&amp;T papers and boards, D&amp;T textiles, food preparation and nutrition, and construction.</i>	There were three groups in each subject with 20-22 pupils in both year 10 and 11. Construction had one group in both year 10 and 11
					Key stage 5 (17–18-year-olds) <i>A level D&amp;T Product Design</i>	Two groups of no more than 12 pupils
Nikki	Between 1 – 5	Small	2	Academy	Key stage 3 <i>product design, textiles, hospitality and catering, cooking and nutrition.</i>	Varied from 20-24 pupils
					Key stage 4 <i>D&amp;T timbers, hospitality and catering</i>	Key stage 4 subjects had two groups each in year 10 and 11 of no more than 18 pupils each
Jim	Between 6 – 10	Small	2	Academy	Key stage 3 <i>resistant materials, computer aided design and graphics, textiles, and food technology</i>	Varied from 18-24 pupils.
					Key stage 4 <i>D&amp;T timbers, D&amp;T papers and boards, food preparation and nutrition</i>	Two groups for each subject in both year 10 and 11
					Key stage 5 <i>D&amp;T Product Design</i>	One group of 15 pupils

Jack	Over 10	Medium	3	University Technical College	Key stage 4 <i>Design and Technology, Level 2 First Certificate/Diploma in Engineering Technology</i>	Groups of 15-20 pupils
					Key stage 5 <i>Engineering extended diploma, engineering diploma and engineering extended certificate.</i>	Groups of 11-20 pupils depending on course speciality.
Jaspal	Between 6 – 10	Small	2	Academy	Key stage 3 <i>resistant materials, graphics, textiles, cooking and nutrition, electronics.</i>	Groups varied from 18-20 pupils
					Key stage 4 (15–16-year-olds) <i>Design and Technology, Hospitality and catering, textiles, food preparation and nutrition</i>	Design and Technology in year 11 had four groups. Food preparation and nutrition had two groups in year 10. Hospitality and catering and textiles each had 5 and 11 pupils in year 11.
					Key stage 5 <i>D&amp;T Product Design</i>	One group of 14 pupils at key stage 5
Theo	Less than 1	Small	1	Academy	Key stage 3 <i>resistant materials, graphics, textiles, cooking and nutrition,</i>	Group sizes varied from 18-25 pupils
					Key stage 4 <i>Design and Technology, Hospitality and catering, textiles</i>	There were two groups studying Design and Technology in both year 10 and 11.

Table 5-1 A summary of the participants details at the time of data collection.

## **5.6 Research Methods**

Qualitative research is conducted through intense or prolonged contact with a field or life situation (Miles and Huberman, 1994). The field in this research was the subject leader's place of work, that is the Design and Technology department in a secondary school. I made visits to each and during these visits I kept field notes to document contextual information. Qualitative field notes are an essential component of rigorous qualitative research (Phillippi and Lauderdale, 2018). Through a field visit to the natural setting of the phenomenon being studied, the researcher can understand the participant's experience detached from the researcher's control of the situation.

For successful field visits, preparatory steps include reviewing empirical and theoretical literature, refining research questions, understanding philosophical assumptions and preparing instruments of data collection. Going to the field allows the least manipulation of the research situation. Data collection involved semi-structured interviews, documentary analysis and field notes on observations of department corridors, classroom display boards, corridor displays and artefacts around the school that were related to Design and Technology.

Recording field notes started during initial familiarisation conversations with the subject leaders before their interviews. This is because field notes serve many functions but predominantly aid in constructing thick, rich descriptions of the study context (Phillippi and Lauderdale, 2018). In consideration of the frailties of human memory, researchers must take notes based on their observations, which should be detailed summaries of events and behaviour and the researcher's initial reflections on them (Bryman, 2016). In this study, field notes captured the subject leaders' department physical settings including, the artifacts on display in the department's corridor walls and inside classroom walls, window displays and the office or

tearoom. Collecting data through such field notes improves the depth of qualitative findings (Phillippi and Lauderdale, 2018).

Although it is difficult for researchers to find a concise description of the information to be included in field notes, some strategies present themselves (Bryman, 2016; Phillippi and Lauderdale, 2018). They were written as quickly as possible after seeing or hearing something interesting. This was done immediately on arrival and during department tours that were conducted by subject leaders. After each visit, full field notes were written and organised for ease of understanding. Some personal reflections were also written and captured on the field notes schedules. These initial analytic thoughts about what was observed and heard were written as an early form of data analysis.

I recorded as much as I could in the field notes schedules (see Appendix F) to avoid forgetting. At the end of each field visit, while still at the site I asked the participant to allow me to sit down for a few minutes to 'put my thoughts together'. These were quick closure notes illuminating my observations and anything that I had heard. Field notes are descriptions of observations, and the major strength of direct observation is in its directness (Douglas, 2015). By spending time with the subject leaders, I was able to note down key points. They supplemented the interview data collected from participants and were instrumental in answering research question one that asked how tools are used and appropriated by subject leaders in Design and Technology department leadership activity systems.

Semi-structured one-on-one interviews were used to collect data from the six Design and Technology subject leaders. The decision to use semi-structured interviews was based on the need to gain information on subject leaders' opinions, insights, interpretations and experiences about their work. A schedule (see Appendix E) was



prepared following the literature review. The interviews were designed to find out what participants thought about their leadership of Design and Technology departments and encouraged an expression of their perceptions and interpretations. These qualitative interviews were intended to access rich data about subject leaders' experiences and interpretations and provide answers to the research questions.

Evidence from the literature review indicated that interviews were the best method that was employed by similar studies to capture participants' perceptions and have been used to study leadership in educational settings (Mercer and Ri, 2006; Rhodes, et al., 2008; Javadi, Bush and Ng, 2017). An interview is the most prominent and widely used data collection tool in qualitative research (Punch and Oancea, 2014; Yin, 2009; Bryman, 2016). In this study, using interviews across the six case studies ensured all subject leaders provided accounts of their own experiences in leading a department. I believed that through the interviews, I would be able to get in-depth information about subject leaders' perceptions of their practice in Design and Technology departments.

Interviews can be structured, semi-structured and unstructured (Thomas, 2009; Robson, 2011; Punch and Oancea, 2014; Bryman, 2016). Semi-structured and unstructured interviews are mostly used by qualitative researchers (Bryman, 2016). In semi-structured interviews, according to Robson (2011):

the interviewer has an interview guide that serves as a checklist of topics to be covered and a default wording and order for the questions, but the wording and the order are often substantially modified based on the flow of the interview, and additional unplanned questions are asked to follow up on what the interviewee says. (Robson, 2011: 280)

Research interviews focus on self-reports, what people say they do, what they say they believe and what opinion they say they have (Denscombe, 2014). This typically involves the researcher asking questions and hopefully extracting information from the people being interviewed (Robson, 2011; Thomas, 2009). To appreciate the meanings and interpretations of the subject leaders' responses, using semi-structured interviews allowed them to extend their answers. This preserved the contextual meanings that participants had attached to their responses.

There are issues associated with interviews. For example, Rapley and Weatherburn (2004) submit that:

Interviews do not appear to give us direct access to the 'facts', and interviews do not tell us directly about people's 'experiences' but instead offer indirect 'representations' of the experience. (Rapley and Weatherburn, 2004 cited in Silverman, 2014:172)

This view is based on the idea that an interview is an 'interrogation' between the interviewer and the respondent. Hence there is some loss of the 'real' experience depending on how the question is framed and how it is answered. To counter these two issues, I recognised that, from a constructionist view, interviewers and interviewees are always actively engaged in constructing meanings (Silverman, 2014). The interviews were designed to draw out what the subject leaders thought about issues relating to their role as leaders of Design and Technology departments in a school. I focused on their interpretations and meanings rather than verifying any accurateness.

Similarly, questioning the use of interviews as a source of data, Silverman (2013) drawing from Holstein and Gubrium (1995), claims that:

A style of qualitative interviews, which aims to 'get inside the heads' of particular groups of people and tell things from 'their point of view'...raises the important methodological issue of whether interview responses are to be treated as giving direct access to 'experience' and 'feelings' or as actively constructed 'narratives' involving activities, which themselves demand analysis (Silverman, 2013:201-202).

It would be inappropriate to try and control the interviews to measure people's understandings systematically. The data generated through interviews explored understanding relating to social, cultural and historical circumstances and therefore the information was contextually grounded (Douglas, 2015). The decision to use semi-structured interviews was informed by their advantages in exploring people's interpretations and meanings of events and situations and their symbolic and cultural significance with the depth of information (Gray, 2009; Denscombe, 2013). This benefit aligns with the selection of CHAT which was used to both inform and create a research framework to facilitate analysis of the data (Koszalka and Wu, 2004).

However, interviews should be considered as verbal reports only because in reporting the interviewees' responses, they are subject to the common problems of bias, poor recall and poor or inaccurate articulation (Yin, 2009). To counter these limitations, I used other sources of evidence to supplement the interview data. These included field notes and the analysis of documents. Semi-structured interviews permitted the use of probing questions to obtain clarifications from the participants whenever possible. The hallmark of semi-structured interviews is that if you wish to know more, you ask for it and prolong the discussion on that point (Thomas, 2009).

Structured interviews were not chosen as a method of data collection because they entail a predetermined set of questions beyond which there is very little scope for

pursuing an interesting comment from the interviewee (Thomas, 2009). Using a structured interview would not have allowed the opportunity for that personal contact where subject leaders seemed to enjoy talking about their experiences. In-depth semi-structured interviews allowed the participants to set a pace that was guided by a prepared set of questions and departures from the guidelines were encouraged (Silverman, 2013). During the interviews, I posed additional questions to clarify, further investigate and summarise accounts arising naturally during the interview, reflecting on each participant's responses (Moore and Rotherford, 2011).

While semi-structured interviews allowed rich detailed answers from the participants, the inclusion of documents as a source of data complemented this and showed underlying themes and practical insights into their work (Bryman, 2016).

I included document analysis as part of research methods in this study to complement data that was collected through interviews and field notes. Document analysis is a systematic procedure for reviewing or evaluating documents; both printed and electronic (computer-based and Internet-transmitted) material (Bowen, 2009). They were additional information to help me understand the subject leaders' interpretations of their role, for example in planning resources in the department. Computer based electronic copies were sent by subject leaders by email. I was able to access internet-transmitted documents from the research site's website.

The assumption was that the documents were not produced on the same day but designed and used over a period depending on their intended use and thus free of interviewer manipulation because they were drawn up before the participants became aware of this study. For case studies, the most important use of documents is to corroborate and augment evidence from other sources and they play an important explicit role in any data collection in case studies. (Yin, 2009) Document research

treats documents as a source of primary data and in this respect, it contrasts with the use of questionnaires, interviews or observations in social research (Denscombe, 2014).

At the end of each interview, I asked the subject leader for a copy of any documents that they had mentioned during the interview and any others that they felt were useful in their work. I received all these documents as electronic copies from five of the subject leaders and they included department meeting minutes, development plans, room booking schedules and work scrutiny and lesson observation records. These types of documents occur in many forms and considerable interpretive skill is required to ascertain the meaning of the materials (Thomas, 2009; Bryman, 2016).

In this study, I was interested in documents that were produced by a subject leader for use in their day-to-day work in leading a Design and Technology department. I also accessed documents in the public domain that related to the participants' departments. The documents that were available from the school websites on the Design and Technology webpages had no restrictions and were easy to access. The documents supplemented the data generated from interviews and field notes and helped in answering research questions one and three.

## **5.7 Data collection**

The questions in the interviews were not followed strictly as in the schedule for various reasons. The settling down with the participants was different for each. The duration between first meeting the interview, building rapport and the starting point for the interviews differed. I realised after the first interview that the order of questions needed some adjustments to allow a smoother flow. These reasons required the interview schedules to be changed to suit the moment but all the matters that were to be covered were addressed in one way or the other. These ways included a follow-

up email or a second interview which provided time for more views, interpretations and clarifications from subject leaders. A pre-prepared interview schedule (see appendix E) that contained interview questions was used during each interview.

Interviews were conducted at the participants' schools in a place and a time that was mutually agreed. Recording took place in the participants' department offices or tearooms apart from one subject leader who chose to use a classroom that was quieter and away from the interruptions of colleagues. Each of the interviews took between 25 and 75 minutes. Responses to interview questions were digitally recorded and were later carefully transcribed, which is an important part of the data collection process (Silverman, 2013). I chose to transcribe the interviews personally on a laptop rather than use transcription software even though it was time-consuming. This engagement with the data allowed a more thorough understanding of the participants' answers. The field notes were also recorded capturing the information on departments and artifacts in use in the school premises that were related to Design and Technology. Field notes from observing a departmental meeting led by Jim were also recorded.

With access agreed, I was emailed a range of documents by participants. The documents were later put in a password-protected folder on my personal computer, which was also password-protected. The documents were analysed, and analytical notes were recorded on schedules (see Appendix G). The inclusion of documents illustrated aspects of subject leaders' work in their departments. The documents collected in this study are referred to as institutional records and are shown in Table 5-4. I requested participants for documents that they had mentioned in interviews or during the tour of the department. I also asked for any other documents that participants were using or had used in their work in leading their Design and Technology department.

Data collection took place between November 2016 and July 2018. On arrival at a field site for the first time, the host met me at the school reception area. Following administrative processes for access, initial familiarisation talks started with a welcome and a chat as I was led towards the place of choice for the interview. On settling down, I informed the subject leader there was no compulsion or pressure to take part in the study and they could withdraw at any point without giving a reason. I also informed them that any discussion henceforth would be considered as data. The initial conversation was followed by a tour, either around the department or the whole school. The first set of data collection consisted of written field notes during the tour.

Table 5-2 shows the tours I undertook at the field sites for this research.

Field site (Schools)	Subject leader	Department tour	School tour	Design and Technology Department description
Site 1	Adam	Yes	Yes	Teaching rooms in two separate areas of the school
Site 2	Nikki	Yes	Partly	Teaching rooms confined in one area of the school
Site 3	Jim	Yes	Yes	Teaching rooms in two separate areas of the school
Site 4	Jack	Yes	Yes	Teaching rooms in two separate areas of the school
Site 5	Jaspal	Yes	Partly	Teaching rooms in two separate areas of the school
Site 6	Theo	Yes	Partly	Teaching rooms confined in two separate areas of the school.

Table 5-2 Details of department and school tours in the field sites

In the department, I was able to take initial notes which formed part of the field notes. During the field site tours, I was able to quickly take notes, both written and drawn, to avoid a delay and disruption of the tour. This is because taking small notes during interaction can assist your memory but should not interrupt the flow of the moment or distract you as a researcher or the participant (Phillippi and Lauderdale, 2018). The notes I took captured what I thought reflected Design and Technology such as a

department slogan on the wall, health and safety posters and signs denoting areas near machinery and a timetable pinned on a noticeboard on the wall.

Typically, on the first field visit, I spent considerable time at the school. I was able to interview the subject leader and write detailed field notes on the department corridor and classroom displays, department office or tearoom and school corridor display plus open spaces. The second visit involved more field notes on classroom and corridor displays, a second interview and looking at documents produced by subject leaders. There was a gap of at least six months between the first and the second interviews. Table 5-3 shows a summary of the fieldwork and Table 5.4 shows a tabulation of the data sets including institutional records that were used for analysis.

Three subject leaders were not available for a second interview and so I used email communication to follow up from the first interview. The institutional records that were sent varied in number because of participants' degree of willingness to share these documents. Having a different number of documents from participants can cause a lack of balance in evidence and can cause biased selectivity (Yin, 1994, cited in Bowen 2009:32). Consequently, an incomplete collection of documents from all the participants suggests 'biased selectivity' (Yin, 1994 cited in Bowen 2009: 32). In terms of this study, its design is a multiple case study and uses three qualitative data collection methods to corroborate each other. In the analysis of data in this study, the relevant themes are discussed across the case studies by comparing how similarities and differences appear from the evidence gathered in institutional records, field notes and interview scripts. The analysis of institutional records, field notes and interviews allowed the research questions to be answered and the results are presented in the following chapters.



Type of fieldwork	Adam	Nikki	Jim	Jack	Jaspal	Theo
Field visits	1	2	2	1	1	2
Interviews	1	2	2	1	1	2
Duration of interview 1 (in minutes)	65	42	38	43	33	25
Duration of interview 2 (in minutes)	n/a	29	28	n/a	n/a	20
Count of documents shared by the subject leader**	2	3	2	4	5	0
Collection of information on Design and Technology department from the schools' website	✓	✓	✓	✓	✓	✓
Field notes on department classroom walls	✓	✓	✓	✓	✓	✓
Field notes on display boards on the school corridors.	✓	✓	✓	✓	✓	✓
Field notes on department tearoom/office	✓	✓	✓	✓	✓	✓

Table 5-3 A summary of fieldwork

\*Theo left his job, and I was unable to get in touch with him to arrange for access of documents.

\*\* These were the documents sent by the subject leaders, which are further illustrated on table 5-4 below.

<b>Participating subject leader</b>	<b>Data set</b> <b>*IR – Institutional record</b> <b>*PD – Public document</b>
Adam	<ol style="list-style-type: none"> <li>1. Interview transcript</li> <li>2. Curriculum complaint email</li> <li>3. Website details (PD)</li> <li>4. Field notes – corridors and window display around the department</li> <li>5. Field notes department tearoom/office</li> <li>6. Field notes- Design and Technology classroom display</li> </ol>
Nikki	<ol style="list-style-type: none"> <li>1. Interview 1 transcript</li> <li>2. Interview 2 transcript</li> <li>3. Website details (PD)</li> <li>4. Field notes - corridors and window display around the department</li> <li>5. Field notes department tearoom/office</li> <li>6. Field notes - Design and Technology classroom displays</li> <li>7. Technology rotation 2016 -17 (IR)</li> <li>8. ICT room booking (IR)</li> <li>9. Technician timetabling (IR)</li> </ol>
Jim	<ol style="list-style-type: none"> <li>1. Interview 1 transcript</li> <li>2. Interview 2 transcript</li> <li>3. Biodata document</li> <li>4. Website details (PD)</li> <li>5. Field notes - corridors and window displays around the department (Design and Technology)</li> <li>6. Field notes department tearoom/office</li> <li>7. Field notes - corridors around the school - other subject areas</li> <li>8. Department meeting minutes (IR)</li> </ol>
Jack	<ol style="list-style-type: none"> <li>1. Interview transcript</li> <li>2. Website information (PD)</li> <li>3. Field notes - corridors and window displays around the department (Design and Technology)</li> <li>4. Field notes department tearoom/office</li> <li>5. Field notes - corridors around the school –other subject areas</li> <li>6. Field notes - Design and Technology classroom displays</li> <li>7. Work scrutiny - engineering (IR)</li> <li>8. Governors' information evening (IR)</li> <li>9. Evidence of work scrutiny and lesson observations (IR)</li> <li>10. Engineering development plan (IR)</li> </ol>
Jaspal	<ol style="list-style-type: none"> <li>1. Interview transcript</li> <li>2. Website information (PD)</li> <li>3. Field notes - corridors and window displays around the department (Design and Technology)</li> <li>4. Art and Design and Technology Department meeting minutes set 1 (IR)</li> <li>5. Art and Design and Technology Department meeting minutes set 2 (IR)</li> <li>6. Laptop booking document record (IR)</li> <li>7. Lesson observation record (IR)</li> <li>8. Design and Technology subject options (IR)</li> <li>9. ICT room booking (IR)</li> </ol>
Theo	<ol style="list-style-type: none"> <li>1. Interview 1 transcript</li> <li>2. Interview 2 transcript</li> <li>3. Website information (PD)</li> <li>4. Field notes - corridors and window displays around the department (Design and Technology)</li> </ol>

Table 5-4 Data sets

The different sources afforded multiple perspectives to capture how participants perceived their practices. Thomas (2009) argues that sourcing evidence in social research is crucial although:

you will never in social research get conclusive evidence of something, however, the more evidence there is- each piece corroborating the other – the surer you will be. (Thomas, 2009: 19)

Using multiple sources of data is a valuable and widely used strategy to enhance the rigour of the research (Robson, 2011). The most important advantage of using multiple sources is the development of converging lines of inquiry (Yin, 2009). Findings are likely to be more convincing if based on several different sources of information. Separating and differentiating the various types of data is essential for a reader to appreciate how this is being interpreted (Douglas, 2015). For example, what a subject leader has said in an interview may be substantiated with what has been recorded in field notes or documents.

Documents and observations can provide corroboration of the content of the interview (Denscombe, 2014). The participants were selected because they were knowledgeable specialists and highly experienced with a high degree of credibility (Denscombe, 2014). For this study, the interview questions required the participants to infer from their practice as teachers and Design and Technology subject leaders to respond authoritatively. The use of three sources of data in this study was to corroborate findings across data sets (Bowen, 2009).

## **5.8 Data analysis methods**

The range of data that was collected from the participants influenced the exploratory approach I took to the analysis of data. This meant that data analysis started right in the field site and was considered and coded to allow an understanding of subject leaders' practice in different contexts. I read and re-read the data to identify subtle

similarities and differences that were captured in field notes, institutional records and interview transcripts. The analysis started with initial analytical notes that compared data that was collected from field notes, documents and interviews.

Methods of data analysis in this study stem from two theoretical frameworks: thematic analysis and CHAT. Data analysis started after each field visit in each case by writing memos. Thereafter, data from the field visits (interviews, field notes on observations of spaces and documents) were subjected to a thematic analysis, where themes and sub-themes were identified. Data was further viewed using CHAT, which provided a lens for considering practice as a tool-mediated activity.

Memoing started straight after collecting data from the field when I wrote short analytical notes to summarise what I had collected from the field to clarify my thinking. Numerous short memos (for example on monitoring tasks in leading teaching and learning) were written during the period of data collection and initial analysis as new data was generated (see Appendix H). As data analysis progressed, the short memos were merged and assigned to the emerging themes and sub-themes. There is a difference between field notes and memos as Corbin and Strauss (2008) explain:

Field notes are data that may contain some conceptualization and analytic remarks. Memos, on the other hand, are lengthier and more in-depth thoughts about an event, usually written in conceptual form after leaving the field, they are much more complex and analytical than any remarks that I might make on my field notes. (Corbin and Strauss, 2008: 119)

The writing of memos continued alongside data collection through field notes and other methods beginning with the first analytic session and continuing throughout the data collection and analysis phases.

Therefore, the purpose of writing memos in this research was to explore and understand the data in more detail. Writing memos in qualitative research is central as Birks, Chapman and Francis (2008) assert that:

Through the use of memos, the researcher is able to immerse themselves in the data, explore the meanings that this data holds, maintain continuity and sustain momentum in the conduct of research. (Birks et al, 2008:69)

Writing memos concurrently with data analysis helped to keep thoughts organised and link various similarities and differences occurring in the data.

Data items in this study were first subjected to thematic analysis to identify patterns or themes (Braun and Clarke, 2006; Maguire and Delahunt, 2017). Through its theoretical freedom, thematic analysis provides a flexible and useful research tool that can provide a rich and detailed, complex account of data (Braun and Clarke, 2006). The process started with the interview transcripts being considered alongside the field notes and documents. The interview transcripts were coded, and themes identified (see Appendix I). The emerging themes in each interview and between the interviews were identified and recorded. The names given to the themes were guided by the outcomes of the literature review. These names resonated with leadership topics that were discussed in the review chapters.

A table format with columns and rows was used to present the themes, data source, and an extract to support the theme (see appendix J). The data were subjected to further scrutiny to identify sub-themes and link them with all the other sources of data. The themes and sub-themes were later developed and written in detail as analytical memos (see appendix K) that formed the foundation for the analysis chapters. All the other data sources were scrutinised to support the themes and sub-themes that were identified in the interview transcripts. All the data from the six subject leaders was

categorised in the identified themes and sub-themes before deciding on what was relevant.

Thematic analysis can be widely used across a range of epistemologies and research questions (Nowell et al., 2017). It is an initial step in data analysis and provides core skills that are useful for conducting many other forms of qualitative analysis (Braun and Clarke (2006). Hence it was suitable for use in this interpretivist study. The reporting on thematic analysis identified the similarities and differences of how subject leaders perceived their roles. Data excerpts from the subject leaders' interviews was compared and supported by data from other sources.

## **5.9 Researcher involvement and bias**

In collecting data through interviews, one challenge for the interviewer is their role in the environment they are researching. This is because researchers bring their own biographies to the research situation and participants behave in particular ways in their presence (Cohen, Manion and Morrison, 2000). I was aware that my life and identity were important factors (Smith, 2012). Consequently, I was conscious of the influence my position as a Design and Technology subject leader had on the interviewees. This meant that a relationship of trust and empathy was relatively easy to establish, but during the interviews, I needed to guard against influencing the participants and so leading the interviews and the findings.

Being a Design and Technology subject leader and known as such by the participants, I did not offer suggestions during individual interviews. I remained neutral and probed the participants where necessary. As a researcher, I understood that my knowledge as a Design and Technology subject leader affected the way I collected data, the way I interpreted responses and the sort of probing questions I asked. When deciding what role to take in a naturalistic inquiry in an activity theory framework,

investigators need to be aware of the costs and benefits that their role may play during data collection and analysis (Yamagata-Lynch, 2010).

Reflexivity means interpreting one's own interpretations in the whole process of the research, the field notes, perusing the documents and the continuous listening of the audio recordings during the process of transcribing all facilitated this process. As a reflective researcher, I was aware that my interaction with the participants formed part of my methodological approach. The very nature of qualitative research requires the researcher to assume a reflexive stance in relation to the research situation, participants and data under study (Birks, Chapman and Francis, 2008). As a researcher becomes immersed in the world of their participants, reflexivity facilitates an understanding of the effect of their own subjective influences on the collection and interpretation of data (Primeau, 2003, cited in Birks et al., 2008:69).

This study used a qualitative methodology to explore the perceptions of subject leaders about their roles. I explained during the interviews that I was interested in the perceptions of subject leaders who, like me, led a Design and Technology department and some participants appeared to value the opportunity to discuss some of their problems and some appeared to be seeking answers and comparisons with my own department. I was aware of the implications of becoming involved, both from the perspective of how it made me feel as a subject leader, but also in my role as a researcher with the need to remain in control of my conduct

### **5.10 Ethical issues**

While conducting research, some ethical issues need to be considered. These include voluntary participation, protection of research participants, assessment of potential benefits, risks to participants, obtaining informed consent and not doing

harm to the participants (Silverman, 2014). I followed the British Educational Research Association's guidelines (2018) to reach an ethically acceptable position. This study sought and was granted ethics approval by the University of Roehampton. The participating leaders were approached and none was excluded because of their demographic attributes. All my email correspondence with the participants reminded them that participation was voluntary, their identity and that of their school would remain confidential and no part of data collection would involve the participation of their students. Each was fully informed of the purpose of the research.

The participants were asked to sign a consent form (Appendix A) that had a description of the project, consent statement, University of Roehampton research convener details and my contact details as the researcher. As a gatekeeper, the headteacher of each of the schools was asked to sign a request for access form (Appendix B), consenting to access to the school premises and staff to collect research data in the Design and Technology department. The consent forms specified that the information that participants provided would be treated in confidence and that their identity would be protected in the publication of any findings. The consent forms further detailed that research data would be collected and processed under the Data Protection Act 1998 (since replaced by the Data Protection Act 2018) and in compliance with the University of Roehampton's Data Protection Policy.

Assuring confidentiality and anonymity to participants empowers the participants as Douglas (2014) points out:

I was concerned about protecting the identity of the respondents. Each was providing information on their understandings, beliefs and attitudes towards their work and aspects of their professional identity. To offer confidentiality was consistent with the aim of empowering respondents in the case that they



retained control over the circumstances under which their personal views entered into the discourse. (Douglas, 2015:61)

Participating subject leaders' personal views were retained in the written report as they expressed them during interviews or as they were in the documents that they provided. The schools' identities and that of participating staff remain confidential and every effort has been made to conceal their identities. The participants do not know each other, and it is unlikely that any reader would be able to identify the sources of data. Participants were continually informed of their right to withdraw at any time; this was contained in the consent form and verbally repeated during data collection phases. The schools' headteachers were informed of their right to withdraw access at any time.

The interviews took place at the participants' workplaces and so they were familiar with the environment and retained control over the circumstances under which data was being collected. All the data collected was used solely for this research. Information was not shared or made accessible to the school. As a researcher, considered the extent to which the investigation would be intrusive, touching on sensitive issues or threatening the beliefs of the participants and considerable care was taken to avoid psychological harm resulting from research (Denscombe, 2010). During the field visits, I followed the safeguarding procedures in respect to identification and the procedures for visitors to each of the schools. I was accompanied by the participating subject leader throughout the visit. Lone working was avoided, and I created time to familiarise myself with the new research locations before and during field visits.

## CHAPTER 6

### DATA ANALYSIS: SUBJECT LEADERS' MONITORING TASKS IN LEADING TEACHING AND LEARNING

#### 6.0 Introduction to the data analysis and discussion chapters

In Chapters 3 and 4, I identified that the work of Design and Technology subject leaders is complex and wide-ranging. Subject leaders' interpretations of their work differ from one department to another despite leading a similar curriculum subject. Therefore, to understand the perceptions of Design and Technology subject leaders about their leadership practices in their departments, the case studies in this study were considered individually and alongside each other to draw out their similarities and differences. The focus in Chapters 6 to 8 is on a comparison of perceptions. Methods of data analysis in this study stem from thematic analysis and CHAT.

Three themes were identified in this study: monitoring of teaching and learning at the departmental level; building relationships; and showcasing Design and Technology. A data-driven thematic analysis was suitable because the study aimed to capture the complexity of subject leaders' perceptions as a socially and culturally situated phenomenon evolving and being interpreted during practice. CHAT informed data analysis by providing an analytical lens to explore the relationships of subject leaders and the elements of their Design and Technology department leadership activity systems: tools, both physical and conceptual; division of labour both inside and outside the department; community; and rules, both formal and informal.

Although I was aware of these elements of CHAT, to maintain a robust discussion of data I purposely did not analyse or group data in these terms. The initial thematic analysis sought to analyse subject leaders' accounts of their leadership activities,

relationships inside and outside the departments, and the historical and cultural background of their departments. Thematic analysis was important for the subsequent use of CHAT as an analytical lens in understanding the cultural and historical perspectives and pluralistic nature of the activity system. Using CHAT allows focusing attention on leadership as a contextualised social phenomenon that takes place in social systems that have evolved culturally and historically (Wilson, 2014).

Chapters 6, 7 and 8 present the six case studies. Each follows the same format that starts with a section on thematic analysis of data, followed by a discussion of data using the analytical lens of CHAT. The organisation of the chapters is informed by the necessity to systematically present the answers to the research questions. Therefore, data presentation starts with an introduction of the theme followed by a discussion of the sub-themes. Examples of data extracts are used to support a discussion on how the participants perceived their practice. The CHAT sections present a discussion of the CHAT research questions in detail. In answering research question one, Chapter 6 focuses on how tools were used and why they were appropriated in different ways by the subjects.

The analysis of tools illustrates how the subject leaders' perceptions about leadership practices varied depending on how they used tools in the activity system. In answering research question two, Chapter 7 presents a discussion to suggest what, how and why the object is being worked on in the activity systems. Research question three, which seeks to understand how Design and Technology department leadership activity systems interact with other activity systems, is presented at the end of Chapter 8.

Chapter 6 presents the first of the three themes: subject leaders' monitoring tasks in leading teaching and learning. This theme was derived from coding data from the field notes, semi-structured interviews and institutional records. Three sub-themes are discussed: learning walks, book reviews and lesson observation. The first data presentation section focuses on learning walks, their purpose in the eyes of the participants and how they had used them in the department. The second section of Chapter 6 discusses book reviews, and how they were used differently in monitoring teachers' classroom practice. The third section concentrates on lesson observations, exploring how they were seen either differently or similarly as a means of monitoring teachers and as a way of shaping department staff practice. The fourth section discusses the theme from the analytical lens of CHAT by answering the first research question that asked how are tools used and appropriated by subject leaders in Design and Technology department leadership activity systems?

### **6.1 Similarities and differences in learning walks across the case studies**

Subject leaders identified learning walks as one of the tasks they performed in their Design and Technology departments. All explained that as part of their role they visited colleagues' classrooms when lessons were going on. Learning walks are interpreted differently by different actors and vary in scope and formality (Fisher and Frey, 2014) but generally, they are short formal or informal visits to lessons lasting no more than twenty minutes and focusing on very specific areas.

The excerpts discussing the learning walks sub-theme emerged predominantly from analysis of interview transcripts and institutional records; for example, minutes of department meetings that were available from the participants. The terms 'learning walks', 'walkthroughs', 'informal walks' and 'pop into lessons' were used by participants to refer to these short visits to colleagues' classrooms.

### **6.1.1 Using learning walks to monitor teachers' work in subject departments**

Similarities across all the case studies included learning walks being regular classroom-based tasks that were led by subject leaders. Learning walks involved the subject leader being physically present in a classroom to learn more on the teaching of their colleagues and pupils' learning. Five subject leaders revealed that they used learning walks to monitor their colleagues. For example, a judgmental outcome from learning walks demonstrated Adam's checks on his colleagues.

I am looking to pick up weaknesses and work out strategies to improve those.

(Adam, interview)

This statement illustrated the judgemental aspect of learning walks. This is supported by Adam's claim that 'I look through books' during learning walks to support decision-making'. Adam appeared to use learning walks as a way of identifying areas of professional development for the concerned staff.

A similar view was shared by Nikki, who explained that during learning walks she had to make a judgement that was based on her previous observations as she stated that 'I know how they teach you know' (Nikki, interview 1). Therefore, both Adam and Nikki used learning walks as a way of monitoring teachers' classroom practice to know their strengths and weaknesses. However, their approach differed. Nikki's statement could suggest that she went into colleagues' classrooms with preconceived judgements whilst Adam went with an open mind. Theo implied that learning walks were 'kind of rigorous', which suggests that he viewed learning walks as a thorough monitoring exercise.

Institutional records from Jack and Jaspal revealed that learning walks did not just involve walking into a colleague's lesson. They were planned in advance and a set of expectations and procedures had to be met. This was evident from the analysis of documents which showed that judgemental outcomes were also evident in Jack's informal walks and Jaspal's formal walkthroughs.

- a. **Structure** - 2 x 15min walk through of KS3 lesson. We will not know which lesson will have a walk through.
- b. **What we need** - a lesson plan with SEN / G&T / PP information
- c. **Activity** - What would make a successful walk through?
  - Using BLP capacities explicitly in lesson
  - Questioning
  - Complete a mini plenary during the walkthrough
  - +++++n 7 - show at least some during the 15min
  - Evidence of differentiation
  - Lesson objectives on the board
  - Sharing good examples of student work with the class
  - Seating plans should use some sort of methodology
  - The 15min walk through should be used as an opportunity to demonstrate progress.
  - Refer to success criteria

**Figure 6-1. An entry showing a discussion on walkthrough during a department meeting (Source: Institutional record - department meeting minutes, Jaspal data set 4)**

In Jaspal's department, learning walks were referred to as formal walkthroughs and a list of expectations was circulated to teachers prior to the lesson visits. The expectations in a 15-minute walkthrough in Jaspal's department are shown in Figure 6-1, which is an extract from Jaspal's department's meeting document. It shows that Jaspal followed an agreed school-wide protocol for conducting learning walks. He expected the staff to cooperate and adhere to the walkthrough's success criteria. This approach confirms the existence of a hierarchy in how information was disseminated from the school senior leaders through the subject leader to classroom teachers. Unlike the other subject leaders, Jaspal used a walkthrough protocol when completing learning walks. Jaspal, like Adam, used the learning walk protocol to check teachers' classroom practice.

However, Adam took a more open-ended approach in conducting learning walks whilst Jaspal was restricted by the protocol. Jaspal's method suggests observance of school-wide structures and adjusting to their constraints when leading a department. Jaspal's approach in learning walks is like those of Adam, Nikki and Theo, which reinforces subject leaders' acceptance of the need for monitoring and supervising their team members (Wise, 2001). However, Adam used the outcome to plan what staff should focus on in improving their own practices.

### **6.1.2 Department staff learning and sharing good practice**

Adam viewed his regular visits to classrooms as useful when evaluating teachers' work and focused on checking the classroom practice of individual teachers. He explained that learning walks, 'gives me a clear idea so then I know what I can target' (Adam, interview). Through learning walks, he was able to understand specific teaching and learning practices. The outcome was used to design classroom practice developmental opportunities for individual teachers and the entire staff. Therefore, Adam's learning walks were used for gathering evidence to inform decisions (Fisher and Frey, 2014). In going into colleagues' classrooms, Adam exemplified the use of learning walks in monitoring teachers' work and collecting evidence of learning that was subsequently used in team learning.

In resolving the discrepancies that were identified during learning walks, Adam anticipated that he would be, 'sharing good practice' that was identified amongst the department colleagues. This was a developmental approach 'as opposed to the other way of working' (Adam, interview). Using learning walk outcomes to share examples of good practice is an example of the subject leader's view of his role in creating a shared vision for his team. In this case, Adam made a choice that supported

developing collegiality as opposed to holding to account individual members of the staff in the department. Adam's approach echoes that monitoring becomes a challenge to collegiality and the professional status of staff if it is seen as a check on their colleagues' competence and the quality of their teaching (Bennett et al., 2007).

### **6.1.3 *Developing a culture of openness in subject departments***

One purpose of learning walks was for the subject leader to know what was happening in classrooms. Learning walks were unannounced, with subject leaders stating that they 'pop into lessons' or 'just walk in'. Adam, Nikki and Theo indicated that they undertook unannounced learning walks in classrooms. The subject leaders saw it as their role to just walk into lessons and see what was happening, without necessarily monitoring the work of teachers or seeking to know how pupils were learning.

Adam shared the following, regarding what he saw as the purpose of learning walks:

I do go into textiles...I do go into food...I go into resistant materials...I go into construction...to see what is going on. (Adam, interview)

This demonstrates how Adam completed learning walks on his own and visited different lessons in the department to see what was going on. This may suggest that Adam viewed his role as the need to understand the circumstances in different specialist areas of Design and Technology. Adam pointed out that he periodically went into lessons, which may suggest that he continuously wanted to know the needs of the teachers and pupils in those lessons, without necessarily being seen to be monitoring. His regular visits resonate with the view that interacting with colleagues is at the core of subject leaders' work with staff (Busher, 2005).



The frequency of interacting with colleagues could suggest an enhancement of Adam's awareness of the quality of learning and the environment in which colleagues taught. His disclosure that 'I pop into lessons now and then and have a look around' (Adam, interview) was like Nikki's, who stated that 'I am always popping in' (Nikki, interview 1). Adam's and Nikki's intermittent visits to lessons sit well with the view that there is a lot of sensitivity about going into others' classrooms and monitoring teacher activity (Hammersley-Fletcher and Strain, 2011). The 'popping into lessons' and seeing what was happening could mean that Adam's and Nikki's access to classrooms enhanced their monitoring of the work of teachers in their departments.

Learning walks were facilitated by the willingness of departmental teachers to let each other into their lessons:

I walk into classrooms...we have an open-door policy. (Nikki, interview 1)

Nikki explained that visits to lessons were enabled by the department's open-door policy, a social-cultural practice that facilitated interactions between colleagues in the department. This suggests that Nikki saw this as a practice that supported her monitoring work. This is reinforced by her view that 'I just walk in and pretend I am making tea' (Nikki, interview 1). Nikki thought that this was a less intrusive method (Hammersley- Fletcher, 2002) of monitoring teachers' work. This approach differed from Jaspal's, where he purposed and informed colleagues of learning walks. Nikki also acknowledged that whenever she popped into lessons, 'I am watching' (Nikki, interview 1), which suggests that the purpose of her visits was monitoring colleagues, even though she was reluctant to say to them that she was doing a learning walk.

Nikki's approach corresponds with the view that middle leaders avoid damaging their relationships with team members by instituting formal monitoring procedures (Wise, 2001). Nikki used learning walks to give assurance to her staff by making them 'feel

very comfortable' (Nikki, interview 1). This approach could imply that Nikki reduced the tensions of feeling monitored, for example, by giving them assurance on their work. In using praise, Nikki made the staff feel professionally secure and that they were not being judged, which was not the case. Therefore, Nikki showed duplicity in her approach. Integral to how Nikki completed learning walks was her reluctance to openly inform her colleagues that she was monitoring them.

Theo like Nikki relied on an 'open-door policy', to access colleagues' classrooms. However, Theo's approach relied on an established culture and department's staff goodwill:

I also do learning walks...people do not have a problem with other people coming into their rooms... but from that point of view I am very fortunate having a very...experienced group of teachers with twenty to forty years of teaching experience. (Theo, interview 1)

This extract suggests that Theo was reliant on the department's culture, which supported an open-door policy, for the success of his unannounced learning walks. Many teachers were experienced, and Theo saw this as the reason why learning walks were successful in his department. Theo appeared to be working on an established culture. However, unlike Nikki, Theo explained that the knowledgeable and veteran staff members of his department were self-reliant and knew the expectations. This could suggest a lack of collaborative work in the department whilst promoting individuality.

Theo's perception about the way the staff worked echoes the view that teachers require a measure of autonomy in the classroom but also need to collaborate to ensure a coherent approach to teaching and learning (Brown et al., 2000). Both Nikki and Theo referred to an 'open-door policy' (Nikki, interview 1; Theo, interview 1),

which suggests that they saw in their departments a culture of openness. Nikki and Theo accepted the openness in their departments, allowing them to easily walk in and out of lessons to understand what was going on. The open-door policy evident in Nikki's and Theo's statements is a gateway to monitor colleagues' work. This contrasts the view that monitoring becomes a challenge to collegiality and the professional status of staff if it is seen as a check on competence and quality of teaching (Bennett et al., 2007).

#### 6.1.4 Familiarising with pupils' behaviour in subject departments

Jack used learning walks to understand students' behaviour and how this affected their learning. This was evident in Jack's informal walkthrough document that was written as a confirmation of informal monitoring. Informal walks in Jack's department were used as a means of monitoring student behaviour and collecting evidence of learning. Figure 6-2 shows a learning walk review entry in Jack's department development plan.

Develop rigorous self-evaluation techniques	Responsibility and Timescale	Review of Progress	New self-evaluation techniques	Responsibility and Timescale
Informal monitoring	April 2016	During informal walks through the department most of the time students are well behaved and on task.	SLT to draw up a rota for informal walks through the school.	SLT Sept 2016

Figure 6-2 Jack's informal monitoring document (Source: Institutional record - Department development plan document, Jack data set 11)

This document shows a review of learning walks that was undertaken by Jack in his department. Its entries show the frequency of learning walks and their focus and that senior leaders in Jack's school are involved in planning and completing department learning walks. This suggests the hierarchy in Jack's school and the involvement of senior leaders in the work of the Design and Technology department through the

subject leader. Learning walks were driven by senior leaders and implemented at the department level. The way learning walks were used in Jack's department relates to the view that subject leaders' access to some sources of authority is delegated to them by more senior leaders and school governors to allow them to enact their role and function in a school (Busher, 2005).

#### **6.1.5 Participation of the school's senior leaders in subject departments**

Jim carried out learning walks together with a senior school leader. Unlike in Jack's department where the senior leaders' influence was on drawing a whole-school learning walk rota, Jim explained that:

my line manager he is very supportive...he is very much umm...we try and encourage each other he will go...So, let us do a learning walk let's do something...he is quite good at sometimes just prompting that bit of ...that is useful as well having that support. (Jim, interview 1)

In this excerpt, Jim explains how he worked in collaboration with his line manager on issues that affected Design and Technology. This created an opportunity for Jim to point out the department's successes. The senior leaders in Jim's school influenced the work of the Design and Technology department through the subject leader.

The presence of a senior leader suggests that learning walks were a joint exercise that mattered at different levels in the school. Jim saw the school's senior leaders as supportive in their involvement with the affairs of his department. The senior leader working with Jim identified several areas that required the subject leader's attention. This introduced the line management and hierarchy systems in schools where a senior leader appeared to use their positional power to point out areas for further action. Jim's involvement with a senior leader could suggest his willingness to take

advice and improve learning environments in the department. For example, Jim stated how a senior leader's involvement in the work of the department influenced his thinking, 'he might go look you haven't got any display up in that part of the school' (Jim, interview 1).

Jim's statement could suggest how teaching environments as an area of department leadership required collaboration with senior leaders. This shows the support that the subject leader had when promoting Design and Technology in specific parts of the school. It appeared that Jim was happy with the additional support from his line manager who asked to be seen 'as critical friend' (Jim, interview 1) in implementing learning walks. According to Jim, the senior leader was helping him improve practices in teaching and learning and Jim perceived his role as that of facilitating communication between the department and the senior leaders.

#### ***6.1.6 Monitoring by other teachers in subject departments***

The involvement of department teachers in completing learning walks was evident in Adam's department. Adam, unlike Nikki, Jim and Theo, delegated learning walk tasks to some staff who had a teaching and learning responsibility in the department. This was possible because Adam's department was large. Adam explained that:

because I have got Mr\* as the head of food, he has responsibility, Ms\* is head of textiles, Ms\* is head of resistant materials...so I get those three working for me in that kind of way. (Adam, interview)

This shows Adam's distinctive approach to completing learning walks and his practice of delegating tasks at the departmental level, which suggests his perception was that the responsibility for monitoring other teachers in the department should be delegated to support teacher development. Adam clarified that this was 'because they know

what is going on in their subject areas' (Adam, interview). Adam's approach exhibited trust in his colleagues, for teachers in the department were allocated responsibilities for which they took the lead on behalf of the whole department (Harris, Jamieson and Russ, 1995).

Adam oversaw a large Design and Technology department with several subject specialists. Allocating other teachers, the role of conducting learning walks implies that there was more openness and inclusivity in monitoring and learning. Adam's approach resonates with the view that monitoring the quality of classroom practice is not necessarily a matter that devolves to a mid-level leader alone, becoming an individual responsibility and generating tension between colleagues (Bennett et al., 2007). Adam saw his role differently from the other participants in that he entrusted monitoring to others in the department. This approach suggests shared leadership, which contrasted Nikki and Theo who viewed the task as their sole responsibility.

#### ***6.1.7 Protocols in carrying out learning walks in subject departments***

Further differences were evident in how learning walks were scheduled in the case studies. Adam, Nikki, Jim and Theo completed learning walks when 'time was available'. These unexpected face-to-face sessions with teachers and pupils indicate the subject leaders' view of holding the staff to account for the quality of teaching and learning in their lessons. However, for Jaspal and Jack, learning walks were planned and documentary evidence was maintained.

In addition, scrutiny of department meeting minutes revealed that Jaspal's staff were informed of learning walks (walkthroughs) during department meetings. The teachers in Jaspal's department knew the specific week that learning walks would be taking place but not the precise time and lesson. In Jack's department learning walks were

scheduled to take place weekly. Jaspal and Jack worked differently compared to the other subject leaders in that they were transparent in communicating a schedule for learning walks. Moreover, Jaspal engaged in a dialogue with the staff about the requirements for successful learning walks. Jaspal's and Jack's way of working suggests their view on sharing information with the staff and approaches to accountability in the department.

Thus, Jaspal had a formalised approach to learning walks compared to Nikki who preferred to pop in whenever circumstances allowed her. The fifteen-minute walkthrough served to inform Jaspal what was happening in lessons, which was an opportunity to evaluate the progress being made by pupils. To Jaspal, a learning walk was a formalised method of monitoring teaching and learning. The entry of the learning walk criterion in Jaspal's department minutes suggests that this was an important departmental practice, which served as evidence for monitoring practice thus promoting professional accountability.

Learning walks in Design and Technology departments had a judgemental outcome and, in some cases, they were used for developing colleagues' classroom practices, for without the ability to act, learning walks become a pointless exercise (Fisher and Frey, 2014). Across the case studies, differences emerged regarding how learning walks were used. The differences included participation by the schools' senior leaders, involvement of other staff, use of documentation and prior preparation by the subject leaders. Jim carried out learning walks in the company of a senior leader who advised on various department leadership issues. This relationship suggests that Jim was able to improve his knowledge and that of his staff and in turn improve teaching and learning across the department. This way of working was dependent on the line management structures, which are defined in the school hierarchy system.

Although Nikki, Jaspal and Jack had their school's senior leaders engage in learning walks, their role was clearly different from that experienced by Jim. Nikki viewed department learning walks by senior leaders as independent and disjointed from her monitoring work in the department. Jaspal communicated to the staff the outcome of the school's senior leaders' learning walks in the department and encouraged them to act on the feedback from senior leaders. Jaspal viewed the senior leaders' feedback on learning walks as vital in improving the practice of teaching and learning in the department. For, Jack the school's senior leaders set the schedule for learning walks and the record of evidence of completion had to be communicated back to them thereby upholding the school's culture on improving teaching and learning.

Jim, Jack and Jaspal aligned the learning walks with their schools' senior leaders' requirements. This meant that they worked alongside the senior leaders to ensure that staff in their departments were working towards both their school and department targets. This was seen with, for example, Jaspal who had to ensure that the staff was aware of the school's set criterion for learning walks which acted as a checklist. This approach suggests that Jim, Jack and Jaspal viewed their role in learning walks as that of a system checker. Nikki and Theo approached learning walks as unannounced, face-to-face opportunities for monitoring teachers. They drew on their individual knowledge and skills in conducting learning walks. Nikki would pretend to be doing something else in a colleague's classroom while she was observing their teaching.

However, Jaspal and Jack prepared their staff for learning walks and recorded their observations. Jaspal's and Jack's way of working was formal and upheld honesty in a professional environment. Unlike the other participants, Adam's approach encouraged collaboration in that other members of staff were delegated to complete



learning walks in their specialist subject areas. The outcome of the team-based approach was used to design learning opportunities for the entire department.

## **6.2 Similarities and differences in book reviews across the case studies**

This section discusses book reviews, the second sub-theme under the subject leaders' tasks in monitoring teaching and learning. In this study participants referred to book reviews using varying terms. Book reviews were respectively referred to as book checks and book looks in Adam's and Nikki's departments. In Jim's and Jack's departments book reviews were referred to as work scrutiny. Book review involved judging the quality of evidence of learning produced by pupils in written, verbal and/or in an artefact form. They also involved looking at exercise books to determine the quality of teacher feedback.

### **6.2.1 Using book reviews in subject departments**

Adam, Nikki and Jack expressed views that demonstrated their monitoring task in ensuring that pupils' books had teacher feedback. Adam explained how book checks were completed in his department:

Some of the on-going things like...book check type thing ...we share books...just to see what is going on and to see what feedback that has been given (Adam, interview)

Nikki explained it was her role to ensure that students' books were updated: 'I have to make sure...they [teachers] do all the feedback... (Nikki, interview 1). The excerpts show Adam's and Nikki's use of book reviews as a way of monitoring teachers' work. Nikki identified whether feedback had been given to pupils and was evident in their books. Both Adam and Nikki were of the view that book checks were a routine task, and it was their responsibility to check for evidence of teacher feedback.

Adam noted that book checks were judged based on the evidence that was presented during the exercise. Nevertheless, Adam stated, 'I always judge it from the basis of expecting everyone to be on board, oh yeah, I really want to do well' (Adam, interview). The comment appears to suggest that there were standards that pupils' books had to meet and that he expected accountability from department teachers. Therefore, Adam seemed to rely on the teachers' professionalism to complete what was expected of them.

Nikki appeared to suggest that it was her role to ensure that each pupil had responded to their teacher's feedback. This was in preparation for a further book review by senior leaders in her school. Nikki saw the book-look exercise as a demanding task that served the senior leaders' purpose, but she completed what the school's senior leaders asked of her. This approach suggests the role of the subject leader in establishing the school's senior leaders' policies in departments. Adam appeared to ignore the protocol when he stated, 'I do not do the book check thing' (Adam, interview). This approach to book checks highlights the issues facing subject leaders in choosing how they deal with the tensions between different functions of their role (Busher and Harris, 1999).

Adam encouraged staff to share books and see each other's practices. It seemed that Adam chose a more supportive approach where the teachers in the department were learning from each other rather than completing a checklist as required by the school's senior leaders. He encouraged department teachers to identify examples of work that could be shared, hence facilitating team learning. His approach suggests that subject leaders' staff development role involves building the capacity and competence of staff so that they can do their job more effectively (De Nobile, 2014). Adam may have trusted his team to identify what was good practice and share it

amongst themselves. This approach seemed to promote professional development and collegiality in which members of staff were learning from each other. Adam's approach also suggests that departments are more suitable for improving teaching and learning (Leithwood, 2016).

Unlike Nikki, who solely went through books to confirm that pupils had responded to teacher feedback, Adam's team brought 'a set of books in' (Adam, interview), which aligns with the view that monitoring of classroom quality could be dealt with as a collegiate responsibility as part of a collaborative learning exercise sought at improving practice for the whole team (Bennett et al., 2007). However, in describing their involvement in book reviews, Adam and Nikki used the term 'we'; for example, 'we share books...we have done...', 'we get book-looks giving an insight into how they saw themselves as part of their department teams. Adam and Nikki perceived themselves as part of the staff implying that the monitoring task applied to them as much as it applied to their colleagues. Jack, unlike Adam and Nikki, filled in a work scrutiny document to show evidence of teachers' marking and feedback on students' books. His comments were written in a work scrutiny rubric that focused on marking and feedback. It had a criterion against which examples of good practice and areas of development were identified.

A section of Jack's work scrutiny rubric is shown in Figure 6-3, which is congruent with the view that subject leaders' supervision role involves monitoring and reporting on the competency of individuals they have authority over and the quality of their work (De Nobile, 2014). Jack approached work scrutiny from a formal perspective that may have informed his department development plan and he completed the department's work scrutiny exercise to monitor the work of his colleagues. He provided a written response to support them in their marking and in giving feedback to pupils. This suggests that Jack saw his position as that of a subject leader who ensures that

students receive high-quality feedback and that he provided constructive feedback to teachers to improve their classroom practice (Leithwood, 2016).

Work Scrutiny Document - Marking & Feedback		Date: 23/09/16
Subject: <input type="text"/>	Carried Out By: <input type="text"/>	
Criteria	Examples of good practice	Areas for development
Is work presented in an acceptable way?	Many books have work labelled clearly and they are presented to a high standard	A few students are using A5 notepads for their note taking – all students need to be using A4 pads.
Is student's work marked regularly?	All students work is: Peer, self or teacher assessed. Some good practice is evident where students have initialled their self or peer assessment.	To make sure all work is clearly labelled so that there is a clear distinction. Staff to date when they give feedback to students.
Does the marking identify student's strengths and make explicit what they have done well?	Some good comments including: praise and identifying student strengths. Other examples identify clear ways to improve work.	Try and ensure a mixture of both strengths and ways to improve work in feedback.
Does the marking provide explicit guidance for pupils on how to improve?	Some very good practice here, but limited in the BTEC assignments due to the exam criteria	Give students an opportunity to practice assignment style homework which can have feedback on it.
Have students been given opportunities to revisit/correct aspects of work they misunderstood?	Yes, clear DIRT provided. Students initialling when they have revisited work.	Make more use of directed questioning in the marking of books

Figure 6-3 An example of a redacted form filled by Jack after completing an individual teacher's work scrutiny (Source: Institutional record- Work scrutiny document, Jack data set 8)

This formal way of monitoring teachers' work appears to suggest that Jack viewed his role as that of a quality checker. This was done by ensuring that Jack's department colleagues meet a set of agreed criteria, as indicated in the first column of Figure 6-3, followed by a list of suggested areas for improvement. Unlike Adam who approached book reviews from a collective learning stance, Jack's method of providing feedback to colleagues implies the supervision role of subject leaders that focuses on the competency and quality of individuals (De Nobile and Ridden, 2014). However, other studies have suggested that subject leaders do not want to be seen to be evaluating other teachers' work (Wise, 2001; Ghamrawi, 2010).

### **6.2.2 Subject leaders working with the school's senior leaders on book reviews in subject departments**

Nikki facilitated book review monitoring exercises in the department on behalf of the school's senior leaders. Nikki explained that:

we get book looks...they monitor the books...the book look I do feel they are very constant. (Nikki, interview 1).

From this extract, Nikki noted that as a subject leader, part of her role in the book-look was to ensure that books were 'up-to-date' for senior leaders to have a look at. Even though the book-look exercise occurred on a fixed time and day, Nikki disliked the idea as she explained that 'every Friday morning we have to leave our books...it's a lot' (Nikki, interview 1). Nikki's comment could suggest that she was defending her staff from the excessive workload imposed by senior leaders.

Nikki's view seemed to suggest that book-looks by the school's senior leaders were neither developmental nor necessary for the staff. Hence, she was critical of the school's senior leaders (Bassett, 2016). She perceived that the senior leaders' requirements on book-looks were insistent. It seemed that Nikki considered collating the books for the senior leaders as troubling and less meaningful. Her assertion that 'it is constantly on your mind' indicates that the task had to be completed, no matter what. Nikki's involvement in book-looks is consistent with findings that a subject leader's ability to coordinate the work of a team of staff and understand wider school issues were also vital to subject leadership work (Poultney, 2007).

Nikki felt the weekly book-look exercise was excessive and 'it is something that I wish I could just forget' (Nikki, interview 1). Her view may correspond to the idea that senior leaders view department heads merely as conduits for their own initiatives and leave little room for department-head initiatives (Leithwood, 2016). Nikki seems to have felt pressured by being constantly scrutinised and given tasks to complete on behalf of the school's senior leaders. To Nikki, the extra workload was an issue and her views conflicted with the senior leaders' frequency in monitoring teachers through book-looks. Her position on book reviews corresponds with the view that monitoring work

is equated with accountability and surveillance by many teachers rather than issues of equity and quality (Wise, 2001).

Jim encouraged the senior leaders' agenda on book reviews in his department. I saw Jim and his team undertake a work scrutiny exercise where they looked at the work that had been produced by pupils over a period. Each staff member including Jim brought a selection of books. This way of working was also close to Adam's approach in using book reviews to identify good practice in the department. Jim's team worked individually to identify how assessment opportunities were presented in pupils' books. During the work scrutiny exercise, each staff member completed two documents after looking at examples of Key Stage 3 pupils' books and A-level Design and Technology coursework folders. Jim explained to his team that the functions of the assessment work scrutiny document (see Appendix 18) had originated from the school's senior leaders. He explained that the document had to be sent back to the senior leaders after populating it with the required information. One aspect of this work scrutiny was that the school-wide policy was passed on to the subject leader who then worked with his colleagues to implement it.

In addition, Jim confirmed that this work scrutiny exercise was not a one-off task that was directed by the school's senior leaders, but it occurred often:

It could be that some meetings are taken up purely by something that has been passed down from above. You know, it might be we have got to look at data and we have got to do some analysis... (Jim, interview 1)

This extract shows the hierarchy system that was in place in Jim's school. It appears that departmental business was sometimes shelved to deal with the senior leaders' agenda. Jim, unlike Nikki, appeared to accept the senior leaders' demands and steered his department to work on them. His involvement in work scrutiny at the

department level implied responsibility for receiving messages and interpreting them and then deciding what to do with that information (Paranosic and Riveros, 2017). Jim appeared to be in favour of the procedures put in place by the senior leaders whilst Nikki was averse to her school's senior leaders' approach to book-looks.

The senior leaders in Jaspal's school completed the book review exercise and the subject leader's role appeared to be that of discussing the outcome with staff members. Jaspal shared a record of the department meeting minutes and one of the entries was a commentary on a book review exercise that was completed in the department by a senior leader (see Figure 6-4.)

**1. Book review - how's it going? - [REDACTED]**

It was reported that interim data suggests that there is a lack of pupil responses to feedback. It was suggested that it would be best to ask pupils to complete responses in lesson time as completion rates are poor when students are asked to complete this for homework. It was also suggested that an acknowledgment of a student completing the feedback request (completing purple penning) would be best practice.

**Figure 6-4 Jaspal's book review document (Source: Institutional record - Department meeting minutes, Jaspal data set 4)**

This document extract lists some examples of practices that were identified as lacking during a book review exercise and a set of requirements that had to be in pupils' books to generate a favourable outcome. The tone used in the extract appears to report an exercise that was used to check conformity. For Jaspal's department, the book review exercise showed a lack of consistency amongst staff regarding the quality of feedback and student responses. Jaspal saw it as his role to communicate the outcome of the senior leaders' book review exercise. He also kept staff informed of the scheduled book reviews. For example, an entry in Jaspal's department meeting minutes (see Figure 6-5). This entry identifies a time for the book review exercise and mentions two points of focus. It also identifies the senior leader who was to conduct the review.

### **Art Department Book Review**

This will be conducted by [redacted] at various points throughout next week. Focus will be on quality of feedback and student responses.

**Figure 6-5 Jaspal's book review schedule (Source: Institutional record - Department meeting minutes, Jaspal data set 5)**

This suggests that Jaspal acted as a mouthpiece for the senior leaders' work in his department. In informing the staff and discussing the school's senior leaders' judgement on the department's book review outcome, Jaspal appeared to involve them in the shaping of departmental policies that were in line with the goals of the school (Leithwood, 2016). This affects the work of subject leaders who play a major role in the development of school policy and practice (Teacher Training Agency, 1998). This practice was employed by Nikki, Adam and Jim who appeared to provide direction and exert influence in their departments to achieve their schools' goals (Leithwood and Riehl, 2003).

Adam, Nikki, Jack and Jaspal showed differences in book reviews, which was exhibited in their purpose, approach and role as subject leaders. Nikki felt that her role was insignificant but demanding. Nikki's engagement was as a response to the school's senior leaders' expectations rather than a self-directed role in the leadership of the department. Jaspal was tasked with informing staff and discussing with them the outcome of book reviews following senior leaders' scrutiny. Therefore, Nikki's and Jaspal's roles were those of interpreters of the school's senior leaders' policy which demand observance of whole-school policies to generate coherence across departments (Bennett et al., 2007). This may generate a disjunction and could impede departmental growth.

Nikki's and Jaspal's roles were congruent with the view that senior leaders have a role in monitoring and reviewing the work of the department, which appear to diminish the subject leader's authority (James and Hopkins, 2003). The participants engaged



in book reviews to raise the quality of teaching and learning in their departments. Adam and Jim completed them as a joint exercise with departmental teachers, whilst Jack completed it on his own. Subject leaders displayed varying approaches in developing their colleagues' classroom practice to raise the quality and outcome of book reviews. Adam facilitated a collective approach with his team while Jim facilitated an individual approach to the task. The data also showed differences in how subject leaders viewed their role in these reviews. Jim appeared to guide his team in responding to the senior leaders' agenda on book reviews whilst Nikki was buffering her team from what she considered as excessive demands by the school's senior leaders.

### **6.3 Similarities and differences in lesson observations across the case studies**

This section discusses lesson observations, the third sub-theme under subject leaders' tasks in monitoring teaching and learning. Lesson observations are judgemental visits to lessons and are sought at evaluating performance to find out the quality of teaching and learning in classrooms (De Nobile and Ridden, 2014). The data collected suggests that, like learning walks, they can be either formal or informal. The participants explained that lesson observations took between half a lesson and a whole lesson, and they played various roles in the visits. These roles were perceived differently by the participants.

#### **6.3.1 Lesson observations in subject departments**

Nikki used lesson observations to confirm her views on her colleagues' quality of teaching. It appears that her lesson observations were a tick-box exercise since she already knew about her colleagues' classroom practice. She stated, 'observations, I do it once a term' (Nikki, interview 1). This comment may imply that she was already

aware of the level of classroom practice for each member of staff in the department. This could be attributed to her approach in understanding the staff performance through more frequent learning walks. Therefore, Nikki's lesson observation task appeared to be a one-off formal task in a term. This suggests that it was for accountability rather than for developmental purposes. Although lesson observations were a termly exercise, Nikki's language seemed to exude confidence because she frequently visited colleagues' classrooms during learning walks which could have helped her to build a measured view of her colleagues' classroom practice.

Nikki appeared to view it as her role to keep track of departmental teachers' performance. Therefore, when it came to lesson observations, Nikki felt she had a good picture of the quality of teaching in the department. Her approach to lesson observations exemplified the view that subject leaders are aware that monitoring will damage good working relationships with team members (Wise, 2001). However, going into a lesson observation with a preconceived judgement impaired the need for the subject leader to develop a method of creating a setting where teachers would accept monitoring of their work to support their own improvement (Busher and Harris, 1999). This was not the case with Theo who described an open view towards lesson observations with no presumed conclusions.

Theo, like Nikki, completed termly lesson observations in his department:

Every member of staff gets three lesson observations per year. (Theo, interview 1)

Theo expanded on how he thought his department colleagues responded to lesson observations, by claiming that 'I think we are very open in that regard'. Theo's view supports the notion that teachers who work well together as a team sustain the aims of the subject and understand how they relate to the school's aims (Teacher Training

Agency, 1998). His position also aligns with the view that subject leaders can bring their departments to another level of performance through developing a common purpose and commitment amongst department members (Dinham, 2007).

Unlike, Nikki's approach to lesson observations, Jaspal took a developmental approach as shown in a lesson observation record (Figure 6-6). Jaspal carried out lesson observations in his department and completed a log. This document shows that Jaspal monitored the work of teachers in the department and kept an official record of it. A detailed range of expectations is listed under the comment section with significant developmental comments.

Person observed: [name withheld] Observation by: [name withheld]  
Date: 04 Jul 2018 Class: 10  
Subject: Technology Lesson/Period: 2 Linked to management reports? Yes  
Linked to [ABC]? No Submitted: 05 Jul 2018  
**Strengths**  
A very good and enjoyable lesson, with high quality teaching.  
Relationships in class. Pupils respectful.  
All pupils thought that the use of Sites helpful and easy to use.  
**Areas for development**  
Too teacher led? Perhaps let the students deliver some of the content.  
Give the students Thinking Time –  
**Comment:**  
[name withheld] provided observer with full data. Copies of slides, lesson plan, class photos and seating plans. Excellent context sheet showed good understanding of the class and very helpful for the observer. Greeted pupils at the door. Efficient start "do now activity" on the board. Very well structured lesson. Slides clear and not over busy. Easy to read from back of classroom. Support assistant used explicitly. Understood her role in the lesson had folder with students data said that [name withheld] directed her to support different pupils at different times. Ensured health and safety "let's tie our hair up". Provided capacity for pupils to completed homework in T1 before or after school. Potentially difficult class was very calm and purposeful. [name withheld] circulated supported students throughout the lesson.

**Figure 6-6 Jaspal's lesson observation document, Source: Institutional record - Lesson observation record, Jaspal data set 7)**

Jaspal's completion of lesson observations appears to show his understanding of expected classroom practice. The evidence contained in this document aligns with the view that subject leaders will have mastered the craft of teaching and will be experts in developing the learning of children and students (Brundrett, 2004). Jaspal's role in conducting lesson observations and giving feedback to his staff shows practice

in ensuring that colleagues are aware of wider school expectations (Bennett, 2006). Jaspal's style made it possible to align Design and Technology teaching policies with those of the school.

Using a structured lesson observation document meant that Jaspal kept records of lesson observations. This approach seems to suggest that Jaspal viewed his role as that of ensuring the quality of teaching and learning in the department was monitored and evidence was available. Individual feedback was accessible to department teachers. Jaspal's lesson observation proforma (see Appendix 11) originated from the school's senior leaders. The document was filled in each time he carried out a lesson observation. It is noticeable that Jaspal's use of lesson observations to determine the quality of teaching and learning was like his learning walks. This could imply that Jaspal used learning walks and lesson observations to complement each other in enhancing the quality of classroom practice in the department.

### **6.3.2 *Sharing of good practice in subject departments***

Jack's development plan document shows that formal monitoring in the department included lesson observations. The senior leaders in Jack's school were responsible for drawing up a schedule for lesson observations, as was the case with learning walks. However, Jack like Nikki, Jaspal and Theo completed lesson observations in his department. Therefore, his role was to identify the quality of teaching and learning in the department. Acknowledging good practice that was seen in the work of department members was important to Jack.

Jack created opportunities and encouraged staff to share good practice, 'with the other members of the department something I have seen in their lesson observations' (Jack, interview). This shows that Jack used lesson observations to define and

sustain collegial subcultures by ensuring that staff operated as socially cohesive communities where all members worked collaboratively (Busher and Harris, 1999). Jack's approach is in line with the view that subject leaders use various sources of power and most successfully achieve their target by working with and through colleagues (Busher, 2005). Jack's emphasis on the importance of staff being able to share their successes confirms that the central task of the effective subject leader is to create a culture of trust in their departmental teams that will make it possible to discuss issues of practice (Bennett, 2006).

Jack had recently joined the school as the subject leader department and doubled up as senior leader. During the interview, he had expressed how difficult it had been to build a cohesive team. Jack viewed it as his role to identify and create opportunities for staff together. Jack's strategy of 'getting some of the teachers to talk' (Jack, interview) corresponds to the view that middle leaders work closely with the teachers in the department and leverage on the strengths and expertise of different teachers to work on the department's plans to draw out the best from the teachers (Koh et al., 2011).

Jack's role in lesson observations was to ensure that members of staff in the department were given a chance to share best practice and enable others to grow professionally by discussing their examples of good practice. Jack saw it as his responsibility to create opportunities for the staff to interact and grow professionally. Departments are cohesive with members meeting frequently, formally and informally (Bennett et al., 2003). Like learning walks, the interviews and institutional records showed that lesson observations were used to monitor teaching and learning and used to develop teachers' classroom practice. For example, after observing lessons and filling a form to show the flow of the lesson, Jaspal and Jack made a judgement on various aspects of the observed lessons. This resulted in Jaspal and Jack using

lesson observations to identify areas of further development for individual members of staff. In carrying out lesson observations Jack and Jaspal saw it as their role to monitor the quality of teaching in their departments.

Lesson observations were also used to identify the quality of teaching and learning, by spotting good practice and confirming good practice in the departments. This can be exemplified by Jack's view of his role as that of facilitating his staff to share examples of good practice that he had identified during lesson observations. Jack saw it useful to create opportunities where members of the staff in his department would celebrate each other's success. Nikki saw lesson observations as opportunities for confirming the quality of teaching in her department. Jack, Nikki and Jaspal individually completed termly lesson observations in their departments. This approach gives the impression that subject leaders completed monitoring exercises as part of their many leadership roles.

#### **6.4 A CHAT analysis of Design and Technology department leadership tools: Mediating subject leader's leadership practice**

This section identifies tools and considers how they were appropriated by subject leaders in their Design and Technology leadership activity system to mediate the work on the object of the activity. The discussion answers research question one that asked how tools are used and appropriated by subject leaders in Design and Technology department leadership activity systems. Tools or artefacts mediate subjects' work on the object (Lee, 2011). The process of adopting tools in particular environments 'when working on an object is referred to as appropriation' (Wertsch, 1998, cited in Douglas, 2017: 852).

The analysis of tools is based on the understanding that subject leaders' interaction with the world depends on their understanding of the object. This influences the

choice, interpretation, significance and meaning of the mediational tools (Foot, 2001). Each participant perceived and took up tools according to their importance to the object of the activity. This take-up of tools leads to creating a possible relationship between the object of the activity system and how the tools are used. How each tool is used in the Design and Technology department leadership activity system reveals something about the relationship between the subject leaders and their object at the point at which the tool was appropriated or created (Foot, 2014). To understand the appropriation of tools by subject leaders, the chapter also considers the Design and Technology department leadership activity systems' objects.

In discussing the findings, participants are divided into two sets of three for comparison. Analysis from the data identified examples of tools being used by them. These examples are used to enable a discussion on how subject leaders view the object of their department leadership activity system. By identifying tools and how they are appropriated, CHAT helps analyse what the tool says about the subject leaders' perceptions of their roles and the object of their department leadership activity system. Therefore, understanding how subject leaders see the object in the activity of sustaining and developing Design and Technology in the secondary school curriculum is possible by analysing how they use tools in the activity systems.

#### ***6.4.1 Tools in use in Design and Technology department leadership activity systems: Nikki, Adam and Jaspal***

Where subject leaders were seen to work with the staff to improve collective classroom practice; for example, on the quality of teaching and learning in their departments, tools were appropriated for sustaining and developing the work of their Design and Technology departments rather than for monitoring and accountability. Some of the tools used in monitoring were specifically developed by individual subject leaders while others were broadly available to them through their school's hierarchical

organisational structures. However, the appropriation of tools differed from one subject leader to the other, for they used tools in ways that suited their leadership tasks in their unique department social contexts. This uniqueness is seen in Design and Technology department leadership activity systems where the tool that is the book checks (work scrutiny) was appropriated in multiple ways concerning teaching and learning.

Adam's book checks were used in a way that was specific to the professional development needs of his staff. He appeared to reject the book check tool as presented by the school's senior leaders. He explained that the senior leaders expected book checks to be used for accountability. However, Adam saw book checks as a way of sharing good practice rather than a tick-box exercise to check conformity. Therefore, the reason for Adam's rejection of the tool as presented by the school's senior leaders was to emphasise identifying and sharing good practice amongst the department team. The subject leader saw the book check tool as a way of giving teachers in the department an opportunity to collectively improve their classroom practice. This was achieved through evaluation and discussion of each other's pupils' books.

Adam used book checks in a developmental way and as an opportunity to encourage teamwork in the department. Although Adam was aware of the schools' stipulated use of book checks, he chose to use departmental book checks as a developmental tool to harness the different classroom practices that were exhibited by the staff. Adam saw book checks as an opportunity for shared learning for his department colleagues. He believed looking at each other's books enhanced the department's team learning. This approach did not align with the school's purpose for book checks as a method of formal monitoring, which was a way of checking teaching quality.



Consequently, the appropriation of the tool that is the book check as a means of sharing good practice reveals that Adam viewed his role as that of a facilitator of team learning rather than tick-box marking to check compliance. By appropriating the tool this way, Adam creates an opportunity for the team and himself to learn from each other as they reflect on their own practice. Adam felt that using the book check tool this way made sense to him through supporting and developing each other's practice. Therefore, the book checks enabled mediation of the department's work through the subject leader. Adam was motivated to use this tool this way to refine practice in the department, which contrasts Nikki's view of a similar tool in her school. Nikki saw book-looks as being to monitor and ensure accountability.

Nikki implied that the tool that is the book-looks originated from the school's senior leaders. She questioned why she had to carry out book-looks on behalf of the senior leaders, yet the task was not useful to her work in the department. However, Nikki completed what the school's senior leaders directed her on the book-looks although she attributed little value to it. According to Nikki, using the book-looks tool was unnecessary and hardly contributed to the work of the department. The extract below explains how Nikki viewed the use of the tool:

Another thing is the book look....you know once a week...I have to make sure, their [department staff] books are up to date even though they should be.

(Nikki, interview 1)

Nikki's role was to ensure that the department's pupils' books met the senior leaders' requirements. It was evident from the interview that Nikki saw the purpose of book-looks as that of checking conformity. Nikki shows resistance in using book-looks and viewed them as formal, procedural and a way of unnecessarily inspecting the work of teachers.

Consequently, Nikki considered the book-looks tool as an extra workload that she had to complete in the department. Nikki's view that 'if it happened once a term, I know that would be great...not to worry about' (Nikki, interview 1) suggests that the subject leader would differently engage with the tool; for example, as a useful source of supporting teachers' classroom practice. The subject leader expresses frustration at the lack of flexibility, the numerous occurrences and the approach used in carrying out book-looks. This recognition could imply that Nikki saw the book-looks tool as limiting her work in the department rather than as a way of improving the work of the department.

Nikki disagreed with the school's senior leaders on the process that was used in book-looks. This could be viewed as a contradiction in the Design and Technology department leadership activity system. The disagreement is on how book-looks were used to monitor, and quality assure the work of department teachers as opposed to a supportive tool in the department's work through the subject leader. Nikki explained that the only reason she engaged with the book-looks was that the senior leaders expected her to do it. This suggests that the book-look tool worked as a rule in the department leadership activity system. That is, book-looks in Nikki's department met the school's senior leaders' need for measuring accountability in the department rather than the subject leader using them for developing the work of the staff. This example of tension illustrates how interacting systems may have contradictions when working towards an object.

Nikki viewed her role of ensuring that departmental teachers' books (these were pupils' books) were ready for inspection by the school's senior leaders as that of a conduit between the two (Design and Technology subject teachers and the school's senior leaders). Therefore, the subject leader treated book-looks like rules. Treating the book-looks tool like rules means they were appropriated in a regulatory way

(Douglas, 2015). Rather than being seen as an opportunity to support teaching and learning in the department, book-looks were viewed as a task that needed to be completed in readiness for the next round of inspection. Therefore, book-looks worked as a rule, which is an element in the activity system, rather than as a tool mediating the work on the object. Consequently, Nikki's focus on the book-looks was an administrative issue that decreased an emphasis on the department's team development.

Similarly, differences appear in the way Adam, Nikki and Jaspal viewed and used learning walks. Jaspal's monitoring of teachers' work in classrooms to ensure they met a set of agreed requirements and filling a proforma, could suggest an adherence of the subject leader to the school's policy of monitoring and checking compliance. Therefore, the subject leader appropriated learning walks as a rule, rather than a developmental tool in the work of the staff. The walkthrough proforma, as a physical tool, appeared to replace opportunities for encouraging staff to learn from each other. Teachers in the department requesting the walkthrough criteria may indicate that meeting the criteria was more important than their working together to improve their own practice.

Therefore, the purpose of walkthroughs in the Design and Technology leadership activity system, in which Jaspal was a subject, was to establish monitoring and accountability rather than to improve the work of the department through the subject leader. A department meeting document entry showed that teachers in Jaspal's department also asked for a walkthrough proforma to familiarise themselves with the required criteria. A list of bulleted points showing the requirements for a successful walkthrough was recorded in Jaspal's department meeting minutes record. The tools that were appropriated in Jaspal's department meeting were the meeting's agenda items and the walkthrough criterion. The walkthrough criterion acted as a rule in the

department leadership activity system. This is because Jaspal used the walkthrough criterion to highlight the requirements to be met during learning walks. Likewise, department meetings in Jaspal's department appear to be appropriated as a tool to communicate the school's expectations.

Nikki, unlike Jaspal, did not inform her colleagues of her intentions to visit their classrooms. Nikki's classroom visits in form of learning walks were completed discretely, that is without giving prior notice to the department colleague being monitored. Nikki spoke in terms of how she unobtrusively completed learning walks and was of the view that she walked into colleagues' classrooms without making them feel uncomfortable. This afforded Nikki, more time in her colleagues' classrooms to watch their classroom practice. This way of working exemplifies a somewhat duplicitous approach to her role. Nikki viewed it as important for her to confirm how department teachers were teaching by her presence in classrooms. However, her approach appeared to constrain meaningful interactions with the staff. The reason for using the learning walk tool this way appeared to be for accountability purposes in the Design and Technology leadership activity system.

#### ***6.4.2 Tools in use in Design and Technology department leadership activity systems: Jim, Jack and Theo***

Jim saw it as his role to encourage the professional growth of his staff, which suggests that he supported team participation and their own learning. He believed that department meetings were an opportunity for improving collective practice and used them as a tool to mediate the work on the object of in the activity, sustaining developing the Design and Technology. The object in the department leadership activity system appeared to be about working collectively to improve team learning in the department, whether it be presenting to others something they have researched on or working together on Key Stage 3 schemes of work.

Jim viewed department meetings as a tool for shaping the practice of members of staff. He saw his role as encouraging staff to try new classroom practices consistent with their own interests. This approach was intended to encourage staff to draw on their own experience as teachers and develop themselves and each other in, for example, pedagogical research findings. Promoting such collaborative work indicates that the subject leader acknowledged the importance of team building. Jim was flexible in how he used department meetings as a tool by introducing discussions as a way of informing the staff about school goals.

The flexibility with which Jim used the department meeting tool suggests that he promoted the school's senior leaders' agenda within the department. This involved directing the staff to work on the school's senior leaders' directed tasks. This suggests that the object of the Design and Technology leadership activity system was partially shared with that of the school's senior leader's activity system. Contestation was not apparent with the way the subject leader granted time for the school's senior leaders' agenda during department meetings. Jim also continued to work on the school's senior leaders' agenda as part of advancing teaching and learning in the department.

This shows the extent to which the Design and Technology department leadership activity system interacted with the school's senior leaders' activity system through the work of the subject leader. Jim's appropriation of department meetings as a tool for building a department culture allowed staff to mutually review and develop. However, Jim also used department meetings as a tool to push the school's senior leaders' expectations to the staff. The appropriation of the department meetings tool in Jim's leadership activity system encouraged change and growth in classroom practice.

Jack shared a similar approach to Jim while appropriating the tool that is the department meetings:

As I said before, the meetings we have can be a little bit frosty ...I have had the opportunity to get some of the teachers to talk about their lessons. (Jack, interview)

This reveals how department meetings were appropriated by Jack to establish productive working relationships with the staff. Jack sees his role as that of identifying the changing aspects of his staff and creating opportunities to build trust with and amongst the staff. Jack appropriated the department meetings as a tool to demonstrate good practice by recognising individual staff member successes. This suggests that the purpose of the leadership activity was to sustain Design and Technology by developing the work of the department through the subject leader.

Theo's role appeared to be about ensuring that work in the department met the school's senior leaders' requirements. He explained that he encouraged staff to develop their schemes of work around what they enjoyed most, rather than being directed to follow a specific plan. This way was unusual in comparison with the other subject leaders and could be because the department had high staff turnover and its very existence in the school was under threat. The tool that is the open-door policy was appropriated to allow the staff to learn from each other's practice and to mediate the object of the development of collaborative work. This mediation of the work on the object was illustrated in how Theo encouraged his staff to visit each other's classrooms by 'working and helping alongside' (Theo, interview 2).

The way Theo encouraged staff to work together was different in comparison to Jack's or Jim's approach to classroom visits. During Theo's department meetings each member of staff was allocated a specific task in dealing with pupils' affairs for example 'letters home...calls home...discipline...detentions' (Theo, interview 1). The

department meeting tool was appropriated this way to ensure that the school's requirements for the department were met. The department meeting tool was used to check compliance rather than developing collective learning as it was used in Adam's Design and Technology leadership activity system.

Theo mentioned the existence of a departmental handbook, which guided his work in the department:

I set out of everything that is expected in advance with the deadlines. For instance, we work on an eight-week rotation...when the rotations happen...who goes where also when any information is sent to admin to change the registers and data to be updated accordingly. (Theo, interview 1)

The handbook appeared to be a point of reference for Theo, and he was aware of its importance in defining the activities of the department. The department meetings and the handbook could be seen as tools that were creating a discussion point between the subject leader and the staff and linking them to the requirements by the school's senior leaders. Therefore, the handbook and the department meetings were tools that mediated work on the object of collaborative working in the department.

## **6.5 Summary on subject leaders' monitoring of teaching and learning and Design and Technology department leadership tools**

This chapter presented the first theme on subject leaders' monitoring tasks in leading teaching and learning. The sub-themes discussed were learning walks, book reviews and lesson observations. The discussion showed each participant viewed their leadership role in monitoring teaching and learning differently. The views held by the subject leaders regarding specific monitoring tasks guided the approach they took. For example, some subject leaders saw learning walks, book reviews and lesson observations as a way of holding staff accountable. Thus, their practice could be understood from their unique departments.

Learning walks were used to monitor teachers' classroom practice and identify opportunities for professional development. Subject leaders who completed learning walks on their own such as Nikki appeared to promote openness and depended largely on their individual experience. She hoped to create and maintain a friendly relationship with the staff in the department. In another subject leader's view, staff participation in learning walks appeared to support collaboration and team learning. Adam, who promoted such practice was more open to delegation and let their staff identify what they considered as good practice. This way of working showed the subject leader's leadership in improving team learning and working towards a shared vision.

Some subject leaders reported that senior leaders in their school carried out learning walks and book reviews in their departments. The subject leaders in turn discussed the outcome with their staff. This appeared to confirm the position of the subject leader in their school hierarchy, where the senior leaders worked with the subject leaders who in turn cascaded information to the classroom teachers. This approach depended on the managerial experience of the subject leader, who then employed their interpersonal skills to align their staff with the schools' goals in teaching and learning. Working this way meant that subject leaders such as Jaspal and Jim perceived their leadership role as facilitating communication between the department and the school's senior leaders.

Subject leaders differed in the way they completed book reviews and how they were completed in their departments. Nikki, Jim and Jaspal worked with their school's senior leaders to complete book reviews. However, Nikki resisted the school's senior leaders' approach and felt that it was punitive. Her view was that book reviews should be less constant so that they can be more meaningful sources of improving teaching



and learning. Jim and Jaspal steered their staff to accept their schools' senior leaders' book review initiative, which they felt was an essential source of support in leading their departments.

Subject leaders differed in how they used lesson observations. Jaspal and Jack completed forms and kept a record of the lesson observation, which was then followed by a developmental session with the observed individual to plan the impact on their teaching. This formal approach to lesson observations depended on the subject leaders' expertise and experience in classroom practice. Jack brought his staff together and gave them opportunities to share the observed good practice. This approach suggests the subject leader's ability to organise opportunities for discussion and collective learning on various aspects of classroom practice.

This chapter also presented an analysis of the first CHAT-specific question that asked how tools are used and appropriated by subject leaders in Design and Technology department leadership activity systems. The discussion indicates differences in appropriation while working towards the object of the activity systems which reflects the unique characteristics of departments. Subject leaders who developmentally appeared to appropriate tools worked towards building collective team learning in their departments. For example, Adam's leadership appeared to be about building a team approach to the work of the department.

This view of the object was different from that of the subject leaders who appropriated tools to monitor and supervise the work of teachers in the department. For example, the tools in such departments were appropriated in a restrictive way; for example, to check compliance and monitor the work of teachers. The tools were restrictive in that they acted as rules in the activity systems; this is because they were appropriated in

a regulatory way (Douglas, 2015). This was evident in Nikki's leadership where the activity system's tools acted as rules rather than being used in a developmental way.

## CHAPTER 7

### DATA ANALYSIS: SUBJECT LEADERS IN BUILDING RELATIONSHIPS

#### 7.0 Introduction

The focus in this chapter is the subject leaders' way of working through interactions in a Design and Technology department social context. They encompass a range of activities involving the subject leaders and members of the teaching staff, pupils, teachers in other departments and the school's senior leaders. They are carried out in the social contexts of departments as places of leadership and form the basis for building relationships. Leadership is established in the interaction of others in social situations. The social situation is a product of cultural history in which individual histories come together (Douglas, 2015).

The chapter discusses the second theme that emerged from the initial thematic analysis, that of Design and Technology subject leaders building relationships with their department colleagues and the senior leaders in their schools. Department teamwork was seen as the most important element in building relationships between subject leaders and staff which the subject leaders considered as important to their work. A CHAT analysis of the theme is presented to answer the second research question and considers the Design and Technology department leadership activity systems objects, which were the core of the activity of sustaining and developing Design and Technology. In discussing the objects of the activity, the analysis gives an awareness of the cultural and social practices of the department.

Relationships were seen by subject leaders as a major influence on the departments' quality of teaching, pupil learning and consistency in approach to policies. This chapter captures the participants' views of how and why they were building

relationships with department colleagues and the senior leaders in their schools. Section 7.1 presents a discussion on subject leaders' relationships with the department colleagues. Section 7.2 looks at their relationship with their schools' senior leaders and Section 7.3 discusses the theme through the analytical lens of CHAT, thereby answering the second research question about how Design and Technology subject leaders understand the object and outcomes of their leadership activity systems.

### **7.1 Subject leader's team building with the department colleagues**

The participants' way of building relationships with their colleagues was through face-to-face meetings. The physical location of the teachers in the department mattered when it came to the frequency of interaction. The data showed that the level of team building varied from one subject leader to another. However, the importance of building a stable department team cannot be underestimated as good department leadership strengthens the bond between individual teachers and teachers collaborating in departments (Hofman, et al., 2001).

All the participants expressed their awareness of the importance of building a cohesive staff that worked as a team. They saw it as their role to maintain a working department team and move it towards the desired vision. This awareness aligns with the view that their leadership role has to do with influencing the attitudes and behaviours of others (De Nobile, 2014). The data presented in this chapter capture how the participants viewed what they were doing in forming relationships with others in, for example, motivating and persuading others to follow a policy or get involved in implementing new ideas (Anderson, 2004; Hammersley-Fletcher and Brundrett, 2005 cited in De Nobile, 2014: 8).

### **7.1.1 Establishing teamwork**

Subject leaders maintained good relationships with their staff through team building and teamwork, which appeared to work towards a collective vision. There had been many staff changes in Adam's department, which appeared to hamper his efforts towards building a supportive team to achieve a desired collective vision:

I don't really run the faculty in a kind of dictatorship... I am slowly trying to build again in vision of where we are heading...I think we are all kind of committed. (Adam, interview)

The supposed role of the staff and an awareness of a leadership model was indicative of Adam's view about the need for a stable department. This was pursued through building a team that would work towards a shared vision. Although Adam saw the value of teamwork in the department, the extent to which the staff worked together was hindered by the physical location of the department's rooms. Adam was in favour of a team that was physically located close to each other. The inclusion of all the members of the team meant that 'we are trying to work together' (Adam, interview). In this way, department policies were implemented by a collective approach to prevent conflict.

However, Adam acknowledged that there were inherent challenges to teamwork due to the disruption that was caused by the departure of teachers in his team. To Adam, the relationship between colleagues was important which suggested that he valued collegiality. Despite the challenges from a high staff turnover, he explained how he was continually building a long-lasting team regardless of the interruptions:

We were working so well in that way until we had four members of staff kind of leave...having three new members of staff in that have different experiences ...different I guess attitudes...different views on how things

should be done... prior to that we had only people joining on an individual basis which makes it very manageable integrating somebody into your way of working...and things and quite often they are NQTs as well and so they were quite agreeable. (Adam, interview)

Adam was aware of the difficulties of rebuilding his team having previously accepted new members into it. However, he accepted that he was, 'still finding [his] way' on how to approach the challenges posed by a significant number of new teachers with different attitudes and views. He explained that integrating several teachers into an existing team was much harder than a single person joining the team, especially if they were Newly Qualified Teachers (NQTs).

Adam viewed as his role the building of a Design and Technology department team and finding ways to integrate new teachers to strengthen the work of the department. Adam's approach and perceptions in team building suggest that subject leaders encourage a group of staff to cohere and develop a group identity (Busher and Harris, 1999). Adam indicated that team cohesion was important in his department and once it was broken, the task of rebuilding it was challenging. To Adam, differences in teaching experience, personal attitudes and views were hindered in building relationships in the department.

Jack appeared to take a similar view to Adam regarding the uncertainty caused to a department team when teachers leave. Jack had challenges with staff leaving his team as he observed that:

When the teachers are no longer here anymore when they left...they literally left one day...gone the next day and so they left a lot of unfinished work. At least three left...one day and then gone...and they left units unfinished and...one teacher left literally in the middle of the lesson...it would have

caused the rest of the department stress and we are still sort of suffering a little bit because we still got to pick up this missing work somehow... So, I can understand why they are feeling stressed, angry, irritated and cross and all that sort of thing...I tried to make myself you know less intimidating for them...I didn't want them to think you know I come knowing all of the answers. (Jack, interview)

Jack describes the distress that his team endured following the abrupt departure of several teachers which destabilised his team, particularly in terms of consistency to his approach to department policy, which in turn affected staff morale. Jack's reorganisation of his team's workload brought contestation in the department. He felt the need to create a situation that was established in a culture where he was viewed as empowering, encouraging and considerate. This way of working suggests Jack's fear of disintegrating the team further.

Jim explained that having a desired vision was essential for him as a subject leader. Jim displayed a familiarity with several models of leadership (Bush, 2008) and suggested that he interchangeably used the concepts in building his team. He reflected on his understanding of building relationships with his Design and Technology team of teachers:

I would say probably once the department was established it was definitely democratic leadership mixed with strategic. I had strategic thinking first and then so...what I tended to do is at the beginning of the year I say here is the vision to the year...this is how I see where we need to be as a department...these are the main points and then the sort of meetings after that would be more democratic in a way it was developed...later on it became classic leadership style...it became more facilitative later on...but a few times

it had to be more autocratic that was only with when staff we have had staff failing in some way but I...that wasn't really often. (Jim, interview 2)

Jim's views are drawn on typologies of leadership which he drew on in steering his team towards a shared vision (Bush and Glover, 2003). He disclosed the styles that he had used in his department but encouraged others in the team to lead, 'so it wasn't all coming from me' (Jim, interview 2). Inviting others to lead was viewed as a way of improving teamwork and the staff's commitment to the department's work. Adam, Jack and Jim saw their roles as pursuing in their departments' shared vision. Their approach could suggest that a shared vision is increasingly regarded as an essential component of effective leadership (Bush, 2008).

Nikki had established a system of interacting with his staff. However, like Adam she explained how building a cohesive team was difficult due to the physical location of one of her colleagues:

the only issue is the art department...that teacher is isolated...because she also teaches DT...we don't communicate as much...so really, she comes here [Design and Technology office] and we talk but it not you know it's not like the others get it...so that is a bit bad. (Nikki, interview 1)

Nikki saw it as her role to communicate with her department colleagues and create opportunities for this to happen. In this extract, Nikki reflected on how physical distance restricted staff inclusiveness in her department. The physical proximity and vicinity of all the staff appeared important in building teamwork. However, a lack of time appeared to hinder Nikki from meeting and or communicating with the Art teacher. Nikki suggests that creating a routine where staff met regularly at the department office or tearoom was important. She viewed it as an important place for staff interactions. However, the unavailability of one team member due to their



physical location in the school appeared to disrupt Nikki's way of face-to-face transmission of specific information to all staff at the same time.

Jack explained the extent to which he understood individual members of his department. He recognised his willingness to maintain a good relationship with the teachers in the department. This was established out of the value he had on personal relationships:

I am always taking biscuits...I keep them sweet...I make sure they are looked after. There are a number of vegetarians in the department, and they were like super happy that I had gone to the extreme...I had made sure that the biscuits were vegetarian suitable...I just...it is about making them work together really. (Jack, interview).

Here Jack exemplified his wish for the team to work together. His approach in building teamwork differed from the other subject leaders in his emphasis on the importance of understanding the personal tastes of his staff.

Jack believed that giving gifts to staff was important, but there was some flexibility in his approach to allow for personal preferences. In giving gifts to staff to show a personal connection, Jack explained that:

it's little things I bought them all books at the end of the summer holiday rather as a little thank you...I bought them all a book that is special to me and I had inscribed to them what I meant...the first book my wife ever got for me sort of thing ...it's just little things like that. (Jack, interview)

Jack gave each member of his staff a physical gift which suggested an inviting approach to enhance their enthusiasm, though this was not a quick fix (Novak, 2009).

Jack appeared to draw on his personal values to exert influence over the staff. He was very positive about the gifts and believed it 'made a difference' (Jack, interview).

Jack also showed flexibility by allowing the staff to engage in informal chats rather than hold formal department meetings. This approach suggests Jack's way of working enhanced trust and building of personal relationships. The department office was used by Jack as a place for informal chats, 'because we have an office that we all share...just a day-to-day chat is more valuable I think...than the actual meeting time' (Jack, interview). The conversations were important to Jack in initiating one-to-one connections that steadily formed the basis for team building in the department. This approach demonstrates the importance Jack had placed on a team that worked together.

Jaspal also explained how his understanding of the team's personal circumstances bolstered team building. His approach appeared to defend the staff and sought to protect them when they had urgent personal commitments:

we work hard and all of us really committed but at the end of the day we have to recognise that this is a job...and I know we are here for the kids ...I get all of that...really this is a job so ...if you are running late, it is not a problem...if you need to go home early for whatever reason. (Jaspal, interview)

Jaspal's comments show how he saw it as important to support members of his staff. He saw it as part of his role to understand the personal needs of the staff and provide support. Jaspal appeared to recognise the personal circumstances of staff outside of school. Talking about how he supported staff ('if you need some time off for your family, I will support you' – Jaspal, interview) the subject leader believed that it was necessary to show such understanding. This seems to suggest that the concern and

support to individual department teachers resulted in increased morale, which helped to build teamwork.

In ensuring that new staff adjusted to a new way of working, Adam explained that:

I also gave my new members of staff time to kind of settle in because it is a hell of a thing you step into a new school with their priorities (Adam, interview)

Adam also considered the personal circumstances of the new members of the department and shielded them from excessive work. Aware of the difficulties that new teachers face in adjusting to a new team, Adam chose to 'being understanding and being realistic about things' (Adam, interview). Adam, Jack and Jaspal appear to have been working on building a supportive culture that depended on the circumstances and the context of their departments. However, differences appeared in how Jaspal and Jack used rewards to build teamwork. Jaspal appeared to use some intangible rewards such as covering for them if they need to go home early, whilst Jack was using symbolic rewards (Terrell, 1997).

Theo had chosen to allow departmental teachers to follow a curriculum that was both personal to them and suitable for the department. This could suggest a way of reducing the 'turnaround [sic] in the department' (Theo, interview 2) and sustaining its survival in the school. For example, Theo's comments regarding his chosen style suggest an accommodative approach, where he ran 'a very horizontal department... the teachers... they enjoy doing rather than a top down' (Theo, interview 2). This way of working may suggest that teachers in Theo's department were able to experiment in their teaching rather than work from a constrained scheme of work that was controlled by the subject leader as was the case in Nikki's department.t.

### **7.1.2 Encouraging participation**

In pursuit of team building, Jim was keen to promote collaborative decision-making. He encouraged a shared way of working to enable department teachers to participate in improving each other's learning:

So, it will be giving others in the department a slot where they can...if they have researched something or they found something out or they have tried something and they give feedback to the department that way. (Jim, interview 1)

Jim worked in a way that encouraged staff members in the department to share their classroom practices and resources. The department-based routines encouraged professional development, sharing of teaching resources and planning together. Jim's method indicates that he was not opposed to teachers sharing knowledge. He facilitated opportunities for the department to establish their own professional growth and that of others through shared practice. Therefore, Jim seemed to make this choice to ensure that the staff worked together.

Likewise, Jaspal encouraged collective decision-making by ensuring staff were involved:

When we have to make a decision that affects everybody...everybody has a say, so for example, we need to appoint somebody in our department in September...so I think we make decisions collectively. (Jaspal, interview)

Here Jaspal divulged how he had created opportunities for the staff to make decisions on issues that affected them. His example is an indication of the willingness of the subject leader to create opportunities for the staff to contribute to issues that were a preserve of the school leaders. It is suggestive that this kind of approach reduced the subject leader's autonomy in decision-making.

Jaspal's way of working advocated the views of others and linked the staff to wider school issues. In Jaspal's approach, the leadership practice that can be envisaged is empowering others to make significant decisions (Leithwood and Riehl, 2003). However, Jaspal was aware of his authority as a subject leader ('I think it is my decision' - Jaspal, interview) but he chose to include department teachers when making certain decisions ('I ask for input because it is important to me' - Jaspal, interview). Both Jim and Jaspal appeared to have confidence in the members of the staff in the department. The subject leaders working this way removed rigidity that could be involved in decision-making. This could be seen as valuing people, which shows an interest in staff as people.

Unlike Jaspal who was able to bring his department together and encouraged collective decision-making, Jack lamented how coming to a consensus in his department was difficult. Jack described the extent to which he went to initiate meaningful conversations with his staff:

Actually, when the whole department gets together, they are quite loud...a lot of people want to put their own opinions...they don't always get along with each other. (Jack, interview)

This implies that Jack had difficulty in steering the divergent opinions of his staff. This may indicate that Jack's staff had different goals to his. Jack made the effort to bring the staff to work together.

However, his strategy was to work with smaller groups that had shared objectives. Jack explained that he had consciously 'taken on board...divide and conquer...it is much easier to meet them with [in] small groups' (Jack, interview). He made this deliberate choice so that the team could somehow work together. It appears that Jack

could not reach an agreement with the entire department team. Therefore, he resorted to working with individuals and small groups of people to develop and communicate his vision. This way of working ensured that Jack was steadily able to diffuse tensions and reach unanimity through clusters of individuals.

Contrasting Jack, it was clear how Adam saw his staff supporting each other:

so, we are all kind of trying to share what we do and how we do it...we are trying to be supportive I suppose...to build teamwork you know. (Adam, interview)

Adam saw himself as a member of the team. He saw sharing and being supportive as an important way of working. It appeared that Adam perceived it to be everyone's responsibility to facilitate the sharing of resources and the building of a department team. This suggests Adam's approach to collaboration was made possible by the participation of the staff.

Jim, like Adam, explained that for the department to improve everyone had to feel they were recognised, although sometimes he had to guide the team:

because surely if we had to get the department to improve it had to be everyone feeling they are part and parcel of that. (Jim, interview 2)

Jim's view about the role that teachers had towards department improvement was that everyone had a part to play. Emphasis on everyone's participation suggests that Jim preferred this as a method of encouraging department cohesiveness. He reflected on how the composition of the team supported participation in department affairs when he stated that 'I have had some very strong people in the department...I have never been unfortunate to have major blowouts...which is good' (Jim, interview 1). However, Jim revealed a clash in his approach when he explained that 'there were

times when I had to steer things the way I wanted to go' (Jim, interview 2). This deviation could suggest Jim's use of his position's power to give a clear direction for the departmental staff.

Equally, Theo recognised that his staff had their voice, and he attributed his approach to openness in his leadership style, when he observed that:

it is not pyramidal...the teachers have the freedom to explore and do what they enjoy doing. (Theo, interview 1)

Theo's approach suggested that he and the staff were in an equal relationship. This suggests that Theo disregarded any form of hierarchy in the department. He believed in 'an open-door policy' in the department, where no one had a problem with 'people walking into each other's lessons' (Theo, interview 1). Theo's approach appeared to support the view that a subject leader is also a colleague of the department members. As colleagues, they sought input from others to formulate their vision and sets high standards and expectations for realising the vision (Leithwood, 2018). For Theo, the quality of working together as a team was seen as the most important and it appeared to be influenced by an open-door policy.

Nikki preferred to have a clear line of control through a system that the staff recognised and used. Nikki explained her way of working that she had built:

everything has been laid out...this is your project that you are going to do...this is the booklet...it is printed for you...everything you need is done. There is no reason for you to say I don't know what to do...you know...but sometimes if they have a problem within their department, say food teacher can you check my assessment sheet...I just want to, you know I will, check it for them no

problem, you know, but in terms of key stage 3 they never talk to me about that because the systems are sorted. (Nikki, interview 1)

The extract shows several tasks that Nikki appeared to exclusively work on. She gave the impression that her way of working reduced the input of the staff to the bare minimum; only involving them during the implementation of the tasks. These tasks included teaching a set of lessons that were printed in booklets and completing assessments. Nikki worked on her own and was in charge. Unlike Jim and Jack who steered their departments to adopt a more supportive approach, Nikki sought individuals' compliance because 'the systems are sorted' (Nikki, interview 2). This approach may suggest teachers had a limited engagement in developing practice in the department.

### **7.1.3 Department meetings**

Departmental meetings were treated as opportunities for discussion and were occasions that the Design and Technology staff used to express their views. Adam used department meetings to bring his staff together only when necessary:

I could be calling more [department meetings] but I kind of think...there is no need sitting round chatting about something... meetings they have their uses, but we don't want waste time in the end...we don't have to meet if we don't need meetings. We have faculty meetings kind of when we feel we need to... We have a faculty briefing on Tuesday morning. (Adam, interview)

Here, Adam shows how he used department meetings supplemented by morning briefings and conversations to steer his team. Adam only called for targeted meetings when there were specific issues to discuss. His attitude to department meetings appears to indicate his control of the communication structures in the department. He



appeared to believe that having short informal conversations was more productive in building relationships.

Adam credited this way of working to 'establishing a set of expectations' (Adam, interview) that placed importance on managing the available time. He appeared to nurture a culture where staff's time was 'better to be spent doing than chatting about stuff' (Adam, interview). His approach could be attributed to the unique circumstances of his large department. Consequently, staff were encouraged to complete tasks that would improve teaching and learning and collaborative planning, which was indicative of Adam's preference for beneficial meetings.

Adam's approach is suggestive of his role in organising the available staff time to address many competing issues, thus he directed meeting time to what he saw as necessary. His position was that he rather the staff spend time doing developmental work, which shows his authority as a subject leader. He could bend the school rules to align his staff with what he considered important. However, being 'understanding and realistic about things' (Adam, interview) may be seen as denying others an opportunity to contribute to team discussions and department development.

In contrast, Nikki said that department meetings were an important feature in supporting communication and she felt that 'I would like some more department meeting time' (Nikki, interview 1). Regular departmental meetings create opportunities for subject leaders to discuss departmental policies as they meet with colleagues (Southworth, 2009). She considered regular department meetings as important in facilitating whole staff interaction to foster teamwork. This suggests that she saw meetings as an essential part of her work.

The department office was seen by Nikki as an essential place for informal talks and a place where the staff came together:

but because of the arrangement of this room [department office/tearoom], I am constantly talking to them. So, it is like how is your lesson going? Do you need this? Do you need this prepared? (Nikki, interview 1)

Nikki used the department office to find out how her department colleagues were doing. To Nikki, department meetings were important in bringing the team together to discuss issues that affected the department.

The sharing of the department office enabled important discussions in building a team. This arrangement encouraged interaction and Nikki was able to find out what sort of support her staff needed. This was an opportunity for her to adjust her 'system'. The department office setup allowed Nikki to show the staff that she cared about their needs. This is suggestive of why Nikki found the physical location of the Art teacher problematic because she missed out on the 'constant talking' that happened in the department office.

I observed Nikki's department office layout and made notes and the excerpt below from my field notes briefly explains Nikki's department office layout:

The office is open planned [sic] with five working areas each with a desk and a chair. There was an information board pinned on the wall with a calendar, health and safety poster, department staff photo and accreditation certificates for the department. Other features include a filing cabinet with each section labelled with a teacher's name, a reprographics area, and trays for the two technicians in the department. There is a space for making a hot drink, holding area for a kettle and ingredients for a hot beverage, a sink and the window

seal is dotted with pupils' Design and Technology artefacts. (Nikki, field notes on department office, Nikki data set 5)

This field note describes a layout that supported staff interaction. Nikki shared the office with her colleagues, and this enabled her to meet them face-to-face often. The office layout supported her attitude towards finding out what each member of the department was doing. She saw her role as that of initiating constant conversations when staff met informally in the office. Jack, Jim and Jaspal also had department offices that were shared with the other colleagues in the department.

However, Nikki appeared to use the department office as a place for informal meetings that supplemented formal department meetings. Similar, informal conversations were held in Jack's department's office. Jim preferred to use department meetings to discuss teaching and learning issues. He explained why he preferred more department meetings:

I wish we had more of them...I mean we generally...school set up so Tuesdays...So uh we have a timetable where it rotates...this term we have got creative innovation...we have pastoral...so we had a department one recently ... so we said we do this...how are we going with it? so what has happened? (Jim, interview 1)

Jim's department meetings revolved around teaching and learning, and the team used department meetings to discuss a range of topics. His approach appeared to indicate that department meetings were important opportunities that brought his team together. He used these meetings to foster relationships and create department policies.

Jim had arranged that during meetings, the developmental policies were put 'in place and then go with the actions from there and then I can monitor it by the time we get round to the next meeting' (Jim, interview 1). This suggests that Jim seemed to take control of the department meeting agenda and the monitoring of the agenda, which contrasts his earlier view that he encouraged others to lead. However, in a department meeting that I sat through, Jim constantly used the term 'we' to evaluate how the team had progressed towards the set targets.

In building a team that worked cohesively, Jack also used department meetings to discuss teaching and learning:

Our departmental meetings focus on the education of the students looking at the qualifications and then Thursday morning we just have a quick morning briefing where we can keep up to date with like the UCAS applications and things like that...all of our students want to go to some sort of university. (Jack, interview)

Jack used morning briefings with teachers in the department to update them on what was happening. He appeared to build his team by using the structures that were embedded in his school. Constantly communicating with his team was essential even though it was just for a few minutes in the mornings. Jack appeared to be promoting a culture of cooperation and support that pivoted around issues of teaching and learning.

Likewise, Jaspal stated how department meetings were used for team building his department:

We have department meetings roughly it would be once every three weeks...so the department meetings are just the teachers who come...and the agenda is informed by our school's head of department meeting...so things

that we discuss inform some department agenda...and then we always have any other business anybody can bring any issue they want to. (Jaspal, interview)

Unlike Adam, Jim, Nikki and Jack, Jaspal had input from the school's head of departments meeting and saw it as his role to bridge between the department and the school (Leithwood, 2016). Some of the information from the school's heads of department meeting was cascaded to the staff.

The task of communicating the school agenda was achieved in the department through Jaspal. This way of working showed support for the school culture. The subject leader worked with other heads of departments to align his staff with the school business. This was suggestive of Leithwood and Reihl's (2003) view that leaders set a tone and context in which work is undertaken and goals are pursued. Jaspal encouraged staff to bring up issues that affected them, which showed a culture of care and support.

This arrangement may explain why Jaspal found it important to speak to everyone first thing in the morning

I make a point of seeing...speaking to everybody in the department every morning...so I come in and I meet everybody in the office downstairs I say hello to all of them...our technician [name withheld] in food, I phone her to see how things are going in food and textiles...she will talk to me. (Jaspal, interview)

Like Adam and Nikki, Jaspal's daily routine was engaging in conversations with his staff. It appeared that he used morning calls and conversations to show that he cared. Jaspal and Nikki also had a member of their department located in another part of the school but their approach to communicating with them was different. Nikki felt that

there was little communication with the Art teacher and chose to speak to her during department meetings. For the food teacher who was located somewhere else in the school, Jaspal made the effort and contacted her by telephone every morning. This way of working showed how the subject leader valued relationships in the department.

In summary, Jaspal viewed department meetings as an opportunity for informing his staff about the school's issues and policies which had been discussed at the subject leaders' meeting. Unlike the other participants, Adam preferred not to have department meetings but encouraged a culture of conversations 'in passing'. The varied approaches to building relationships with the department colleagues suggest that teamwork was closely related to a collective vision. The ways of working towards building relationships with their department colleagues suited subject leaders' departmental contexts.

Nikki believed in setting a way of working that had clearly defined boundaries and expected departmental colleagues to copy her modelled teaching resources, rather than giving them a chance to collaboratively develop a teaching and learning resource. The subject leader appeared to play the role of the expert and her staff consulted her only when problems arose. In contrast, Jim saw his role as bringing his team together and jointly developing teaching and learning resources. This suggests that Jim saw both team building and teamwork as important.

Jack felt that teamwork was important and preferred the staff not to think that he had 'all the answers' (Jack, interview). However, Nikki used methods that indicated a sense of control of the department colleagues, 'you just need to constantly be on top of people' (Nikki, interview 2). Nikki's statement is reminiscent of the view that subject leaders should develop a method of creating a setting where teachers in a department

would accept monitoring of their work to support their own improvement (Busher and Harris, 1999). This way of working suggests that Nikki wanted to be in control of the many aspects of the department.

Formal and informal meetings were used variably in team building. Informal meetings included conversations on the corridor and in the department office. Formal meetings were weekly department meetings that were scheduled in the school calendar. Both types of meetings appeared to be used by participants as a way of maintaining constructive relationships in their departments and discussing departmental policies and practices. One important aspect of team building was sustaining a collective vision, which was spearheaded by the subject leaders. This was disrupted when members of staff left and were replaced. However, Nikki pursued establishing a way of working that would be minimally disrupted when staff movements happened in her department.

## **7.2 Subject leader's relationship with their school's senior leaders**

This sub-theme emerged from the coding of semi-structured interview transcripts. The focus in this section is to highlight the participants' way of working in building relationships with the senior leaders in their schools. It captures how participants related to their school's senior leaders and how this made them view their role. Participants had dissimilar relationships with the senior leaders in their respective schools and this influenced how they ran their department and related to their departmental colleagues. Participants described how they heeded their senior leaders' demands and steered their colleagues to adhere to them. In other cases, subject leaders cushioned their colleagues from what they thought were unnecessary demands.

### **7.2.1 Subject leader's personal and department requests**

These requests included department-specific matters that related to pupil achievement, staff development and resources. Theo explained how on joining the school he was supported by the senior leaders:

when I started here, I had a proper induction...all systems of the school were relayed to me...and I was really...really supported...throughout the whole process especially you know coming in February was the coursework...folders way behind...which was really tough and really supported there. (Theo, interview 2)

This excerpt shows that, at a personal level, Theo felt supported by the senior leaders in understanding the school system which was new to him. Having joined the school at a point where pupils were falling behind in their work, he perceived that support was relayed to the department so that pupils' coursework deadlines could be met. The senior leaders working with Theo were particularly important because he was new to the school and the department was fighting for survival.

Theo also revealed that 'development and training and all requests were met by the school, so from that point it was really supportive' (Theo, interview 2). Training requests for the staff were also met. To Theo, this was a good relationship which could suggest that he relied on the school's senior leaders' support in his leadership role. This appeared as a foundation for Theo's confidence about requesting support in the department in matters of teaching and learning. Like Theo who depended on the senior leaders' support, Nikki revealed the sort of support she received with her year 11 class:

I think the headteacher is so supportive...like today...he gave me a whole day off timetable...so I could work one to one with three year 11 students...I just



thought it was great and the headteacher knows that... I think the support is great. (Nikki, interview 1)

Here, Nikki drew on the support of the headteacher to have a day working specifically with small numbers of 'a very challenging class in year 11' (Nikki, interview 1). Nikki's request could be seen to be more personal in her capacity as a teacher, albeit for the success of pupils studying Design and Technology.

Nikki's request to the headteacher is indicative of how senior leaders in her school intervened to improve pupils' progress in the department. The senior leaders' support for both Theo and Nikki could be seen as a strategy, where working with the subject leaders would ensure they focused on improving teaching and learning in their departments. This may imply senior leaders allow subject leaders to focus on their core responsibilities of teaching and learning and provide adequate resources for their work (Printy, 2008). Although Nikki and Theo were supported by the senior leaders in their schools, their ways of working suggest the existence of a hierarchy in decision-making. This is evident in the line management structure as explained by the subject leaders.

Jim, Nikki and Theo revealed the type of relationship they had with the senior leaders. The line management interactions were perceived by the participants as supportive. For example, Nikki noted that:

So, I have a line manager...who is opposite my room...he is literally because he is DT teacher as well...it's funny...he teaches DT part-time, so he manages me...I manage him (chuckle). We have a great working relationship...he is very supportive. (Nikki, interview 1)

This shows the extent to which subject leaders worked with the senior leaders. It appeared that Nikki and Jim depended on the supportive role of the senior leaders to enable them to complete aspects of their leadership role. Nikki's relationship with a senior leader is dualistic in that each oversaw part of the other's work. Therefore, their work reinforced each other in a supportive context to improve the work of the department.

Theo explained how difficulties in recruitment had affected the relationship he had established with the school's senior leaders:

I am now the third head of department in four years...so there has been a lot of turn around within the department, so I feel heavily supported by SLT totally...things have just come down and settled down in the new school.  
(Theo, interview 1)

Further clarification by Theo revealed that:

It is a very open relationship we have...and at the same (Theo, interview 2)

Here Theo spoke of circumstances that were unique to his department. The fact that the department had seen several staff changes in recent years made it easier for Theo to get senior leaders' support. He perceived the relationship with the senior leaders as, 'very open and direct relationship' (Theo, interview 2). Theo saw it as his role to meet the 'expectations and targets' (Theo, interview 2) that were set by the senior leaders. This suggests that Theo aligned his department goals with those of the senior leaders.

Adam used his proximity to the senior leaders to raise grievances that affected his department. An extract from an email document from Adam stated that:

SLT decided to review the curriculum time each subject was allocated. The proposal was that D&T lose a lesson in year 7 and it looked likely that it would lose one in year 8 as well. (Adam, email document, Adam data set 2)

Adam's comments demonstrated how he used his relationship with senior leaders to raise subject-specific grievances. This is suggestive of Adam perceiving his role as to point out senior leaders' decisions that unfairly affected the Design and Technology department. Consequently, it appeared that he was defending the amount of curriculum time that was allocated to Design and Technology. He was also challenging the rationale for the decisions that the senior leaders had taken about matters that affected the Design and Technology curriculum. Adam saw his role as seeking equity when sharing curriculum time without disadvantaging his subject.

The participants' responses to the importance of the schools' senior leaders could relate to their understanding of the roles of the senior leaders in their schools. This shows the importance of the senior leaders in the leadership of departments. Senior leaders had a significant influence on decisions made by subject leaders at the department level. Beyond professional relationships with the senior leaders, two participants hinted that they had a more personal relationship. Theo explained that:

it is such a fantastic relationship that I have the deputy head's personal mobile number so...we WhatsApp and text each other. (Theo, interview 2)

In the above excerpt Theo was candid and explained the trajectory his relationship with a one of the school's senior leaders had taken. This was in addition to the support that he received through the line management structure.

Similarly, Jim revealed that his line manager preferred to be a critical friend. Jim expounded that:

he is very good he is very much umm.... we try and encourage each other, he will go...look see me as critical friend. (Jim, interview 1)

Jim's comments show how his relationship with a senior leader went beyond the hierarchical order of line management. He was being called on to build working beneficial relationships. Both Theo's and Jim's comments suggest that schools' senior leaders working closely with the subject leaders facilitated good relationships, thus providing a platform for supported decision-making. Jim and Theo illustrate the complexity of working relationships between senior leaders and subject leaders. The presence of the senior leaders' support in departments was viewed by Jim as necessary in pursuit of department effectiveness.

Similarly, Jaspal outlined the school's senior leaders' support in his department:

when we need new equipment or finances if we make a strong enough case, there is financial support there ...there is support with staffing. (Jaspal, interview)

Like Jim, he explained how the senior leaders' support came through the provision of resources. To Jaspal, the senior leaders' understanding of the department's needs was important. His way of working infers that he had to rely on advocacy skills to achieve his requests. He saw his role as that of representing the needs of the department to the school's senior leaders for consideration. Jaspal, Nikki and Theo appear to have been directly appealing for support from their SLTs, which is also suggestive of the hierarchy that exists in schools as organisations.

### ***7.2.2 Protecting colleagues from school 's senior leaders' demands***

Participants differed in how they handled the link between the senior leaders and their department colleagues. They had differing opinions on how they saw tasks that were

directed to their departments from the senior leaders. For, example Nikki explained that:

if the school are bombarding them with, you have to do this you have to do that...I say right you know...prioritise this forget about that. (Nikki, interview 1).

This shows how Nikki preferred her department colleagues to concentrate on specific tasks that were more important to the department rather than supporting the wider school leadership.

Nikki saw it as her duty to manage workload for her staff: 'I try to make things very easy for them' (Nikki, interview 1). In working this way, she rejected the senior leaders' directions and pointed her staff towards what was meaningful to the department. She believed that she could control the tasks that the staff were required to complete. This approach echoes the view that subject department leadership is not just about positions of authority or hierarchy, but the influence people have in the space between the senior leadership at one end and teachers at the other (De Nobile, 2018a). Nikki showed her influence by deciding for her staff which tasks were to be done and which ones were to be abandoned.

Defending his department team from senior leaders' demands Jaspal explained that:

There are some things the school wants us to do which I think are pointless and if I think they are pointless I am not going to pressurise anybody else to do them. (Jaspal, interview)

Jaspal also appeared to make decisions on what his staff could engage with regarding tasks that were directed by the senior leaders. He felt that it was his duty to protect his staff from unnecessary work. Nikki's and Jaspal's actions are reminiscent of the

view that subject leaders defend colleagues against senior management prejudices and policies (Leithwood, 2016). It appeared that Nikki and Jaspal sifted through senior leaders' directives and decided whether or not they were of immediate importance to the department.

Jim brought his staff together to complete school-wide issues which contrasts with Nikki's and Adam's approaches. Jim saw it as his role to facilitate senior leaders directed tasks even outside the set meeting time: 'I try and do that outside of the meeting if it is data based' (Jim, interview 1). Jim's style reflected how he saw himself as part of facilitating wider school leadership activities at the department level. Similarly, Adam valued the work that the members of staff in his department completed. He felt that distinguishing the important tasks from the less significant ones was essential:

You got be realistic and prioritise why is this important, so I think I have established kind of that working relationship...is that being supportive rather than making people feel that they are constantly accountable which is sadly is the way teachers often feel. (Adam, interview)

This indicates Adam's awareness of the strain that teachers can feel when put under pressure to meet specific requirements. He appeared pragmatic in how he handled work that came from the senior leaders and was more focused on building a good relationship with the staff and making them feel less anxious. He seemed to work this way to maintain a focus on the issues that most mattered to and affected the department. Adam's views align with the opinion that subject leaders build staff members' sense of internal accountability and insist on improved student learning as the main priority of the department (Leithwood, 2008).

Jack alone doubled as a senior leader in his school:

am on the department side and I have got their best interest at heart. Here I have to see the whole school picture as well...so sometimes I have to start the meeting knowing I am going to tell the department something that is gonna cause them an issue or conflict just because it's the whole school issue...you know that we need to look at. (Jack, interview)

This shows how Jack perceived the complexity of his role. He appears to have been aware of the conflicting roles as both senior leader and subject leader. He drew on his previous experience as a subject leader in a comprehensive secondary school to draw comparisons. He appeared to indicate that sometimes staff had to be buffered from school-wide senior leaders' demands. His method of working revealed how he saw himself as a member of the Design and Technology team, as the subject leader and as a senior leader.

Subject leaders building relationships with their senior leaders revealed the tensions that they experience in their leadership roles. They must meet the demands from the senior leaders but also want their department colleagues to see them working for the good of the department. Senior leaders' supportive relationships orbited around their response to Design and Technology subject-specific requests such as the purchase of equipment, timetable adjustments and curriculum considerations.

Line management structures were opportunities for building supportive and personal relationships with schools' senior leaders. There were differences in how subject leaders viewed the role of their line managers. For example, Jim viewed his line manager as a partner in improving the work of the department. In contrast, Theo viewed his line manager as someone to identify where he was failing in his leadership of the department and work on improving those aspects. This could be attributed to

the different department contexts. Jim's department was established and stable, while Theo's was in a position of uncertainty.

Participants expressed varying approaches when senior leaders asked staff to complete whole-school tasks. Nikki, Jack and Jaspal felt that despite the need for the senior leaders to understand the work of the department, but they had had to cushion their colleagues from excess work. Thus, they saw their role as primarily that of improving the quality of teaching and learning in their departments. Subject leaders buffering their department colleagues from senior leaders' demands could be seen as steering them to achieve specific goals that are related to the work of the department. Nikki and Jaspal positioned themselves as buffers and showed sensitivity to the need for flexibility in applying policies and working with the staff (Leithwood, 2016).

Jaspal adopted 'a give and take' approach and created a balance in prioritising the work for the department and the school's senior leaders. Nikki felt that she had to manage her staff workload and so took the role of a politically astute advocate (Leithwood, 2018). The influence that Nikki and Jaspal had over their staff enabled them to disregard senior leaders' directives and choose to prioritise department work that they perceived as important. In contrast, Jack, who was both a senior leader and a subject leader, appeared to vary how he handled work at the department level. He stressed the importance of working with each other and the whole team.

Jack relied on informal arrangements and being supportive and working with the teachers to complete senior leaders' tasks at the department level. Jack's techniques of using small teams succeeded in bringing together the different personalities in his team. He viewed it as his role to heal the fractured relationship between the teachers



to run a successful department by bringing together the divergent views of the staff. Jack's way of working was different from that of Nikki, who appeared to work mostly on her own. She designed a way of working that ensured that there was minimal communication between her and the staff regarding how things were to run. For example, she prepared lesson booklets so that teachers only needed to follow them without question. Nikki felt that it was important for her to direct staff on what to do and modelled what she expected. This way of working could suggest a lack of trust in how teachers could develop resources that would improve student learning.

### **7.3 A CHAT analysis: The objects of the Design and Technology department leadership activity systems**

In chapter six, I considered the Design and Technology department leadership activity systems' tools and the analysis looked at how the tools mediated work on the object of the activity. This chapter extends the discussion and suggests what these objects might be in Design and Technology department leadership activity systems. This section discusses the second CHAT-specific research question by considering the object in the activity of sustaining and developing Design and Technology in the secondary curriculum. As discussed in Chapter 4, the object of activity can be considered the 'ultimate reason' behind the behaviour of individuals, groups or organisations that gives meaning to and determines values of various entities and phenomena (Kaptelinin, 2005).

The objects of the Design and Technology department leadership activity systems were important in sustaining and developing Design and Technology as they provided direction for leadership in the department. This study focuses on understanding the perceptions of subject leaders about their leadership practices. Identifying the objects of the department leadership activity systems gives an insight into what subject leaders' perceptions might be because the object of activity has a dual status; it is

both a projection of the human mind onto the objective world and a projection of the world onto the human mind (Kaptelinin, 2005). The analysis considers the objects more clearly and develops prior suggestions of what these may be.

In this section, the dataset used to discuss the object of activity comprises the field notes, interviews and institutional records. Identifying the object of activity and its development can serve as a basis for reaching a deeper and more structured understanding of otherwise fragmented pieces of evidence (Kaptelinin, 2005). To understand the object in this case, the discussion centres on what, how and why the object is being worked on in the Design and Technology department leadership activity system. The intention is to understand how the leadership practices of subject leaders were affected by the Design and Technology department leadership activity system's object.

### ***7.3.1 The object being worked on in the Design and Technology department leadership activity systems: Nikki, Adam and Jaspal***

In sustaining and developing Design and Technology in the curriculum, Nikki appeared to focus on establishing structures to control aspects of practice in the department. These included writing schemes of work for teachers, devising teaching resources, laying out specific instructions on how staff were to conduct pupil assessment and an elaborate plan to raise the number of pupils who chose to study Design and Technology at Key Stage 4. This reveals the complexity of leading a department. Nikki felt that if she led 'by example and I say right this is how I like it, now use this create your own' (Nikki, interview 2), it would bring success. However, this way of working relied on the staff complying and meeting Nikki's expectations.

It appears that her activity system's object appeared to have been about establishing a defined way that teachers in the department had to follow, whether it be using

specific lesson booklets or how pupils were assessed. Nikki worked in a managerial way by directing the staff to follow the rules which appeared to ensure a common approach to the activity of sustaining and developing Design and Technology in the curriculum. There was a clear division of labour with the staff being aware of what was required of them. She preferred to work on her own. In promoting the department, she felt that 'because the other staff they are very busy I do take a lot on myself... I will quickly do this and get it out of the way' (Nikki, interview 2). Nikki appeared to believe that this was a more efficient way of finishing tasks and establishing procedures. The opportunities for teamwork and the involvement of staff in department decisions did not appear to be grasped. For example, on evaluating the suitability of a new specification for a GCSE course, she said 'I see how it goes this year and then you know if it is unsuccessful again, I will say right that is it...I change' (Nikki, interview 1)

Therefore, Nikki's established methods as a way of working in leading a Design and Technology department meant that 'I hardly ever tell them what to do because everything has been laid out' (Nikki, interview 1). The subject leader encouraged the department to informally talk to her during their break time in the department office/tearoom so that she could hear their needs. In laying out such procedures in the department, Nikki directed the department staff to use Key Stage 3 teaching booklets, which she had developed over time. She believed that 'they just have to work through the booklet...do the project and that is it' (Nikki, interview 1). This suggests that the booklet was used as a rule in the activity system rather than a tool for teaching.

This way of working suggests that a combined decision-making process in the department was not a priority for Nikki. This is further demonstrated by her view of the department: '...it is a lot of work' (Nikki, interview 2). This may imply what Nikki

believed as a way of sustaining and developing Design and Technology in the curriculum. Her approach to the leadership of the activity of sustaining and developing Design and Technology suggests that she controlled the work in the department to achieve her desired goals. Nikki relied on her own way of working:

I believe in, if you create a very efficient system...something that works...something that anybody can understand...you communicating to them becomes very minimal because it is very clear. (Nikki, interview 2)

There is little evidence of building a consensus in the department. Rather, it was the subject leader who set the procedures. Hence, 'the efficient system' that Nikki had set out was treated as a rule in the activity system. This ensured that there was uniformity in the work of the department and her approach in monitoring teaching and learning fitted her way of working in confirming departmental teachers' classroom practice rather than using observation to develop collective learning.

There was more emphasis on meeting compliance than leading the staff to an agreement and so the object of the activity could be viewed as a systematic approach to control aspects of work in the department. To Nikki, these ways of working influenced the direction and success of the department, but her expectation was that the community in the department leadership activity system would abide by her systematic approach. This may suggest that the object varied depending on how she perceived herself in the activity. To illustrate this, Nikki's interview transcripts revealed her control of the staff by, for example, preparing resources and that they had to be used as directed.

The object in Adam's Design and Technology leadership activity system was different. In the activity of sustaining and developing Design and Technology, it could be suggested that the object was building team learning approach through the sharing of good practice. He did not rely on completing all the tasks on his own but involved

the department staff at different levels. He worked with the staff to improve teaching and learning in the department, which indicated a collective approach. For example, a few individuals or the entire department team would be invited to work on specific tasks. The object of his department's leadership activity system was about establishing a collective way of working.

Adam viewed lesson observations, book checks, learning walks, options assemblies, redesigning the curriculum and building a department vision as shared tasks and tools that mediated the work on the object of the activity. He concentrated on building teamwork and felt that 'in a sense that kind of collective vision of where you are heading...what we are trying to achieve and work together' (Adam, interview) was guiding his work in the department. Adam acknowledged that he valued the subject specialism of individual members of staff and engaged them in observing the practice of their colleagues. This was also evident in Adam's regular use of the word 'we' while describing the work of the department, which contrasted with Nikki who constantly used the word 'I' when talking about her department.

Adam felt that, to develop team learning, the sharing of good practice was necessary. This was evident in the department's collective approach to the book check task. His approach had developed over time and a respectful environment had been established. Adam believed that he had 'established...a working relationship that was...realistic' (Adam, interview). By working this way, Adam assumed that staff saw him as 'reasonable...very approachable' (Adam, interview). Adam appeared to establish this openness by allowing members of staff to identify classroom practices that jointly worked well for them.

Adam believed that ensuring teachers had access to all the necessary Design and Technology equipment was important in supporting learning:

I have organised the rooms so that everything is here...the teacher isn't in the need of going out...nipping out of the room...it is very well resourced...we are organised so it makes it easier for teachers...being such a dynamic subject it can be quite difficult. (Adam, interview)

Adam felt that making sure that teachers were able to access resources was essential to building a cohesive team. This showed department leadership that understood the team's challenges. In working this way, he placed importance on managing teaching resources that would improve teachers' classroom practice and sustaining and developing the subject in the curriculum.

The object in the Design and Technology department leadership activity system that Jaspal was the subject in the activity of sustaining and developing Design and Technology in the curriculum appeared to be about maintaining a pleasant and close working relationship with staff and the senior leaders. He linked the work in the Design and Technology department with that of the school's senior leaders and supported the department's work to meet the senior leaders' desired approach to monitoring teaching and learning. He believed that following what the senior leaders had stipulated in, for example, learning walks was useful in improving practice in the department. He discussed the senior leaders' requirements on various issues with the staff during department meetings.

Jaspal's departmental meeting records showed that he had led the staff in discussing senior leaders' feedback following a departmental walkthrough. There was also evidence that walkthrough criteria were discussed and given to the staff. This way of working was possible because of the established close working relationship between the members of staff and the senior leaders through the work of the subject leader. This culture of working closely was also extended between the staff and Jaspal.

The department's strong links were boosted by Jaspal's pursuit to 'try [and] make sure [that] everybody is happy' (Jaspal, interview). This approach seemed to hold back Jaspal's own views but showed departmental teachers' views: 'sometimes I will go with things that other people want but I don't want' (Jaspal, interview). This may suggest that when working on the object of the department leadership activity system about allowing teachers in the department to participate in all departmental decisions was important.

Jaspal emphasised unanimity, drawing on the senior leaders' support. Jaspal also appeared to encourage the growth of better working relationships by placing importance on social occasions with the department meeting 'twice a year for a meal' (Jaspal, interview). This emphasis on social opportunities suggests that Jaspal and the staff were focused on building cordial working relationships. Jaspal's motive was to ensure that the staff felt supported in what they were doing. He wanted to include staff to 'reach a collective decision' (Jaspal, interview) on department issues.

Collective decision-making was an important way of working, which meant Jaspal was supporting his staff and consulting them whenever he made decisions. For example, he put more emphasis on ensuring that the staff felt supported:

I don't think anybody ever gets told off, everyone lets things slip sometimes but it's a case of working out how we can support that person getting that stuff done. (Jaspal, interview)

This shows that Jaspal was aware of how his practice of creating a supportive environment affected the work of his staff. He felt that the desired identity that he envisioned for the department seemed to be shared by the teachers. Jaspal believed that he had unified the department.

### **7.3.2 The object being worked on in the Design and Technology department leadership activity systems: Jim, Jack and Theo**

Jim's leadership of the activity of sustaining and developing Design and Technology in the curriculum appeared to appear to be about working to build collective team learning and practices. He believed in conducting department meetings 'around teaching and learning obviously being the focus' and in some instances 'got deal with something that is more pressing from SLT' (Jim, interview 1). Jim viewed the SLT's input as important in his work in the department because 'we are consumed sort of working down here in our silo... subject...you need that outside person' (Jim, interview 1). Jim regularly consulted his line manager, who was a senior leader.

The object of the Design and Technology department leadership activity system in which Jim was the subject, in the activity of sustaining and developing Design and Technology in the curriculum appeared to be about promoting a close working relationship with the staff by encouraging collaboration. Jim persuaded individual team members to take on responsibilities in the department including sharing elements of their own research and overseeing extra-curricular clubs. This approach, which involved interacting with others, was vital in Jim's leadership in sustaining and developing Design and Technology in the curriculum. Jim appeared to focus on establishing collaboration as he felt that 'it is not all coming from me' (Jim, interview 1). Jim felt that involving others in sustaining and developing Design and Technology in the curriculum was important.

Jim revealed evidence of collaborative approaches to department issues, which were seen as tools mediating the work on the object such as tracking pupil progress across the department. Consequently, he saw the participation of staff members in the department as essential in linking the success of the department to that of the school. He appeared to value the contribution of individual staff members to the success of



the department. Jim supported the work of a colleague in STEM competitions in the department and that putting Design and Technology in the limelight around the school was a way of working to achieve a collective approach.

It appears that Jim's emphasis was on the department team members' participation in various issues around Design and Technology. This suggests that the object of the department leadership activity system appeared to be about working on the involvement of all staff in the department and school-wide affairs, whether it be presenting research to others in the department or contributing to the agenda from the school's senior leaders. Enabling such a relationship fitted with how Jim wanted to run the department, meaning that he was 'able to work smoothly with the SLT...especially when they want us to complete something' (Jim, interview 2).

Similarly, Jack worked closely with his school's senior leaders. Unlike the other participants, he was also a senior leader in his school. Jack's leadership of the activity of sustaining and developing the subject in the curriculum appeared to focus on creating a cohesive team at the centre of the department's work. His department, unlike Jim's, did not appear to work collaboratively. For example, the staff were unwilling to share their teaching resources or supervise pupils who needed to work on specialist Design and Technology equipment. Jack suggests that poor working relationships hindered a collaborative practice in the department. He felt that having worked for a long time in a school where teamwork was valued, the new staff that he was leading did not 'like me very much' (Jack, interview).

The Design and Technology department leadership activity system's object in which Jack was a subject in the activity of sustaining and developing Design and Technology in the curriculum appeared to be about working on improving the relationship between the staff, whether it be between the subject leader and the other

staff or between one member of the department and the others. This was important to Jack because he felt it would improve teaching and leading in the department.

Jack felt that the challenge was when the department team was together 'because people start disagreeing with each other' (Jack, interview). In finding ways to bring the team together, Jack established department practices that encouraged liaising with and listening to one another. These social practices meant that 'a day-to-day chat is more valuable' (Jack, interview). In addition, Jack organised team learning activities 'to share...and that works quite well' (Jack, interview). These interactions encouraged the thawing of frosty relationships.

Theo worked in a department that valued an open-door policy. However, the department's existence was under threat. The school's senior leaders had removed some of the Design and Technology specialist subjects from its curriculum. Considering these issues, the Design and Technology department leadership activity system's object appeared to be making the provision of Design and Technology meet the school's senior leaders' requirements. Theo established a direct relationship with specific senior leaders to ensure that they understood his work in the department.

The object conception around which the Design and Technology department's leadership activity system activities were focused was building sustainability of the subject in the eyes of the senior leaders. This was important to Theo because the very existence of the department depended on the senior leaders. Creating a close working relationship with the senior leaders could suggest that Theo was educating them about the work which was going on in the department. He felt that the senior leaders needed to make him aware of his performance in the leadership of the activity of sustaining and developing Design and Technology. This was linked to the importance of the department's rules that encouraged an open-door policy

#### **7.4 Summary on building relationships and the objects being worked on in the Design and Technology department leadership activity systems**

In this chapter, I used thematic analysis to explore how the six subject leaders were building relationships at two levels: between colleagues in their departments and with the senior leaders in their schools. The departments provided varying examples of how subject leaders viewed and approached teamwork. I also presented an analysis of the object of the activity of sustaining and developing Design and Technology in the curriculum and suggested what the objects appear to be in the leadership activity systems.

I identified that different objects existed in the cultural and historical contexts of the departments. The evidence suggests that the object being worked on by the participants depended on their perception of how they saw themselves working with the staff in the department and the school's senior leaders. For example, a collective team learning approach was evident in a department leadership activity system where Adam was the subject, as opposed to Nikki who had a way of working that had to be followed without asking questions. The work on the object for Nikki appeared to be about working to establish structures to control aspects of classroom practices in the department.

The nature of the individual department provides a contextual setting, which explains why subject leaders viewed the objects in sustaining and developing the subject in the curriculum differently. For example, Jim's department was stable whilst Theo's was fighting for survival. In Theo's leadership of the department the survival of the subject was dependent on Theo's senior leaders' satisfaction that Design and Technology was viable in the curriculum.

## CHAPTER 8

### DATA ANALYSIS: SHOWCASING DESIGN AND TECHNOLOGY

#### 8.0 Introduction

This chapter presents the last theme that emerged from a thematic analysis of the data and a discussion of that theme using the analytical lens of CHAT. This is followed by an analysis of the third research question that asked how Design and Technology department leadership activity systems interact with other activity systems. The three sub-themes that are discussed are: uptake of Design and Technology at GCSE and A-level; promoting Design and Technology; and school policies that enhance or constrain the subject.

Design and Technology is a compulsory subject at Key Stage 3 (11 to 13-year-old pupils) and an examination subject at Key Stage 4 (14 to 16-year-old pupils). Studying Design and Technology at Key Stage 4 is optional. Subsequently, the number of pupils choosing Design and Technology at Key Stage 4 is small. Post-16 pupils could also opt to study Design and Technology at A-level. In this thesis, showcasing Design and Technology refers to bringing out the best qualities and meaningfulness of the subject to pupils and their parents to consider it as one of their GCSE examination subject choices.

#### 8.1 Similarities and differences in the uptake of Design and Technology at GCSE and A level

Adam, Nikki, Jim, Jaspal and Theo acknowledged, being an optional subject at Key Stage 4, Design and Technology had to compete with other optional subjects for pupils. Additionally, Design and Technology consists of several distinct specialisms which also compete between themselves for pupils beyond Key Stage 3. The

specialist Design and Technology subjects offered by the departments in this study were product design, graphics, textiles, resistant materials, electronics, and hospitality and catering. However, this form of competition was not present in Jack's department where pupils joined the school at 15 years of age and were expected to study engineering. Jack's department was in a UTC established by companies and universities in areas of high demand for talent to teach technical qualifications. Pupils joining a UTC would normally study Key Stage 3 in a secondary school and opt to join the UTC at Key Stage 4.

### **8.1.1 Competition from English Baccalaureate**

The EBacc is a set of subjects at GCSE that keeps young people's options open for further study and future careers (DfE, 2019b). It covers English Language and Literature, Maths, the Sciences, geography or history and a language. Five subject leaders reported that the introduction of EBacc in their schools had seen a drop in the numbers of pupils opting to study Design and Technology specialist subjects at GCSE. They expressed frustration at this and saw it as damaging to Design and Technology specialist subjects. For example, Adam spoke about the effect EBacc had caused Design and Technology:

We have suffered from the EBacc literally when that started being promoted...thirty to forty kids move from Design and Technology to humanities literally within a year...and now our groups are quite small...our GCSE numbers probably about twelve... fourteen... Graphics has a few more Ms [name withheld] has twenty and I have only ten in mine [product design] ...that is how it has worked out. So, catering again is probably about ten...textiles they usually get a couple of groups worth but this year they have one small group (Adam, interview)

Here, Adam showed disappointment with the low number of pupils in four of the Design and Technology specialist subjects. He recognised that the inclusion of the humanities in EBacc took a fraction of pupils who could have studied Design and Technology at GCSE.

Adam was worried that Design and Technology was increasingly being marginalised. The number of pupils opting to study Design and Technology specialisms was dwindling. Thus, the threat of having no pupils in certain specialist subjects was real. Adam's views suggest that he had to work towards attaining a reasonable number of pupils in each specialism. He was aware of the challenges in his department, and thus what needed to be done to improve on the low numbers.

Similarly, Jim narrated how EBacc was driving pupils away from Design and Technology:

my biggest frustration and that is my worry that we are losing Design and Technology department as it is. EBacc is pushing kids to science and humanities... because of a misguided notion that we are giving kids a better grounding because they do a language, and they do a humanity. (Jim, interview 1)

In the above excerpt Jim questioned the rationale of promoting EBacc at the expense of Des. Like Adam, he pointed out how humanities had contributed to the reduction of numbers of pupils studying Design and Technology at GCSE. His awareness of and objection to pupils being pushed to study EBacc showed his belief that Design and Technology had its place in pupils' education.

Jim refuted the idea that only a select number of subjects gave a career prospect for pupils, 'we are losing potentially...the next person who gonna make a difference' (Jim,

interview 1). This suggests that Jim partly viewed his role as that of illustrating to pupils the prospects of careers that are possible through Design and Technology. As a subject leader, he appeared to offer an alternative to his school's curriculum design, a curriculum he envisioned that, with the inclusion of Design and Technology, would capture pupils' imagination and prepare them for the world of work. Jim's fear of losing the Design and Technology department showed that he had a clear view of the importance of the subject in the curriculum.

Jaspal also explained how EBacc had brought a decrease in numbers in Design and Technology:

EBacc is really important for the school...so when the EBacc was introduced our numbers decreased. (Jaspal, interview)

Jaspal's comments resonated with those of Adam and Jim regarding a decrease in the number of pupils studying Design and Technology at GCSE because of an emphasis on EBacc. He observed that his school's priority was more on promoting EBacc than Design and Technology. Jaspal appears to have believed that the school's approach to curriculum design threatened the survival of Design and Technology.

In relation to reduced numbers of pupils studying Design and Technology at GCSE Theo like Adam, Jim and Jaspal explained that:

we are in so much competition with all the other subject areas...now it is once again I feel government has done in subject area like technology has done a lot of damage. (Theo, interview 1)

Theo spoke of his dissatisfaction with policies that backed one set of curriculum subjects against others. He attributed the problems being faced by Design and Technology to the recurrent government policies that were favourable to a few

subjects. His comments showed the helplessness he experienced because of the punitive policies that had been put in place.

Theo further illustrated the damage that had been caused by EBacc:

the numbers for GCSE and A level are very low...because that is sadly how technology has become...Maths, English and Science sit very comfortably now and the rest of us squirrel for the remaining places. (Theo, interview 1)

This shows Theo's expression of concern regarding the reduction of pupil numbers in Design and Technology. His comments show that he was well informed of the changes happening to the curriculum. He explained that 'it has become a real...real battle against everybody' (Theo, interview 1) hence he saw this as a lack of support to raise pupil numbers at GCSE. This suggests that it was Design and Technology versus other subjects. His comments, alongside those of Adam, Jaspal and Jim, are indicative of a hierarchy in the school subjects with Maths, English and Science securing prime position whilst Design and Technology is relegated to a lower status. Theo's sentiments suggest that he was aware of the need to protect Design and Technology for its survival in his school.

The way Adam, Jim, Jaspal and Theo viewed the effect that EBacc had on Design and Technology may link to how they viewed their relationship with the school's senior leaders that is discussed in Chapter 7. Jaspal had to ask for extra funding for additional resources. This illustrates low status subjects lose benefits such as access to higher levels of departmental funding (Paechter, 1995). Similarly, he relied on the senior leaders for the decisions on which Design and Technology specialisms would be included in the curriculum. In Theo's school, some Design and Technology specialisms were discontinued to create curriculum time for other subjects. Adam engaged senior leaders and lobbied for more curriculum time for Design and



Technology subjects. It appears that Adam saw that his role used advocacy skills in arguing for retaining reasonable curriculum time for Design and Technology.

Unlike the other subject leaders, Jack had no direct competition with EBacc or other subjects at the UTC, but he explained his department's predicament regarding pupil numbers at Key Stage 4:

our numbers are so...so low this year... Its worried us because our key stage 4 drive you know moving them into year 12 is gonna be very poor. They come in year 10, aahmm, and the trouble with that is they tend to be from other secondary schools where the children have not been very successful. Ahh, so it is sort of people that another school does not have them anymore and they've sort of been you know, encouraged to leave. Sometimes their parents have thought about changing the schools and have sent their children here.

(Jack, interview)

Jack was worried that the low number of entrants at Key Stage 4 would affect Key Stage 5. He recognised that the perceptions that key stakeholders had on Design and Technology were contributory to the number of pupils who choose to join the UTC. Jack's comments suggested that Design and Technology in the UTC was being studied by pupils who really did not want to but had been pushed to study it either by their parents or schools at Key Stage 3.

This may suggest that the non-academic status attached to Design and Technology is perceived early in secondary school education. Jack's opinion suggests that pupils who studied the subject were encouraged to do so because it is non-academic. However, Jack explained that 'pupils come to the school because they want to do aviation engineering and we are a really unique opportunity for them to do that' (Jack,

interview). This suggests that Jack viewed his leadership of the UTC's curriculum as important in meeting pupils' needs.

Contrasting all the other subject leaders, Nikki explained how she had many pupils in Design and Technology specialist subjects at Key Stage 4:

So, we have gone up to...now product design went from four to sixty... I need to make key stage 3 a lot harder...I honestly think 40 or 60 is too much...because my workshop I have only got one workshop. Now year 10 is 40...year 9 I have got sixty coming. That is really good...It's too many that 'I need to make it harder which hopefully will bring my numbers down' (Nikki interview 2)

This suggests an awareness of designing a curriculum to suit the needs of the department. Nikki viewed the role of the subject leader as important in designing a curriculum. She suggested having an action plan that would ensure that the Design and Technology curriculum at Key Stage 3 was challenging to pupils. Her comment suggested that her 'efficient systems' that were in place had resulted in a large uptake of Design and Technology at Key Stage 4.

Like Nikki, the popularity of Design and Technology was recognised by Jaspal who revealed how Design and Technology had become the most popular option subject in his school:

status of D&T is high because one-third of the students at key stage 4 have chosen a DT subject and we are not an EBacc subject...I believe we are the most popular non EBacc subject for students. (Jaspal, interview)

Despite a decrease in numbers, Design and Technology was still a popular subject in his school. He appreciated the supportive work of his staff and said that 'I think that

says a lot for the work we have done'. This meant that Jaspal relied on the contribution of his Design and Technology team for the success of the subject. This illustrates Jaspal's emphasis on leading through teamwork.

Jaspal's approach contrasted Nikki's way of working, which she viewed to have 'created a monster though'. Regarding the rising numbers of pupils taking Design and Technology in her department, Nikki viewed the successes as her own by using the term 'I' whilst Jaspal saw the success as the work of 'we', that is the department team. Despite EBacc reducing the number of pupils taking Design and Technology at GCSE in Jaspal's department the subject was the most popular amongst all the non-EBacc subjects. However, this was not the case in all the specialist subjects within Design and Technology as Jaspal explained that:

we offered food but nobody took it, so we are running NCFE level 1 food and cookery... we got 68 students doing product design and five teaching groups. In year 11 we have four teaching groups doing product design...64 students...and we have 18 girls doing textiles...and we have 14 or 15 students doing GCSE food. (Jaspal, interview)

This shows that, despite having many pupils opting to study Design and Technology at Key Stage 4, some specialist subjects were not doing well in terms of pupil numbers. Jaspal's views suggest that Design and Technology specialist subjects were also competing against each other for pupils. It appears that Jaspal had designed a curriculum that offered a range of specialist subjects so that the department could cater to different pupil abilities and interests.

Adam, Jim, Jaspal and Theo recognised that Design and Technology in their schools was attracting fewer pupils at Key Stage 4 due to the introduction of EBacc. This awareness was suggestive that subject leaders were sensitive to the need for

flexibility in applying policies (Leithwood, 2016). This meant some subject leaders found ways to work around their school's introduction of EBacc despite the effect on Design and Technology specialist subjects.

The introduction of EBacc meant that Jaspal had to engage the school's senior leaders so that a policy in the way options were selected would be changed. This way of working suggests the subject leader's collaboration in curriculum development. The implementation of the policy changes meant that the subject leader was willing to find solutions that would ensure the survival of Design and Technology specialist subjects in the curriculum. The reduction in uptake created an opportunity for Jaspal to enforce a collaborative approach in the work of his staff; for example, in planning the curriculum structure at Key Stage 4. Adam, by contrast, identified what needed to be done and by coordinating with the school's senior leaders, Design and Technology appeared not to be disadvantaged in his school.

## **8.2 Similarities and differences in how subject leaders were promoting Design and Technology**

In the analysis of the interview scripts, it was apparent that some participants put effort into promoting what they were doing in making Design and Technology an attractive choice for pupils in their schools at GCSE. The literature suggests that Design and Technology was the most popular optional subject at GCSE, but now it is less popular than religious studies, history and geography in secondary schools (Hardy, 2015b). To maintain popularity, subject leaders in this study used various approaches to market the subject to pupils and parents.

### **8.2.1 *Pupils' experience of Design and Technology***

The five comprehensive school subject leaders stated that the quality of curriculum at Key Stage 3 was central to capturing pupils' interest in the subject. This was aimed at persuading pupils to study one of the Design and Technology specialist subjects at Key Stage 4. Adam referred specifically to the enjoyment and the value pupils attached to Design and Technology:

I think kids got to enjoy it...they got to value what they are doing...their curiosity prompted is got to ...they got to be curious why stuff has been designed as it has and how it improves peoples quality of life in whatever type of product it is...so enjoyment...opening up kids' minds to how the world of design is...how everything is being designed...it's the developing practical skills...kids come out having developed...made progress with understanding knowledge and have then developed their skills. (Adam, interview)

Adam connects enjoyment, curiosity and improvement of quality of life as a way of opening pupils' minds to the designed world. He recognises that developing pupils' practical skills and making progress were important and acknowledges the benefits of Design and Technology as he saw them and how meaningful they were to pupils. This suggests his leadership role in designing such a curriculum that is of interest to pupils.

The perceived usefulness of Design and Technology was valued as pupils acquire a broad range of subject knowledge and draw on disciplines such as Maths, Science, engineering, computing and Art (DfE, 2014). Adam seemed to connect the wider world to what pupils were learning in Design and Technology classrooms. He also praised the experience that pupils had in Design and Technology lessons:

it helps pupils develop knowledge and skills that are not in other subjects but are essential, such as spatial or structural problem solving, studying the impact of the development of technologies on society. (Adam, interview).

Adam recognised the uniqueness of Design and Technology over other curriculum subjects. He explained that 'our lessons are enjoyed by many pupils', which suggests that the enjoyment of Design and Technology curriculum in the school was an outcome of collaborative work in the department. This in turn suggests the curriculum formed a basis for discussions about learning in the department. Adam's perception of the distinctive feature of the subject is essential in that when communicated to pupils, it may influence their choice to study the subject.

Likewise, referring to the benefits of Design and Technology in society, Theo commented that:

do you open doors for kids to come through many subject fields...I mean as a technology teacher...I see my job to equip children with skills to go on and study further and become productive and caring citizens of the world where they can contribute either have their own business but go out there and have work to do? (Theo, interview 1)

Here Theo identifies his role as developing pupils to be fit for the world of work, specifically equipping them with life skills. For Design and Technology, pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens (DfE, 2014). Theo's view on imparting skills to pupils is similar to Adam's view on ensuring pupils develop practical skills. This could suggest how Theo ensured that teaching and learning in the department were in line with his vision. Theo's vision appears to be enabling pupils to have opportunities that are useful in their future careers.

Equally, Nikki pinpointed that ensuring pupils enjoyed what they studied was essential:

Making sure that the children enjoy what they are doing...you know I came here, and the projects were very dull, but the students now take their work home...they are very excited to do the project... I cannot wait to do this game... they enjoy what they are doing. (Nikki, interview 1)

In the above excerpt Nikki suggested what pupils wanted in a Design and Technology lesson. Consequently, she was proud that her classroom projects were no longer boring and that pupils took their work home. According to Nikki, pupils were eager to be in a Design and Technology class for 'they come and say I love this topic'. Nikki's statement illustrated two scenarios. First, her role in ensuring that pupils enjoyed completing Design and Technology projects. Second, the view that 'I like that because that means we are obviously doing something right...that is very positive from the children...they like us all we like them' (Nikki, interview 1) could suggest the ambition that drove Nikki to work towards enhancing the Design and Technology curriculum in the department. This seemed to mean that the whole department staff had played a role in pupil enjoyment of the subject.

Nikki's views could imply her perception about the role she played in ensuring pupils enjoyed the curriculum that was offered in Design and Technology. She felt that her role as a subject leader was to ensure that pupils enjoyed their experience in Design and Technology. This may suggest why Nikki felt that she accomplished this by making sure that teachers were organised. She saw her involvement in what was taught in the department through providing 'working efficient systems'. The key practice that can be seen here is the subject leader directing the staff to maintain the delivery of an engaging curriculum.

Jaspal also explained the nature of Design and Technology classroom projects:

the projects that we do in lower school at key stage 3 we think are really exciting and interesting and we go to great lengths to explain to students when they are choosing options the career paths they can follow if they were to choose DT. (Jaspal, interview)

Jaspal had similar opinions as Nikki and Adam while explaining the exciting and interesting curriculum that was offered to pupils in his department. His comments revealed his perception that the Design and Technology curriculum in his school was a suitable choice for pupils to study at GCSE. Unlike Nikki who ensured that the projects were enjoyable, Jaspal saw it as his role to demonstrate to pupils the connection between their Key Stage 3 curriculum, their choice to study Design and Technology at Key Stage 4 and their ultimate career.

The similarity in the language used by Theo, Nikki and Jaspal is suggestive that the curriculum at Key Stage 3 was used to hook pupils to Design and Technology. The aim was to capture pupils' interest, endear them to the subject, and persuade them to choose the subject at GCSE. To achieve this, the subject leaders appeared to work collaboratively with their staff. For example, Adam explained how he had steered his staff to implement a more engaging curriculum:

The graphics project...this has been in a period of existence for a period of time...this project we have enriched it...the rigour and how challenging that was...was ridiculous...what the kids were really learning, and I have made that much more kind of demanding for the pupils. (Adam, interview)

Here, Adam explained how he used his skills to steer the staff to alter, enrich and make a graphics project more challenging. He saw it as his role to evaluate the quality of the Design and Technology curriculum and alter it if required. Adam's, Nikki's and



Jaspal's comments are also suggestive of their pedagogical knowledge of Design and Technology. The three subject leaders are also specialist teachers of the same subjects and this, coupled with their understanding of pupils in their departments, was able to influence curriculum change in their departments.

Jim commented on the influence he had on the curriculum that was being offered to pupils in his Design and Technology department. He explained that:

you know they are not going to a woodwork workshop anymore...they need that problem solving...design skills... So, we try and get a balance... so it is very much about ...trying to be creative. Um...and the kids find that difficult...you know...they are exposed to a subject where we are asking to be ...to think laterally. (Jim, interview 1)

Jim explained how and why he coordinated the department's focus on providing a demanding and stimulating curriculum. He drew on the department team and saw himself as one of them when he used 'we' when describing how the department team planned the Design and Technology curriculum at Key Stage 3. Jim explained how the team developed the Design and Technology curriculum in year 7 by taking risks and trying new initiatives. This approach could be attributed to Jim's practice in guiding the department team to work collectively towards an agreed method in teaching.

Adam, Nikki and Jaspal worked with their staff to teach projects that were enjoyable and thus improve pupils' experience of Design and Technology. The three subject leaders seemed to steer their staff towards a desired common goal of teaching through projects. Jaspal, unlike the others, gave the impression that pupils who studied Design and Technology were shown the subtle connection between it and their future careers. It could be suggested that Jim's perception of pupils' experience

of Design and Technology was influenced by their 'need to be up to date with what is happening in modern technology' (Jim, interview 1). Jim also recognised the difficulty this approach presented to pupils. Jim's view could suggest that subject leaders need to understand the implementation of the National Curriculum changes and the implementation of other policy changes such as EBacc.

### **8.2.2 *Methods used to promote Design and Technology***

The participants used a variety of methods to communicate with pupils and others who would influence a pupil's choice of GCSE options. This was because in choosing their options there was a decision-making window of opportunity which subject leaders seemed to use to sway decisions. Subject leaders believed there was a need to communicate the opportunities Design and Technology provided. They used a combination of methods. Two participants argued that pupils had to be taken out of school to have a better experience of Design and Technology.

Adam used a range of in-school events that the staff engaged in to make pupils aware of the suitability of Design and Technology as one of their option subjects at GCSE:

...in terms of what we do at the minute though we have an options assembly which we talk about the different options...we put our results up on the board...we get those [pointing to products made by GCSE and A level students and results board] out on opening evenings [points to a copy of results hanged on the wall]. (Adam, interview)

The above quote reveals that Adam used an options assembly to promote Design and Technology which could be attributed to his view that the subject is demanding. The options assembly allows demonstrating aspects of the subject. Capturing pupils' imagination on the usefulness of the subject seems to be Adam's way of working

when delivering an options assembly. Using Design and Technology subject teachers in taster lessons would suggest the desire to showcase the subject. The Design and Technology curriculum in Adam's department was structured in a carousel. Therefore, taster lessons afforded pupils a chance to engage in specialisms that they were yet to study or had studied in the past.

Adam's approach to collaborative working is epitomised in the use of colleagues to offer taster lessons. Staff were empowered by talking to pupils about GCSE Design and Technology, which in turn brought success to the whole department. Outside the classroom, Adam used the department's corridor walls and window displays to exhibit the previous GCSE and A-level Design and Technology results. Displaying results in a strategic position in the department was meant to give a message about the impressive results that pupils had attained. Below is an extract from my *in-situ* field notes:

Photographs of ex-students are hanged on the main Design and Technology department corridor walls. A short blurb on each contains information on the Design and Technology specialism they studied at GCSE and A level, a picture of their A level project, their current university and the course they are studying at university. On the adjacent corridor walls are display shelves with exemplar students' work from year 9, 10, 11, 12 and 13. Also displayed on the corridor wall is a GCSE and A level results board with headline figures highlighting achievement in Design and Technology subjects. (Field notes – corridors and window display around the department Adam, Interview, Data set 4)

Adam perceived that it was his role to ensure that Design and Technology was well presented to pupils. To Adam, pupils needed to be constantly reminded of the success that others had achieved in a similar environment. Adam's emphasis on a

display of GCSE and A-level results contrasted with the other subject leaders' way of working. This is because he believed pupils needed to see what sort of grades they could achieve if they chose to study Design and Technology. Despite the effort that Adam had made in trying to influence pupils to choose Design and Technology as one of their option subjects, he expressed a sense of resignation, 'that's probably about it though...we probably don't do much more than that'. Like the options assembly, the display of results on the department corridor walls appeared to communicate succinct information about the department's successes.

Adam valued the display of artefacts, and they dotted a considerable proportion of any available window display space. His perception about the role of the artefacts was influenced by the value he attached to their effectiveness in conveying past pupils' achievement in Design and Technology. Adam's use of displayed artefacts, GCSE and A-level results as a form of communication demonstrated his emphasis on a practical approach that could influence pupils' decisions 'so that they look at it and understand the products a little bit more' (Adam, interview).

Similarly, Nikki explained why it was important for her to promote Design and Technology:

you know it is a business... It is a business because you need to look at it...this department I used to have four students...believe it or not in GCSE...four students...my job was to raise the numbers to make it a better department.  
(Nikki, interview 1)

The above quote reveals that Nikki believed that running a successful department was like running a business. This style and approach were focused on a particular outcome, which was to raise the number of pupils choosing to study Design and Technology as a GCSE subject. She set about the task as an individual, 'I have been

like this...very like on top of everything...organised...so I said fine how will I do this? (Nikki, interview 1). This suggests that she relied more on her hard work and organisational skills rather than the collective effort of the staff.

Nikki used the following methods to influence pupils in choosing Design and Technology:

every end of term we do like an achievement assembly...we always give the top attainment or the top effort in class...and they do in assembly and they celebrate that...you know send post cards home...if somebody does very good in an exam...mock exam...you know I send a post card home...saying well done...your child achieved this grade...we do an art and DT exhibition at the end of the year...so for year 11 we show case their work... We combine several exhibitions, so it is not only the GCSE exhibition we have got a key stage 3 extended learning competition. (Nikki, interview 1)

The above excerpt shows that Nikki used a range of methods to communicate with pupils and their parents. Her approach seemed to be divided into three categories. The first was aimed at pupils; for example, the end-of-term achievement assembly. The second at parents; for example, postcards. The third was aimed at both. Nikki working this way shows she was considerate of the pupils and their parents' attitudes in their achievements in the subject. She acknowledged how pupils felt about the display of their work, 'my product design work will go on the exhibition' showing the importance the event had on them.

Nikki also saw communication with parents as an essential part of her work. This was evident in her comment on how and why she got into contact with parents: 'we have been sending postcards home and that is to increase the popularity of taking up the subject' (Nikki, interview 1). The desire to have more pupils studying Design and

Technology necessitated Nikki involving parents in the achievements of their children. This approach may have contributed to the large number of pupils who were opting to study Design and Technology, which in turn compelled Nikki to find ways to reduce the numbers of pupils in Design and Technology.

Although Nikki and Adam had various structures in place to promote their subject to both pupils and parents, they were done differently. Nikki's annual exhibition of pupils' work can be construed as a one-off big event, whilst Adam's display of pupils' work on cabinets was over time. In Nikki's approach, the exhibition appeared to be about the immediate effect to assist at the moment decision-making, whereas Adam's approach was a continuous activity that helped form a long-term impression about Design and Technology. This may suggest that Adam viewed leadership as a way of involving others in a continuous process of connected actions to influence the outcome. By contrast, Nikki viewed leadership as an opportunity to direct others to achieve the desired outcome.

Regarding the way Design and Technology was promoted Jim explained that:

we have got displays around ...we've got a few Ikea type cases we try and put kids work...there is a termly magazine...promote work of kids especially after the exam time...we do an open evening in the summer where we display all the work...invite parents show everything in...there is some other colleague he tends to assist in organizing competitions...he does a lot of competitions he obviously gets that sort of buzz going round the school...we got the TV screens ...rotate round some of the work that the kids have been doing...as well as updating the website...we also do a parent workshop...we have this exhibition in the summer. (Jim, interview 1)

In the above quote, Jim explained a range of methods that were in place to support the promotion of Design and Technology in his school. Like Nikki and Adam, he used these opportunities to communicate with pupils and their parents. However, Jim's way of promoting Design and Technology through working with parents contrasted with how other subject leaders worked. His parents' workshop where the parents were taught skills to support their children in Design and Technology schoolwork looked like a direct way of influencing parents towards supporting their children in choosing to study the subject.

Jim may have perceived it as his role to encourage parents to be involved in their children's progress in Design and Technology. This approach is tied to his view about the place of Design and Technology in society. He had several other ways of promoting Design and Technology including the school's termly magazine and TV screens which were unique to his school. He singled out the use of Design and Technology related competitions as a method that brought excitement around the school. Jim's approach concentrated on increasingly promoting the subject to pupils continuously throughout their school day. Promoting the work of pupils was made necessary by the diminished pupils who were opting to study Design and Technology. Jim's way of working was similar to Adam's where pupils interacted with promotional materials as they moved around the school.

I had a guided school tour in Jim's school and below is an entry on my field notes regarding the display of students' work:

At various points around the school there were open shelves or clear glass cabinets with exemplar students' work in Design and Technology. The cabinets were spread throughout the school for example there was one at the reception area and along the geography corridor. The cabinets were placed

strategically for better viewing by anyone walking along the corridors. The artefacts were 3D prototypes and cabinets were of varying sizes containing different numbers of artefacts. (Jim, field notes on corridors around the school, Jim data set 7)

Jim had used a lot of space around the school to display pupils' work and show some of the Design and Technology products to the school community. This way of working could imply that the display's purpose was to make an impact on pupils so that they could have some understanding of what Design and Technology is. In addition, others in the school for example teachers, parents and governors could appreciate the work produced by pupils in the Design and Technology department.

Jaspal had also put in place structures to support the promotion of Design and Technology:

just after the evening before they hand the forms in what we do is we do a rotation for year 9...so year 9 in their lesson which is 2 hours long we would give them a taster of textiles, food, and product design for GCSE so then they get to experience what those different subjects are like...so they get a little carousel to show them what all the different subjects are because they may not have been in food for a year but they have to choose the options...we might get a GCSE student to talk to them for 5 minutes...in product design what it is like... (Jaspal, interview)

This shows the different methods that Jaspal used to reach directly to pupils who could potentially choose Design and Technology as a GCSE subject. Like Adam, Jaspal ensured that pupils had a taster lesson of all the possible specialisms in Design and Technology, which helped pupils to refresh their memories. Design and Technology in both participants' departments was taught in a carousel system and so by the time they chose their options pupils will have studied several specialisms.



Unlike Adam who spoke to pupils in an assembly, Jaspal used Key Stage 4 pupils who had already chosen to study a Design and Technology subject to speak to prospective GCSE pupils. This suggests that Adam had a lot of confidence in his pupils and that peer influence played a great role in helping pupils select their options.

In addition, 'to try and change perception' towards Design and Technology Jaspal had put structures in place as he explained that:

Annually we have a creative art exhibition which is art, photography, and DT. So, all of our work...all of our work that we think it is really good we put an exhibition ...we invite all the parents of the students ...it runs for two days...we encourage all the staff to go...we encourage all of the year 9 students to go and look...so because they are the ones choosing their options and this is the work they will be producing when they choose it for GCSE. (Jaspal, interview)

This shows the range of audiences Jaspal targeted; pupils in year 9, their parents and members of staff. Jaspal unlike Adam and Jim interacted with other teachers outside his department to shore up support for the subject.

Jaspal targeted a few pupils to put their work for exhibition whilst Nikki and Jim invited pupils in Key Stage 3 and all the GCSE pupils to exhibit work. Jaspal only invited a small number of pupils and their parents to view the exhibition. Targeting parents appeared important because of their role and influence on their children's education. Jaspal's strategy was thus to market Design and Technology to a select number of pupils who might choose to study the subject at Key Stage 4.

Jaspal's tactic in targeting pupils could suggest his own perceptions about the subject and the advice he gave to these selected pupils. Like Adam, Nikki and Jim, he said that displays around the school were a good means of promoting Design and

Technology. However, Jaspal also used a whole-school newsletter to advertise upcoming Design and Technology trips. His use of the newsletter reached a wider group in the school community. Reaching out to the wider school community suggests a sustained campaign to promote Design and Technology. Promoting learning outside of Design and Technology classrooms such as a museum trip could suggest Jaspal's view of how real-life experience in the designed world affects pupils' learning. Promoting Design and Technology through a variety of methods showed Jaspal's perception in guiding pupils to pick it as a GCSE subject.

In addition to working with teachers from other departments to put on an exhibition, Jaspal ensured that more staff in the school were aware of whose work was being exhibited. Jaspal explained that:

we make a point of putting work in the exhibition of students that might struggle in other subjects ...so then normally staff are impressed with the practical work those students have produced...staff are the ones who interview students and where parents might not know how best to guide the students the staff do. (Jaspal, interview)

This shows how exhibitions were used differently in Jaspal's department. Although exhibitions were used to display pupils' work to parents in Jim's, Nikki's and Adam's departments, Jaspal explained that their exhibition was also specifically targeting teachers in the school. Jaspal was aware that teachers interviewed pupils and guided them in choosing their options.

Consequently, Jaspal had to ensure that these teachers had a better perception of Design and Technology. His approach could suggest that as a subject leader he linked his department with colleagues in other departments and was aware of the influence teachers had on pupils when selecting options. Bringing out the work of

specific pupils and encouraging teachers to see it was one way of influencing the advice that teachers would be giving to those pupils. Like the other subject leaders, Theo had put in place methods to support the promotion of Design and Technology in his school:

we have the usual open evening...parents' evenings ... we have got post cards which we send...letters, reports...SPRs [child progress reports] ...I do feel that, in that regard that marketing of the department can be a lot better for instance through the internet and more regular letters or maybe a technology leaflet to share what is going on in the department. (Theo, interview 2)

Theo used the available opportunities to communicate to parents and made them aware of their children's progress in Design and Technology. This suggests that Theo was keen to have parents understand how well their children were doing in the subject. Theo writing to parents 'letters to celebrate success' shows the importance he attached to sharing pupils' achievements. This may suggest the role the subject teacher played in promoting Design and Technology to parents. Theo was aware of the influence that parents had in advising their children on subject options. He also used other methods that were applied in the other case studies including parents' evenings and open evenings. However, he was clearly keen to have more direct and regular communication with parents.

Additionally, a new school website was being developed and Theo hoped that it would provide a better platform for promoting the work in Design and Technology:

The whole Design and Technology area has been updated on the school website which will go live once we are in the new area so using photographic evidence with all the restraints that come with photos will be done with great circumspect. (Theo, interview 2)

Aside from parents' evenings which were face-to-face, Theo used several forms of correspondence and the Design and Technology website to raise the profile of his department. He acknowledged that a technology leaflet and more regular letters to parents would be useful in marketing the department's work. The school's website contained information about Design and Technology courses from Key Stage 3 through to A-level, and notably the phrase 'practical skills' was frequently used in the descriptions.

An introduction to Design and Technology courses on Theo's school website read:

Technology helps students develop a variety of skills...students will need to focus the practical aspects...students should develop the ability to draw on and apply a range of skills. (Theo, field notes on department website information, Theo data set 3)

Comparing this entry on the school's website with Theo's views, it appears that his perceptions about his role in informing pupils and parents about Design and Technology are pegged to the changing nature of technology in society. Theo may have been keen to have a range of promotions. This could be because the department was on the verge of being closed and Theo was working to ensure that it survived. One way that ensured its survival was the number of pupils studying Design and Technology at GCSE and A-level.

Theo's understanding of the changes in Design and Technology informed his approach to promoting the subject. He explained that:

In every 18 months technology is changed and we are moving on...and parents don't realise that, and I also don't realise we are the subject area that's going to give their kids a job' (Theo, interview 2).

In this quote, Theo observes that Design and Technology will be vital to pupils' entry into the job market in the future. He suggests that it was his role to inform parents and pupils in his school about this prospect. Theo, unlike the other participants, used the department website to actively promote the subject to pupils, parents and the wider school community including governors who were important in ensuring the survival of the subject.

The methods used to support the promotion of Design and Technology depended on the target audience which included pupils, parents and to some extent other teachers in the school. Subject leaders used one-off methods to target pupils including options evenings and exhibitions that happened once a year. Jaspal used exhibitions differently from the other participants in that he ensured other teachers in the school were involved. This indicates a view of working collaboratively in his leadership role. Other methods included a continuous form of promotions such as the use of artefacts around the school. However, Jim saw this as a representation of the creative work that was involved in Design and Technology. Theo worked differently from the other participants by ensuring that his belief in Design and Technology as a modern subject was reflected in the way he promoted the subject to pupils, parents and other stakeholders. Jim viewed as part of his leadership role to inform pupils and parents about the potential that Design and Technology offered as a career path.

### **8.3 Similarities and differences in how subject leaders worked with school policies that enhanced or constrained Design and Technology**

Across the case studies, the data showed that there were school-wide policies that enhanced or constrained Design and Technology. These included timetabling, optional subject selection procedures, subject leaders' responsibilities beyond the department and funding.

### **8.3.1 Timetabling**

In Schools' timetabling policies gave less or more time to Design and Technology, which in turn constrained or enhanced it. Allocating enough time was seen as an essential part of sustaining Design and Technology. Adam explained how he took up changes in the timetable that were favourable to other subjects over Design and Technology with the headteacher:

I do not believe increasing time in Maths, English, Science, History and Geography to the detriment of creative subjects like Art and Design & Technology will provide a good model of education and enable all pupils to achieve. Art, D&T subjects consistently enable pupils of differing abilities to succeed at GCSE & AS/A2 level. This is due to subjects ensuring pupils are engaged in interesting, rewarding and suitably challenging work. (Adam, email document, Adam data set 2)

This extract from an email sent by Adam to his headteacher exposed how other curriculum subjects were getting more time on the timetable than Design and Technology. Adam perceived that it was his role to protect Design and Technology from unfavourable school policies. In the email, Adam was defending Design and Technology curriculum time and suggested that some curriculum subjects had been given more time at the expense of his own. Adam appeared to believe that his school's senior leaders were skewed in allocating equitable time between subjects.

Adam's complaint relied mainly on his reservations about the disparity in the curriculum. He challenged the perception that Design and Technology was less important than other subjects, which contributed significantly to accountability performance measures. His way of working questioned the rationale used to allocate extra time to subjects that only count towards his school's performance score.

Therefore, he viewed his role as protecting the interests of his department against school policies that seemed to constrain the success of Design and Technology.

Closely related to curriculum design and the availability of time on the timetable, Adam explained that a closer look at Design and Technology specialist subjects revealed that they were disadvantaged:

Although Design and Technology curriculum time is 5 hours in year 7, 4 hours in year 8 and 3 hours in year 9- across a two-week timetable, this time is split between 3 different subjects: Textiles, Food and Resistant Materials. Each subject gets a fraction of the curriculum time given to other subjects. (Adam, email document, Adam data set 2)

This email extract pointed out that Design and Technology is an amalgamation of several specialist subjects. In this excerpt, Adam revealed how the specialist subjects were short-changed in respect to time in comparison to other curriculum subjects. Each specialist subject had its own content to be covered and that was not taken into consideration. Adam, as the expert practitioner of Design and Technology, felt that it was important to convey subject-specific requirements to the headteacher. This showed Adam's advocacy role in making others understand the rational requirements of Design and Technology. Consequently, the school's senior leaders shelved the idea of reducing curriculum time for Design and Technology.

Similarly, Jim spoke of how a reduction in curriculum time would be damaging to Design and Technology in his school:

next year if we do go to a more reduced time...if we end up losing a quarter of the time effectively over the key stage then ...it is going to be difficult what we slash...we do gonna keep the fundamentals of designing creatively trying to be as open with that design process (Jim, interview 1)

Like Adam, Jim was facing a school policy that would reduce Design and Technology curriculum time and constrain the breadth of the Design and Technology curriculum in his school. Jim said that, as a department team, they would have to make serious decisions regarding the content that could be taught. This would result in the department removing a broad range of subject knowledge (DfE, 2014). Jim believed that it was his role to work with the constrained resources from the school and offer a credible Design and Technology learning experience to pupils. Jim, unlike Adam who challenged the rationale for reduced curriculum time, appeared to take a proactive approach in considering how the curriculum would be remodelled to fit with the school's senior leaders' proposals.

Theo explained how a Design and Technology specialist subject was removed from the timetable and replaced with another subject:

Food technology sadly it has disappeared from the timetable making place for travel and tourism. (Theo, interview 2)

Theo revealed how drastic measures were taken at the expense of Design and Technology component subjects. Theo regretted that a specialism of Design and Technology had to go for other curriculum subjects in his school to flourish. He appeared to have had no input to the decision which suggests that he worked with the departmental level changes following decisions by the school's senior leaders.

### **8.3.2 *Optional subject selection procedures***

Optional selection procedures were seen to either suppress or increase the possibility of pupils choosing to study Design and Technology beyond Key Stage 3 and thus whether the subject would have enough pupils for it to be taught at Key Stage 4. Jaspal described how his school had structured option subject's selection format in



favour of Design and Technology amongst other subjects which gave a lifeline to Design and Technology:

one of the school's values is...the school is committed to ensure that the students have access to a broad balanced curriculum. So, as part of that broad balanced curriculum what the school decided to do was to reduce the time available for each option subject but increased the number of subjects, students could choose. So, students have more free choice...on timetable the time they have per subject is less...so we were before that because it means that in addition to the EBacc subject rather than students having only one choice they have two now. (Jaspal, interview)

In the above excerpt Jaspal explains how his school senior leaders used a more equitable approach that ensured Design and Technology had a fair chance of survival. He saw a difference in the change to school's approach that benefitted Design and Technology for 'in the past they could choose three subjects that were changed to four subjects' (Jaspal, interview).

Although the options subject selection policy reduced the curriculum time and increased the number of subjects on the timetable, Jaspal was in support. This meant 'the chances of [the pupils] choosing a D&T subject is higher because they have more subjects they can choose'. Having more subjects to choose from raised the probability of more pupils studying Design and Technology as an examination subject. Jaspal's way of working appeared to promote cooperation to achieve the school's goals. He was aware that opposing the school's approach to options procedures would limit the chances of Design and Technology having many pupils at GCSE level. The support of the options selection policy meant that Design and Technology had a better chance.

In contrast to how a broad and balanced curriculum was handled in Jaspal's school, Jim explained his view regarding how schools were handling EBacc requirements:

I still think the subject is important...I think if anything the main worry of EBacc having that negative impact [on D&T] I think luckily a lot of schools have not complied fully or not gone completely down the EBacc route so either realising that we need to give students a broad balance curriculum and for you even have to do that you need to have the Arts we can't ignore Arts or D&T, music or drama. (Jim, interview 2)

Jim felt that, despite the promotion of EBacc contributing to the marginalisation of Design and Technology, school leaders were still making it possible for pupils to have a broad and balanced curriculum that included the subject. It is evident from Jim's comments that he believed Design and Technology had its place in the curriculum.

However, Jim suggests that his views were not taken into consideration in his school. Jim appeared to be aware of the role Design and Technology played in the curriculum. Jim explained that he interpreted information, raised key questions and presented evidence the senior leaders to support the continuation of Design and Technology in his school. He expressed optimism that his school would continue to offer Design and Technology alongside the EBacc and was of the view that 'supposedly it [D&T] is important because a lot of students and a lot of parents value it'. This could suggest why Jim conducted parent workshops in his school where he pursued interactions with parents to promote Design and Technology.

### **8.3.3 Subject leader's responsibilities beyond the subject department**

Engaging in other responsibilities outside of the department was seen by two subject leaders as taking them away from important tasks that would have supported them in

sustaining Design and Technology. Nikki explained how other responsibilities beyond the department constrained her subject leadership role:

I think sometimes I find the pastoral role is very heavy...so I am a form tutor as well...there is a lot of you know calling home...meetings...this and that...and I feel as a head of department we should not be doing that...you know it does take a lot of my time...after school...before school. (Nikki, Interview 2)

Nikki's pastoral role took a lot of her time thus making her move away from the department's work. This highlighted her view that her department leadership role was more important, and time outside teaching responsibilities could have been used to develop the department. This is evident when she disclosed that 'I would rather just use that time to monitor my department', which showed how the pastoral role was inhibiting her leadership role. Nikki's statement could suggest her will to work even harder for her department.

Similarly, Jack explained that:

Sometimes I have to have my departmental hat on, but I always have to have my SLT hat on and that sometimes is probably been a difficult situation...whereas before as a head of department you know in my previous school...I am on the department side, and I have got their best interest at heart. (Jack, interview)

Jack recognised the difficulty of having two positions that had a conflict of interest. To Jack, his subject leader role was at the periphery and had been overtaken by the senior leader role. Unlike Nikki, who said that she wanted to spend more time monitoring her department, Jack had to display the attributes that came with the role of a senior leader.

### **8.3.4 Funding**

Funding was another issue that constrained Design and Technology in the curriculum.

Theo explained that:

Currently the department offers food technology, child and social care, resistant materials, graphic products...so two of my members of staff are now focusing on travel and tourism...the school went through a restructuring process due to funding issues from government and this is nothing to do with the school whatsoever. (Theo, interview 2)

This shows how components of the Design and Technology curriculum were being replaced by other curriculum subjects. As Theo indicated, the school was willing to resume the offer of Design and Technology curriculum components that were previously discontinued. This indicated that in hierarchy order, Design and Technology was low-placed and could be easily removed from the curriculum and returned when circumstances allowed.

Although the outcome was damaging to Design and Technology, Theo appears to defend the school in the decisions that it made regarding the curriculum. Even though the range of Design and Technology subjects offered beyond Key Stage 3 was dependent on the number of pupils opting to study the subject, Theo explained how continuation beyond Key Stage 4 was hindered by a lack of funding and other school's issues:

we have product design up to year 13 but next year they will be no A level teaching in the department due to lack of capacity and restructuring within the school. (Theo, interview 2)

Theo was apprehensive that Design and Technology continued to be side-lined. He still believed that it was important to offer the subject and had liaised with his school's

senior leaders to reintroduce Design and Technology teaching at post-16. Opportunities for increasing Design and Technology at Key Stage 4 were regulated by the school's senior leaders. This, according to Theo, was out of his control and he concentrated on making teaching and learning enjoyable to pupils.

School policies that enhanced or constrained Design and Technology came from the schools' senior leaders. The school decides policy on the basis of the effect on subject leaders of departments. Policies were either accepted or rejected by subject leaders depending on how they affected their departments. Opportunities to sustain Design and Technology were suppressed through a timetabling policy that gave more curriculum time to other subjects and a lack of funding coupled with schools' internal restructuring. This reflected how fragile Design and Technology was in the curriculum. Adam appeared to challenge the school's senior leaders' rationale for reducing curriculum time. Defending Design and Technology, he perceived that it was his role to challenge his school's senior leaders on their opinion regarding increasing time for other subjects at the expense of Design and Technology.

However, with the fragility of Design and Technology in the curriculum, Jim saw it as appropriate to work with the senior leaders' policies and engaged his staff to remodel the Design and Technology curriculum to fit the reduced timetable. Theo seemed to agree with his school's senior leaders' position on funding Design and Technology, which had resulted in the removal of some specialist subjects from the timetable. His approach meant that a lack of antagonism would probably make the senior leaders keep their word on reinstating post-16 teaching of Design and Technology.

#### **8.4 CHAT analysis: Showcasing Design and Technology**

Several tools including curriculum design, exhibitions, letters home, trips and newsletters were used by subject leaders while showcasing Design and Technology.

This was seen as integral by participants in raising the profile of Design and Technology in the eyes of pupils, parents and schools' senior leaders. For example, in Adam's department, staff knowledge of the curriculum was viewed as a tool for redesigning the curriculum to make it an experience that would encourage pupils to select the subject at the end of Key Stage 3.

The curriculum design tool mediated the work of subject leaders in the Design and Technology department leadership activity systems in the activity of sustaining and developing Design and Technology in the curriculum. Adam promoted joint department work in designing new schemes of work that introduced challenging project work for pupils at Key Stage 3. This approach was a way of furthering the work of the department through the subject leader. Adam's close collaboration with departmental teachers in matters regarding the development of the curriculum, promoting Design and Technology and improving their own classroom practice highlighted how he perceived his leadership in sustaining and developing the subject.

Comparing the way Adam used curriculum design to raise the number of pupils who were opting to study Design and Technology with Nikki's use of a similar tool to reduce the number of pupils indicates that tools are recreated depending on the contextual setting. The appropriation of the curriculum design tool was dependent on the purpose that the subject leader intended. The tools and how they were appropriated in showcasing Design and Technology shaped the perceptions that subject leaders had about their leadership practice. This in turn reveals the distinct social-cultural situations in the departments that were led by the participants.

Displaying the work that pupils had produced in Design and Technology mediated how subject leaders worked together with pupils, parents and other teachers in the school in showcasing the subject. Jaspal organised events that would involve parental

participation. The tools that were appropriated in displaying pupils' work depended on the situation in the departments. This suggests the level of working together that subject leaders envisioned between the community (pupils, parents and teachers) in the activity of sustaining and developing Design and Technology in the curriculum.

As physical tools, Jim had the access to lots of space around the school which he used to establish the presence of the Design and Technology department. This was evident in Jim's reference to how these tools were used. TV screens were mounted around the school, 'so as you walk around the school, work [produced by pupils in D&T] on the screen will come...we promote all the coursework that the kids had done' (Jim, interview 1). This opened conversations that could begin discussions between pupils, teachers and the subject leader. Jim used the TV screens in a way that pupils in the school were able to see and celebrate their own work and that of others.

Like the TV screens, other forms of communications were used by Jim to show the work produced by his pupils. He used these tools regularly in promoting Design and Technology to elicit discussions in the school community about the subject. They were part of the activity of sustaining and developing D&T. Therefore, displaying the department's information on the TV screens and on shelves enabled mediation of showcasing Design and Technology. An important reason for using the TV screens and the display shelves was an opportunity for the subject leader to introduce to the pupils' work to the community.

There were considerable differences in how the floor spaces were used as tools. Theo appeared to ignore the space he had and put an emphasis on the upcoming new school building in which 'at moment, I have this small space...where I have displayed some of the past students' work...in the new block the whole ground floor in the new school...will have D&T' (Theo, interview 2). Theo anticipated that the new building

would provide an opportunity to showcase Design and Technology. He ignored the opportunity to raise conversations about pupils' work through the use of physical tools such as floor space around the school. Consequently, the floor space as a tool was side-lined awaiting a suitable time.

Theo considered the image of Design and Technology as important. He valued design competitions in which pupils participated. He regularly updated the Design and Technology webpages on the school website and used the tools as a way of persuading the school community to change their perceptions about Design and Technology. This was important to Theo because the survival of the department was dependent on how the senior leaders viewed the department. Consequently, the tools that Theo chose to appropriate were primarily sought as supporting the existence of Design and Technology in his school.

### **8.5 The interaction of Design and Technology department leadership activity systems with other activity systems**

This section considers the interaction of Design and Technology department activity systems. The discussion looks at the third research question, which asked how Design and Technology department leadership activity systems interact with other activity systems. As explained in Chapter 4, activity systems are multi-voiced in that they model collective activity undertaken by actors with differing roles, positions and perspectives (Foot, 2014). Subjects in an activity system could be involved in networks of systems with shared objects (Engeström, 2001). Subject leaders in Design and Technology department leadership activity systems were influenced by how they worked in other such systems. They were also participants in other activity systems, which affected how they saw their work in the Design and Technology departments.



In an interacting activity system, the human activity is social, constantly changing and always connected with other activities that share a common object or motive (Kuutti, 1996). How the subject leaders worked towards the objects in other activity systems affected how they saw their work in the Design and Technology department leadership activity systems. This interaction affects how the objects of the activity systems in sustaining and developing the subject are viewed. Activity system interaction helps to explain why the systems' objects in sustaining and developing the subject differed (Douglas, 2015). One such interaction was between schools' senior leaders' activity system and the activity of managing their departments.

#### ***8.5.1 The interaction of Design and Technology department leadership activity systems: Jim, Jack and Theo***

In Theo's leadership of the activity of sustaining and developing the subject in the curriculum, the Design and Technology department leadership activity system was interacting with the school's senior leaders' activity system, in the activity of managing departments. The staffing situation in the department seemed to be a concern for the senior leaders; for example, Theo commented on the importance that was placed on the support that he received. He believed that he had support from the school's senior leaders, and this could suggest that his working with them affected how he saw his work in the department. He relied on the school's senior leaders' 'supportive and fantastic relationship' (Theo, interview 1) to run his department. For example, the planning of the Design and Technology curriculum in Theo's department was dependent on the senior leaders' decisions regarding provision of the subject.

Theo perceived that the school's senior leaders played an important role in sustaining and developing Design and Technology in his curriculum: 'I have been promised that next year we will pick up product design again at year 12' (Theo, interview 2). Consequently, for Theo, in working towards sustaining and developing Design and

Technology the support of the school's senior leaders was essential. This may suggest that in Theo's school the senior leaders' activity system object in the activity of managing departments could be about monitoring the progress of the Design and Technology department, given that they were influential in dropping most of the specialist Design and Technology subjects in the curriculum.

Theo felt that a promise by the school's senior leaders to return some of the specialist Design and Technology subjects to the curriculum the department would be well supported: 'so I have lost all year 10 and 11 Food Technology but again that is in discussion' (Theo, interview 2). So, in the Design and Technology department leadership activity system (where Theo was the subject in the activity) the survival of Design and Technology was vital. Equally, the re-introduction of Design and Technology specialist subjects in the school was critical to the department leadership activity system and this was dependent on the senior leaders' decision. This was one example of where the involvement of the senior leaders in the department leadership activity system was seen as significant for the survival of Design and Technology.

Similarly, Jim's leadership of the activity of sustaining and developing the subject of Design and Technology in the secondary school appeared to focus on establishing structures that worked closely with the school's senior leaders' activity system in the activity of managing departments in the school. Jim felt that he was 'supported well through SLT' (Jim, interview 1). This support was seen, through line management structures; for example, through line management meetings, which was also seen as important by Nikki. Jim routinely shared the department meeting minutes with the line manager and he felt that 'he is very good' (Jim, interview 1). Beyond this support, the school's senior leaders had set structures so that their policy was pursued at the department level. For example, the senior leaders intended that department meetings be used to work on their agenda. Therefore, the tools used to mediate the work on

the object in the school's senior leaders' activity system in the activity of managing schools were department meetings and line management.

Unlike the other subject leaders, Jack was both a subject leader and a senior leader. Therefore, he was involved in both the senior leaders' team and the Design and Technology department team, 'I am still learning as a leader how to be a senior teacher' (Jack, interview). Jack felt that the way he viewed issues at the department level was directly influenced by what he knew from his position as a senior leader. This meant that his department leadership was also seen from a senior leader's perspective. This may suggest that the object of Design and Technology department leadership activity system is affected by his participation in the activity of managing departments in the senior leaders' activity system.

Therefore, the interaction of the activity systems affects the objects of both, which may, in turn, lead to having a potentially, partially shared or jointly constructed system's object (Yamazumi, 2008). Working with the members of staff in the Design and Technology department was more of an added responsibility to Jack's senior leader role: 'I was promised when I joined this school that I wouldn't be a head of department' (Jack, interview). Consequently, Jack's focus on the senior role could have conflicted with an emphasis on sustaining and developing Design and Technology.

Rather than viewing the senior leadership role as providing a beneficial link to the work of the department, Jack spoke in terms of conflict of roles, where the senior leader's role was in direct clash with department role expectations. This may imply that some of Jack's work in the department was influenced by his role as a senior leader and vice versa. This is one example where the interaction of the Design and Technology department leadership activity system with that of the senior leaders was

hostile to the activity of sustaining and developing the subject in the curriculum. Regarding department meetings, Jack felt that he was caught between the demands of his colleagues at the senior leaders' level and the department staff whenever he raised school-wide issues at the departmental level. Jack acknowledged that in department meetings his views on issues were suppressed due to his prior knowledge of the same, as a senior leader in his school.

### ***8.5.2 The interaction of Design and Technology department leadership activity systems: Nikki, Adam and Jaspal***

The respective schools' senior leaders were involved in the subject leaders' monitoring of teaching and learning through learning walks and book scrutiny exercises. These tools were appropriated differently to improve the work of the department through the subject leader. For example, Adam, unlike Jaspal, rejected the involvement of senior leaders in monitoring teaching and learning in the department. He appropriated the tools that were the learning walks and book scrutiny developmentally by improving the classroom practice of the staff through the sharing of good practice. Jaspal used walkthroughs and book scrutiny in a restrictive way by checking compliance with set requirements.

Nikki perceived senior leaders as demanding. Their involvement in Nikki's department was about monitoring teaching and learning. The senior leaders had put in place procedures for Nikki to follow and this resulted in her adjusting the working of the department to what was desirable to her instead of accepting the school's senior leaders' instructions. Nikki appeared to view the school's senior leaders as creating extra work for the staff and she chose to side with the department by asking them to complete specific tasks. She decided what was important or less important to the department. She felt that the school's senior leaders were less supportive of the running of the department and by managing the department's workload appeared to

be working towards cushioning the staff from the interruptions that were created by the senior leaders.

This may suggest that the object of the Design and Technology department leadership activity system where Nikki was the subject was affected by the interaction with the senior leader's activity system in the activity of managing the work of subject leaders of departments. Therefore, the interaction of the activity systems affected the objects of both. Consequently, the senior leader's involvement with the Design and Technology department appeared to be controlled by the subject leader. Nikki used her position to structure the work between the department and senior leaders. However, their involvement was sometimes viewed as 'supportive' of or important to the work of the department, for example, Nikki felt that getting a day to work with a group of year 11 pupils was helpful for her own teaching.

In the activity of working with parents, the school parental liaison activity system's object could be the engagement of parents with the school to develop their involvement in their child's education. Subject leaders worked to align their work in showcasing Design and Technology by considering the extent to which parental influence was exerted. In sustaining and developing Design and Technology, Nikki was more focused on the significance of the number of pupils that opted to study Design and Technology, which was achieved through engagement with parents. Similarly, Parental contact was also mentioned in Adam's work:

What our kids get, it does not affect their decision on whether they take or not [D&T] ...their parents... but their perception of why...what they think we are about' (Adam, interview).

Adam saw parents as important in deciding whether their children would study Design and Technology. This suggests that Nikki and Adam were involved in the department

leadership activity system in developing and sustaining Design and Technology and working in the schools' parental liaison activity system.

The collaboration between the senior leaders and Adam's department arose due to the specific issues that affected the department. Like Nikki, Adam used his position to bring the issues affecting the department to the senior leaders in his school:

The idea that extending curriculum time in subjects that have greater value when measured using progress 8 to the detriment of Art, Design & Technology is based on longstanding misconceptions about the nature, significance and potential of the subjects. (Adam, email document, Adam data set 2)

Adam revealed his objections to the reduction of Design and Technology curriculum time in the school timetable, but maybe because of the hierarchical structure in schools, he felt that such concerns were addressed. The subject leader saw the senior leaders as important in solving some of the issues that affected the department. This meant that matters of department leadership were directed to the attention of the school's senior leaders' when required.

Jaspal's department worked with the school's senior leaders in supporting the work of the department. He stressed how important it was for the department to work with senior leaders. This was apparent in the role Jaspal played around the appropriation of tools in the department leadership activity system. The school's senior leaders' relationship with the department was seen as beneficial and supportive to him: 'we don't always get anything we want but they consider it and sometimes we do' (Jaspal, interview). Thus, the consideration of requests sent by Jaspal to the SLT was important to the way the department functioned.

Like Nikki and Adam, Jaspal saw parents as having an important role, especially in deciding what their children chose to study at GCSE: 'the impression parents have of the subject...to know how this subject would help them [pupils] get a job at the end of it' (Jaspal, interview). Jaspal was involved in the department leadership activity system in the activity of sustaining and developing Design and Technology and in the school's activity system of parental liaison. The interaction of the two was an opportunity to showcase Design and Technology. Jaspal emphasised working with other school staff for them to connect with the work of the department because: 'showing staff the work we do and promoting ourselves to our colleagues has meant that they are informed of our subject when they interview students for options' (Jaspal, interview). This could suggest Jaspal's department leadership activity system collaborated with others in the activity of sustaining and developing Design and Technology in the curriculum. The department leadership activity system involving teachers in the school outside the department was important while working towards the object.

Jaspal's work was heavily influenced by the decisions made during the weekly meetings of the subject leaders in the school. This was evident in Jaspal's explanation that:

all the heads of departments [subject leaders] go together and we talk about issues that might be affecting all of us...the department agenda is informed by our school's head of department meeting...so things that we discuss inform some department agenda. (Jaspal, interview).

This meant that Jaspal's way of working was restricted to specific issues that were decided at the whole-school subject leaders' meeting. The school's leadership committee activity system's object in the activity of coordinating subject leaders could be about approaching the leadership of all the departments in the school from the

same viewpoint. Participating in the school's leadership committee affected how Jaspal presented and worked on items in the Design and Technology department meetings. He ensured that some of the issues from the subject leaders' meetings were reflected in departmental meetings. This suggests the way that Jaspal worked affected the Design and Technology department leadership activity system through his participation in the school's subject leaders' leadership committee.

Nikki collaborated with other heads of departments in completing cross-curricular activities. She viewed working with other departments as beneficial:

I work a lot with Computer Science...they make the robot with me...because its D&T and then they take the robot to computing...and then they programme it in computing. (Nikki, interview 1).

The collaboration between Nikki's department work and that of the Computer Science department could be attributed to a shared view on pupil learning. The knowledge and skills that each could offer necessitated the relationship between the two. This created opportunities for both to work together and Nikki valued the work and its contribution to the Design and Technology department. Therefore, Nikki in leading the activity of sustaining and developing Design and Technology in the curriculum engaged Design and Technology and the Computer Science subject teachers to work on cross-curricular development for pupils' learning. This may imply that in the curricular development for pupils' learning, collaboration existed between Design and Technology and the Computer Science departments to the advantage of each.

## **8.6 Summary on showcasing Design and Technology and the interaction of Design and Technology leadership activity systems**

This chapter presented a thematic analysis of the data on showcasing Design and Technology. The subject leaders took as their role to showcase Design and



Technology in their school and to others who were part of the school community. Adam and Jim focused on the continuous showcasing of their subject. The showcasing included a departmental approach that focused on the quality of lessons in the department. Jaspal and Theo felt it was important for the staff to be accessible to pupils while Jim and Theo felt that providing pupils with extra-curricular opportunities enhanced the department's profile. Therefore, in their leadership roles Jaspal, Jim and Theo created opportunities for staff to actively engage with pupils outside of lessons. This meant that the subject leaders involved everyone in the department to market the subject to pupils.

Promoting Design and Technology to prospective parents and pupils at the end of Key Stage 3 was at the core of subject leaders' work. The provision of enjoyable lessons was seen by Nikki and Jim to have more effect on pupils' decisions over GCSE. Showcasing the work of the department to parents was viewed as an important leadership role. Nikki and Theo constantly sent parents artefacts that demonstrated the pupils' achievements. Raising the awareness of their subject areas was important because of the increasing competition from other subjects. Showcasing of Design and Technology was not just limited to parents and pupils who had a direct interest in the subject.

Jaspal thought that the views which other teachers in the school had about Design and Technology were important. Therefore, in his leadership role, he ensured that the subject's showcasing targeted teachers outside of the department. In showcasing Design and Technology, subject leaders played their role by ensuring that a positive image of their subject was maintained. This was achieved through the use of artefacts around the school and department areas, posting results on corridor walls, placing pupils' work as wall displays and using other media such as websites and TV screens around the school and the departments. In producing termly magazines, newsletters

and hosting exhibitions, subject leaders were interacting with colleagues, pupils, parents and others in showcasing the work of their departments.

The six Design and Technology department leadership activity systems were analysed to show how they viewed their practice in sustaining and developing Design and Technology by giving examples of activity system interaction. This affected the objects of the Design and Technology leadership activity systems and had a bearing on the subject leaders' perceptions about their leadership practices. The consideration of what the participants said about leadership in Design and Technology departments was the foundation for showing how tools were appropriated to mediate the participants' work on the object of the department leadership activity system.

The participants' work on the object was also explored and how it was viewed differently because of working in other activity systems. This explained why the leadership practices were interpreted differently by the participants. This was evident in Nikki's Design and Technology department leadership activity system, where the views on monitoring teaching and learning differed from those of the school's senior leaders' activity system. These differences eliminated the opportunity for developing the work of the staff by the subject leader. The different approaches to the activity of sustaining and developing Design and Technology underscore the significance of the activity systems' objects.

The more the Design and Technology department leadership activity system interacted developmentally with the staff, the more focused was its object as revealed by a collective sense, as shown in tool use. In this situation, the subject leader's actions were unlikely to be motivated by objects of other activity systems. This was evident in Adam's Design and Technology department leadership activity system

where he and his staff worked towards developing team learning through sharing good practice.

The interaction with the senior leaders' activity systems in the activity of managing departments appeared to be important in the work of the six participants in the leadership of the activity of sustaining and developing the subject in the secondary curriculum. However, the interpretations that subject leaders attached varied depending on context. The interaction of department leadership activity systems in the activity of sustaining and developing the subject in the secondary curriculum with other activity systems shows the complexity of leading departments. This way of working means that subject leaders are not confined to their departments but are constantly engaging with others to sustain and develop Design and Technology. The varying approaches to the leadership of the activity of sustaining and developing the subject in the secondary curriculum emphasises the importance of the context in the systems' objects.

## CHAPTER 9

### CONCLUSION

#### 9.0 Introduction

This study set out to explore the perceptions of Design and Technology subject leaders about their practice in sustaining and developing the subject in the curriculum. It combined concepts of the work of subject leaders (Chapter 2) and the unique status of Design and Technology in the curriculum (Chapter 3) with the analytical lens of the CHAT framework (Chapter 4) to explore the perceptions of subject leaders about their 'bundle of practice'. It was designed to address the argument that the leadership of Design and Technology department in schools could be better understood by considering the contexts of their departments rather than through the models of educational management and leadership (Bush, 2003).

The study applied CHAT to explore the perceptions of subject leaders in leading the activity of sustaining and developing the subject in the curriculum. Using CHAT as an analytical lens provides the opportunity to identify the objects of the leadership activity systems explored by this study. I identified how tools are selected and appropriated by participants in the Design and Technology department leadership activity systems to mediate the work on the object of the activity. I used the concept of the interaction between activity systems to identify how subject leaders saw their work because how they worked towards objects in other activity systems influenced their work in the Design and Technology department leadership activity systems.

The chapter presents the conclusion of the study drawing on the discussion in earlier chapters, addresses the research questions, considers the implications for theory, practice and policy reflects on the use of CHAT as a suitable analytical framework, and suggests areas for further research.

## **9.1 Main findings**

The work of subject leaders in schools is important (Bassett, 2016; Bennett et al., 2003; Leithwood, 2016; Thorpe and Bennett-Powell, 2014; Wise, 2001). This study shows that not only is it important that subject leaders' work is understood clearly for the success of teaching and learning in their schools through the development of teachers' practice but understanding subject leaders' work needs to consider the unique contexts of their departments. The focus on subject leaders in this thesis is because of their role in the department and in the activity of sustaining and developing the subject in the curriculum. All department members including subject leaders are involved in many different activities but for this thesis, the focus has been on the activity of sustaining and developing the subject.

The use of CHAT concepts (tools, object, subject and interacting systems) enables data analysis and reveals what the subject leaders saw as the object in the Design and Technology department leadership activity systems. This afforded the opportunity to suggest what the object of this activity system appears to be in each of the departments and how it differs between them. The ideas about the objects are revealed by the ways tools are appropriated by the different subjects taking part in the activity and how the activity interacts with other activities in the six departments.

### **9.1.1 Research question 1**

**RQ1** - How are tools used and appropriated by subject leaders in Design and Technology department leadership activity systems?

Tools were used and appropriated depending on the context of the department and the perception of participants. In the same school, departments may exhibit very different cultures (Douglas, 2015; Fleming, 2012; Spillane et al., 2004). Likewise, different departments in different schools may exhibit different cultures, even though

they teach the same subject. How tools are used says something about the objects and the cultural context of the department in which they are constructed (Engeström, 1990).

Tools were used in various ways including developmentally to improve the practice of staff or to monitor the conformity of requirements. In one Design and Technology department leadership activity system where the staffing situation had been unstable, which made working on the sustaining and development of Design and Technology in the school difficult for the subject leader tools were used to monitor the conformity of requirements. Here, tools appeared to be used in making the survival of the subject of Design and Technology a priority (Barlex and Steeg, 2017; Bell et al. 2017; Hardy, 2015a;). This required the subject leader to work alongside the school's senior leaders and comply with their instructions.

In another department where success measured by the number of students taking the subject suggested that no new developments were needed in Design and Technology, the focus appeared to be on maintaining control over teaching. This was seen in how the tools often acted as rules in the Design and Technology leadership activity system. For example, Nikki talked of making the Key Stage 3 curriculum in Design and Technology 'harder' so that fewer pupils would choose to study it at Key Stage 4. Participants were conscious of the growing culture of competition in school and promoted their own subjects (Fleming, 2012; Hardy, 2015a). The competition for pupils at GCSE was not only between departments in schools but also within Design and Technology departments. The participants approached this competition differently. The focus of one was to improve the curriculum to make it more attractive to pupils (Bell et al., 2017; Harris and Wilson, 2003). In another department, the subject leader was focused on the use of display walls and exhibitions to create

awareness of the subject. Therefore, the cultural influences affected tool use in individual departments.

### **9.1.2 Research question 2**

**RQ2** – How do subject leaders of Design and Technology understand the object and outcomes of the Design and Technology department leadership activity systems?

The Design and Technology department leadership activity systems' objects in the activity of sustaining and developing the subject (of D&T) in the secondary curriculum were different and were being worked on by the activity systems' participants differently. Considering how tools mediated the work on the object of the activity, identified practices in the departments influenced and informed the work of the subject leaders. The different objects of the Design and Technology leadership activity systems suggest several things about the subject leaders. For example, the culture and the histories of each of the departments in this study affected how subject leaders viewed their work.

Where staff were seen as important in the development of each other's practice, the object of the department leadership activity systems appeared to be collective team learning (Bennett et al., 2007; Dinham, 2007; Leithwood, 2016). All staff including the subject leader were considered knowledgeable and their work in the department contributed to best practice. In such a department, the work of each member of staff was used as a resource to support team learning. By contrast, where the subject leader saw their role as directing others and ensuring that the subject leader's desired way of working was followed, team learning was not a priority. In such a Design and Technology department leadership activity system the object appeared to be working to establish structures to control aspects of practice in the department. The aim was

to maintain an 'efficient system' over department staff to implement the subject leader's vision of a successful department (Busher, 2005). This way of working relied on the staff complying with the subject leader's expectations rather than working collaboratively to develop each other (De Nobile, 2018a).

In the Design and Technology leadership activity system where the subjects (subject leader and staff) were divided in their approach to the department work, the object appeared to be about building relationships to enhance collaborations (Bennett et al., 2007). Such initiatives were demonstrated by a subject leader working with small groups of staff as opposed to the whole team. The subject leader recognised that this was a step towards achieving a cohesive team. This view was different from that of subject leaders who considered their departments as stable and needed to fit in with wider school policies. In two of the activity systems, the object appeared to be aligning aspects of the departments' work with the schools' senior leaders' vision. The different objects in the six activity systems meant that, despite the activities' tools being similar, the subjects (subject leaders) did not appropriate them in the same way.

### **9.1.3 Research question 3**

**RQ3** – How are Design and Technology department leadership activity systems interacting with other activity systems?

A better understanding of the Design and Technology department leadership activity systems' objects could be achieved by understanding how other activity systems contribute to it when interacting in the activity of sustaining and developing the subject in the curriculum. It was noticeable that some of the activity systems examined, worked closely with the schools' senior leaders over monitoring teaching and learning in the departments. This relationship was enhanced through elaborate line management structures and individual senior leaders being involved in monitoring teachers' work (Bennett, et al., 2007; Leithwood 2016; Wise, 2001).



In one department where the participant was both a subject leader and senior leader, the relationship focused on building a unified department team (Busher and Harris, 1999; Poultney, 2007; Turner, 2003a). In another, the school's senior leaders appeared to be at the centre of decision-making regarding the survival of the subject (Hardy, 2015b; Benson, 2009). The subject leader continually consulted the school's senior leaders on the subject's position in the curriculum and felt that it was important to comply with their (senior leaders) conditions to keep Design and Technology as a subject in the school.

Unique to Design and Technology subject leaders in leadership of the activity of sustaining and developing the subject in the curriculum is the interaction with the activity of working with parents in the school's parental liaison activity systems. Liaising with parents was important to develop their involvement in their child's education. This relationship was particularly important for optional subjects at Key Stage 4. Participants explained how important it was for parents to know what Design and Technology was because of the role they had in their children's decision to study the subject at GCSE. Department cultures influenced how subject leaders engaged with parents.

The more cohesive teams appeared to take collective responsibility for parental liaison as a group working together. The responsibilities were shared and each member of the team worked on a specific task. In contrast, in teams where the subject leader was more instrumental in controlling the department's way of working, the task of parental liaison was performed solely by the subject leader. Some sent parents their children's achievement cards in Design and Technology whilst others invited parents to come to exhibitions of pupils' work in school. Variation in how subject

leaders worked with parents was a demonstration of their understanding of their role in leading the activity of sustaining and developing the subject in the curriculum.

The contexts, histories and cultures of a department play a major role in understanding it; therefore, the findings of this study suggest the importance of department context in studying the work of subject leaders. How subject leaders in this study perceived their practice when working in the activity of sustaining and developing the subject in the curriculum depended on the individual culture of the departments. Therefore, studying the personal traits of subject leaders may be an unhelpful approach to understanding their work.

## **9.2 Implications for theory, practice and policy**

This study has several implications at a personal, school and system-wide level. The study's contribution of knowledge is in the leadership of Design and Technology departments in secondary schools. The work of subject leaders is complex and demanding (Bassett, 2016; Bennett et al., 2007). Research about subject leaders has hitherto looked at their roles in departments, with little exploration of how department contexts influence their practice. This study emphasised context to understand the perceptions of the leaders about their practice.

Adopting the CHAT framework allows a focus on what happens in practice. In this study, departments were regarded as integral to the analysis of data (Edwards, 2011). The CHAT framework considers the cultural and historical motives behind a subject leader's choice of tools in the activity of sustaining and developing the subject in the curriculum. In using CHAT concepts, one limitation of this study was that the data was generated on the subject leaders' perceptions of the activity rather than observing the activity itself. Therefore, other approaches to understanding their work that recognise

the importance of departments could be developed to incorporate observation of the activity.

How subject leaders viewed their practice leading the activity of sustaining and developing Design and Technology was dependent on the individual department. Despite leading similar subjects, the participants differed in how similar tools were appropriated. The knowledge of how such tools have been used elsewhere could be a strategy in developing the work of subject leaders. From a professional role as a subject leader, the study has created an awareness of my own practice. As a result, I will consider what changes I would put in place to ensure that my approach to sustaining and developing Design and Technology in my school is more effective.

The findings also highlight the context and history of Design and Technology in understanding the issues affecting the subject in schools. At a school level, the findings from this study could apply to other subjects that are vulnerable in the curriculum. For educational organisations, the findings highlight issues that restrain or empower the development of Design and Technology in the secondary curriculum. Those supporting Design and Technology subject leaders need a good understanding of these issues to know where to offer support for the subject to thrive in their schools. At national and international levels, the findings could be a basis for developing collaborative work between Design and Technology departments in schools.

### **9.3 Further research**

By using CHAT to study practice in departments, this thesis has shown the importance of context. It has shown how subject leaders appropriate tools and adapt over time (Foot, 2014). The study offers insights into the similarities and differences of that appropriation to mediate the work on the object. However, further work could

build on this study to explore the work of subject leaders. Further research on Design and Technology subject leaders could include a longitudinal study of their work as they lead the many activities in departments. A study that would capture what subject leaders are doing could be useful rather than analysing what they say they are doing. Similarly, it would be interesting to capture the views of pupils, parents and department teachers about their perceptions of Design and Technology as a subject in the secondary curriculum.

Design and Technology being at risk in the secondary curriculum needs leaders who are creative in finding ways to sustain and develop it. To form new ways of working, it would be useful to explore whether collaborating Design and Technology departments in different schools could improve the provision of the subject in their schools and adopt a holistic approach in encouraging pupils to study the subject at GCSE. To understand the work of subject leaders, it would be worthwhile to observe how senior leaders and staff work with subject leaders. CHAT could again be used to study the complex work of subject leaders by separating their teaching role from the leadership role.

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## APPENDICES

### Appendix A



#### SUBJECT LEADER CONSENT FORM

**Title of Research Project:** An exploration of the perceptions of Design and Technology subject leaders on their practices of sustaining and developing the subject within the secondary school curriculum.

**Brief Description of Research Project, and What Participation Involves:**

I am a full-time Design and Technology subject leader in a secondary school in the London borough of Hillingdon and also a part-time doctoral student at the University of Roehampton. The purpose of this research is to explore the perceptions of Design and Technology subject leaders of their practices in sustaining and developing Design and Technology in the school curriculum. This project has been approved under the procedures of the University of Roehampton's Ethics Committee.

As a participating subject leader, you will be involved in two, one hour long, face to face interviews that will be audio-recorded and later transcribed. The second interview will be conducted six months after the first to clarify some of the arising issues. Agreeing to take part will also permit me to be present during formal and informal interactions of members of staff in the department, take notes pertaining to the physical environment of your department and look at some of the work and documentation of the department within the school, subject to you and the members of staff of the department being happy with this.

Please be aware that my research does not in any way involve pupils in your school and I will comply with your school's safeguarding policy. I will also comply with all school regulations for visitors.

This research involves six Design and Technology departments in secondary schools in London. The study will be submitted to the University of Roehampton for a consideration of the award of a Doctor of Philosophy and also be presented in writing in academic journals. At no time, however, will your name, that of your school and the staff members involved be used or any identifying information revealed. There is no compulsion or pressure to take part in the project and should you as a subject leader decline to participate or subsequently withdraw, you will not be affected. If you wish to receive a report of the findings from this study, you may contact me using the details below.

**Investigator Contact Details:**

Name: Paul Kinyanjui Mburu  
Department: Education  
University Address: University of Roehampton,

Postcode: School of Education,  
Roehampton Lane, London,  
SW15 5PU  
UK  
Email: mburup@roehampton.ac.uk  
Telephone: 07401475818

**Consent Statement:**

I agree to take part in this research and am aware that I am free to withdraw at any point without giving a reason, although if I do so I understand that my data might still be used in a collated form. I understand that the information and the documents I provide will be treated in confidence by the investigator and that my identity will be protected in the publication of any findings, and that data will be collected and processed in accordance with the Data Protection Act 1998 and with the University's Data Protection Policy.

Name .....

Signature .....

Date .....

Please note: if you have a concern about any aspect of your participation or any other queries, please raise this with my Director of Studies. However, if you would like to contact an independent party, please contact the Head of Research in the School of Education.

**Director of Studies Contact Details:**

Name: Dr Anthony Thorpe  
Address: University of Roehampton.  
School of Education  
Roehampton Lane, London,  
SW15 5PU  
UK  
Email: a.thorpe@roehampton.ac.uk  
andrew.stables@roehampton.ac.uk  
Telephone: 020 8392 3895

**Head of Research in the  
School of Education Contact Details:**

Name: Professor Andrew Stables  
Address: University of Roehampton  
School of Education  
Roehampton Lane, London,  
SW15 5PU  
UK  
Email:  
Telephone: 020 8392 3865



## Appendix B



### REQUEST TO UNDERTAKE RESEARCH IN YOUR SCHOOL

**Title of Research Project:** An exploration of the perceptions of Design and Technology subject leaders on their practices of sustaining and developing the subject within the secondary school curriculum.

**Brief Description of Research Project, and What Participation Involves:**

I am a full-time Design and Technology subject leader in a secondary school in the London borough of Hillingdon and also a part-time doctoral student at the University of Roehampton. The purpose of my research is to explore the perceptions of Design and Technology subject leaders of their practices in sustaining and developing Design and Technology in the school curriculum. This project has been approved under the procedures of the University of Roehampton's Ethics Committee.

As a head teacher you will be allowing me access to your school so that I can collect research data in your Design and Technology department on two visits of a day separated by approximately six months. I will conduct two interviews with the subject leader of Design and Technology, each an hour long, separated by six months. Agreeing to granting access will also permit me to be present during formal and informal interactions of members of staff in the department, take notes pertaining to the physical environment of the department and look at some of the work and documentation of the department within the school, subject to you and the members of staff in the department being happy with this.

Please be aware that my research does not in any way involve pupils in your school and I will comply with your school's safeguarding policy. I will also comply with all school regulations for visitors, and I shall be accompanied by a member of your staff when on the school premises at all times.

This research involves six Design and Technology departments in secondary schools in London. The study will be submitted to the University of Roehampton for a consideration of the award of a Doctor of Philosophy and also presented in writing in academic journals. At no time, however, will the name of your school and the staff involved be used or any identifying information revealed. There is no compulsion or pressure to take part in the project and should a subject leader decline to participate or subsequently withdraw, he or she will not be affected. If you wish to receive a report of the findings from this study, you may contact me using the details below.

**Investigator Contact Details:**

Name: Paul Kinyanjui Mburu  
Department: Education  
University Address: University of Roehampton,  
School of Education,  
Roehampton Lane, London,

Postcode: SW15 5PU  
UK  
Email: mburup@roehampton.ac.uk  
Telephone: 07401475818

**Consent Statement:**

I agree to give access to the school and staff for the purpose of this research and I am aware that I am free to withdraw permission at any point without giving a reason, although if I do so I understand that data might still be used in a collated form. I understand that the information provided will be treated in confidence by the investigator and that the school's identity and that of members of staff will be protected in the publication of any findings, and that data will be collected and processed in accordance with the Data Protection Act 1998 and with the University's Data Protection Policy.

Name .....

Signature .....

Date .....

Please note: if you have a concern about any aspect of your school's and staff's participation or any other queries please raise this with my Director of Studies. However, if you would like to contact an independent party, please contact the Head of Research in the School of Education.

**Director of Studies Contact Details:**

Name: Dr Anthony Thorpe  
Address: University of Roehampton.  
School of Education  
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## Appendix C

### Initial email to Head teachers attached was a request for consent

Dear .....

I am writing to you following the kind introduction of my head teacher, ..... at ..... School. Please may I thank you in advance for agreeing to help with my research project. I am a Design and Technology teacher and a part time doctoral student in the Education Department at the University of Roehampton. I am conducting a research study as part of the requirements of my degree in Education Leadership, and I would like to collect data in your school.

The title of my research project is: **An exploration of the perceptions of Design and Technology subject leaders on their practices of sustaining and developing the subject within the secondary school curriculum.** Findings from this research will add to the work of subject department researchers who acknowledge the significance of subject departmental level leadership in secondary schools. Additionally, the findings will be of interest to the Design and Technology Association - a subject support association, researchers in curriculum, and practising and aspiring subject leaders in secondary schools.

I am writing to kindly request that you allow me access to collect research data in your Design and Technology department on two one day visits separated by approximately six months. On the two visits I will conduct a 45-minute interview with the subject leader of Design and Technology. Agreeing to granting access will also permit me to be present during formal and informal interactions of members of staff in the department, take notes pertaining to the physical environment of the department and look at some of the work and documentation of the department within the school, subject to you and the members of staff in the department being happy with this.

Please be aware that my research does not in any way involve pupils in your school and I will comply with your school's safeguarding policy. I will also comply with all school regulations for visitors, and I shall be accompanied by a member of your staff when on the school premises at all times.

The completed research project will be submitted to the University of Roehampton for a consideration of a Doctor of Philosophy degree. The research findings will also be presented at academic conferences and submitted for publication in academic journals and professional

publications. Information and the documents that will be provided will be treated in confidence and at no time, however, will the name of your school and the staff involved be used or any identifying information revealed in the publication of any findings.

Thank you for your consideration and if you have any questions, please do contact me. Please open the attached request to undertake research form (which summarises most of the information on this email), read and sign. There is no compulsion or pressure to take part in the research. When you are done, please email the document to [mburup@roehampton.ac.uk](mailto:mburup@roehampton.ac.uk). Please forward the contact details of the subject leader of design and technology in your school and I will also get in touch. Once again thank you.

With kind regards,

Paul K Mburu

## Appendix D

### Follow-up email with the subject leader after writing to the head teacher

Dear .....

I am writing to you as ..... has kindly given me your email and suggested that I get in touch with you regarding help with my research project. I am a Design and Technology teacher at Harlington School and a part time doctoral student in the Education Department at the University of Roehampton. I am conducting a research study as part of the requirements of my degree in Education Leadership, and I would like to invite you to participate.

The title of my research project is: **An exploration of the perceptions of Design and Technology subject leaders on their practices of sustaining and developing the subject within the secondary school curriculum.** Findings from this research will add to the work of subject department researchers who acknowledge the significance of subject departmental level leadership in secondary schools. Additionally, the findings will be of interest to the Design and Technology Association - a subject support association, researchers in curriculum, and practising and aspiring subject leaders in secondary schools.

If you decide to participate, you will meet with me for two interviews that will be six months apart. In particular, you will be asked questions about your practice. The meeting will take place in your school at a mutually agreed upon time and place and should last about 45 minutes. The interviews will be audio recorded so that I can accurately reflect on what is discussed. The recording will only be reviewed by me when transcribing and analysing data. Data will be kept following the University's Code of Good Research Practice. If during the interview you may feel uncomfortable answering some of the questions, you do not have to answer any questions that you do not wish to. I will also be requesting that I spend time in your department to take notes pertaining to the physical environment of your department and look at some of the work and documentation of the department within the school, subject to you and the members of staff of the department being happy with this.

The completed research project will be submitted to the University of Roehampton for a consideration of a Doctor of Philosophy degree. The research findings will also be presented at academic conferences and submitted to academic journals and books as well as professional publications. Information and the documents you will provide will be treated in confidence and your identity will be protected in the publication of any findings.

Thank you for your consideration and if you have any questions, please do contact me. Please open the attached participant consent form (which summarises most of the information on this email), read and sign. There is no compulsion or pressure to take part in the research. When you are done, please email the document to [mburup@roehampton.ac.uk](mailto:mburup@roehampton.ac.uk) and I will contact you to discuss participating and arrange a suitable time for my first visit.

With kind regards,

Paul K Mburu

## Appendix E

### Subject Leader Semi-structured Interview Schedule

Date \_\_\_\_\_ Time \_\_\_\_\_

Who \_\_\_\_\_

Site location \_\_\_\_\_

*Sample questions- Continued informed consent- withdrawal at any time- shall we continue if you are happy.*

Research questions (RQ)	Key question	Prompts and probes
	What are your past experiences and views which might help me to understand your world view and why you might articulate matters as you do?	<ol style="list-style-type: none"> <li>1. How long have you been in your current position?</li> <li>2. What did you do prior to this?</li> <li>3. How much experience did you have in other schools / work environments?</li> <li>4. What is your formal title? What is the formal title for your department? Does the staff in the department use a different informal title when addressing you or referring to the Design and Technology department?</li> <li>5. Any influential people you have worked with? In the current school? In a previous school?</li> <li>6. Do you have other formal responsibilities in the school other than being a subject leader/HoD/HoF/CL?</li> <li>7. If yes, what is the role?</li> </ol>
RQ1- How are tools used and appropriated in secondary school Design and Technology leadership activity systems?	How do you use and appropriate leadership tools in your school's Design and Technology department?	<ol style="list-style-type: none"> <li>1. Tell me more about what you do towards building teamwork between Design and Technology department staff? and students in the department?</li> <li>2. How does the Design and Technology department deal with disagreements and contested issues?</li> </ol>

		<ol style="list-style-type: none"> <li>3. How do you promote good will in your team?</li> <li>4. How do you monitor teaching and learning in your department?</li> <li>5. What else do you monitor and how do you do it?</li> <li>6. Tell me how the work attitudes and behaviours (commitment, extra effort, contribution to the department activities) of the teachers that you lead help to sustain and develop the department.</li> <li>7. Tell me about how department meetings are used if you have any?</li> <li>8. How do you organise/keep track of the deliberations/decisions once reached by the department team?</li> <li>9. What other types of record do you keep?</li> <li>10. Would you consider the department to be cohesive as a group of staff?</li> <li>11. How and when do members of staff in your department get to talk about department issues?</li> </ol>
<p>RQ2- How do subject leaders understand the object and outcomes of the Design and Technology leadership activity systems?</p>	<p>How do you as a subject leader/HoF/HoD/CL understand the object and outcomes of your Design and Technology department?</p>	<ol style="list-style-type: none"> <li>1. How many members of staff do you have in the department?</li> <li>2. How are the teaching and learning roles allocated/organised within your department?</li> <li>3. How do you set design and technology department goals?</li> <li>4. How do you bring about department improvement?</li> <li>5. Tell me more about developmental focus in your department.</li> <li>6. How do you promote/embed department self-evaluation?</li> <li>7. Tell me about the curriculum you offer in your department.</li> <li>8. How are student groups organised? What input do you have in student grouping? Is the current system working? Is there an ideal grouping system for the students in the department?</li> <li>9. Tell me about the department and links to home (parents).</li> <li>10. How do you promote staff development?</li> <li>11. What do you do to develop a shared understanding / policy regarding everyday classwork, homework, practical work, etc?</li> <li>12. Tell me about the provision and use of resources in the department.</li> </ol>



<p>RQ3- How do Design and Technology leadership activity systems interact with other activity systems?</p>	<p>How does your Design and Technology activity system interact with other activity systems?</p>	<ol style="list-style-type: none"> <li>1. What opportunities are there to show case the work of your department in the school?</li> <li>2. What encourages you to contribute to the development of the subject in the school?</li> <li>3. How do you respond to the demands of the Senior Leadership Team in your role as a subject leader?</li> <li>4. How and when does your department work with other departments in your school?</li> <li>5. What do you do to create opportunities for the staff in your department to interact with other departments?</li> <li>6. How would you describe the status of your department in the school?</li> <li>7. Do you see yourself as being part of a wider leadership and management team in the school? Can you give me an example of this?</li> <li>8. Which opportunities are there to raise the curriculum needs for your department with the senior leadership?</li> <li>9. What do you do to ensure that your department has enough timetabling space?</li> <li>10. What do you do to ensure that you are providing the required curriculum?</li> <li>11. How is your leadership of the department supported at a wider school level?</li> </ol>
	<p>What challenges do you face in the leadership of the subject across the school?</p>	<ol style="list-style-type: none"> <li>1. What do you think are the challenges to leadership, particularly in your department? Challenges?</li> <li>2. Are there any uncertainties pertaining to curriculum provision in your department in this school?</li> <li>3. What has been helpful in overcoming these challenges?</li> </ol>
	<p>What could be done to develop Design and Technology?</p>	<ol style="list-style-type: none"> <li>1. What do you think could be done to improve design and technology as a subject in your school?</li> <li>2. What pleases you about the Design and Technology department?</li> </ol>

		<p>3. Describe what you are doing to address the main changes that have been introduced in the design and technology national curriculum</p> <p>In your own view, what does a 'successful' department leadership look like?</p> <ul style="list-style-type: none"><li>- Now?</li><li>- In the future?</li></ul>
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Reflections

Emerging questions

## Appendix F

### Field notes

#### Descriptive Information

<u>Date</u>	<u>Time</u>	<u>Site name</u>	<u>Location</u>
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Physical Settings

Reflections

Emerging questions

Future actions- for the next field visit

## **Appendix G**

### **Document analysis**

Date \_\_\_\_\_ Time \_\_\_\_\_ Site name \_\_\_\_\_ Document No. \_\_\_\_\_

#### Document Description

Type of document: Electronic or printed

1. Who wrote the document?
2. Who was the intended audience?
3. What was the purpose?
4. Why was the document written? Purpose?
5. What type of document is it?
6. What were the basic assumptions made by the author(s)?
7. What can I learn about person/group that produced this document?
8. Which research question does this document answer?

#### Reflections

#### Emerging questions

#### Future actions- for the next field visit

## Appendix H

### Example of an initial memo

#### **Memo 1: Subject leader's monitoring tasks in leading teaching and learning**

This memo was derived after coding data that was gathered through in-depth interviews, field notes (on observation of a department meeting led by one of the case subject leaders, notes on classroom displays and corridor displays in the case study departments and around the host school, case study department tearooms/office) and private and public analysis of documents prepared by the subject leaders in this study. Four themes that emerged from the data under this memo are (1) learning walks (2) lesson observations (3) book reviews (4) developing procedures. Each theme is supported by data excerpts that were chosen to illustrate the theme. Learning walks mean different things to different actors but generally they are short informal visits to lessons lasting no more than twenty minutes and focus on very specific areas. Lesson observations unlike learning walks are either formal or informal visits to lessons and takes between half of a lesson to a whole lesson. Lesson observations are judgemental, and they are aimed at evaluating teachers and finding out the quality of teaching and learning in schools. Book review also referred to as work scrutiny or book look is an exercise that involves looking at the written or verbal work produced by pupils within a given time frame.

#### **1. Learning walks**

Monitoring teaching and learning in the six case studies emerged predominantly from in-depth interviews and was supported by personal documents in two of the case studies. Learning walks were prominent in five of the six case studies.

Adam states that he gives learning walks a high priority:

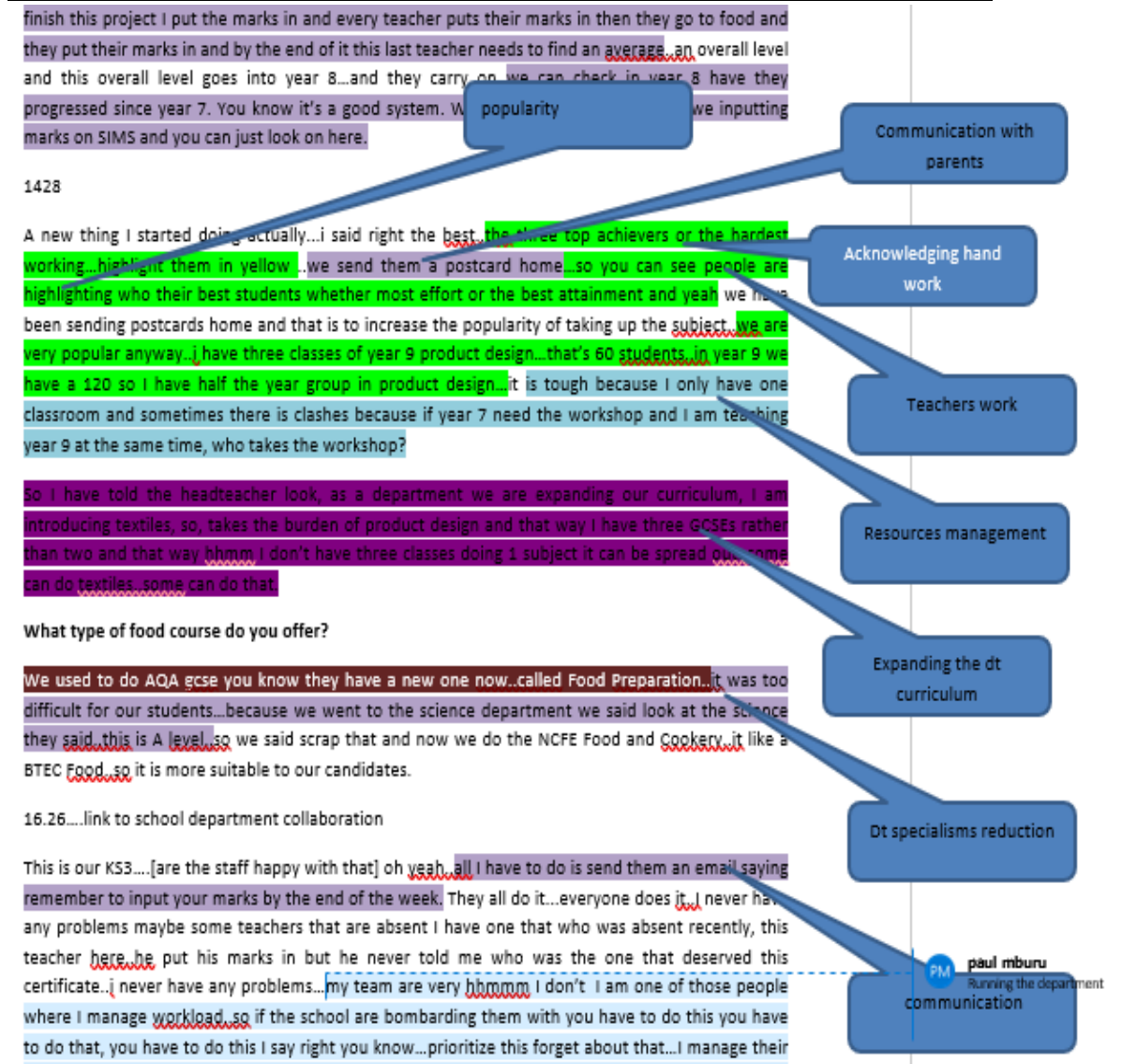
We do learning walks...I pop into lessons now and then and have a look around and I look through books then...just to see what is going on and to see what feedback that has been given...that gives me a clear idea so then I know what I can target...I do go into textiles...I do go into food...I go into resistant materials...I go into construction...I also because I have got Mr\* as the head of food, he has responsibility, Ms \* is head of textiles, Ms\* is head of resistant materials...so I get those three working for me in that kind of way...because they know what is going on in their subject areas. (Adam, January 2017, SL1 Data set 1)

In addition, Nikki comment is that she pretends that she is making tea whilst she was observing how teaching was being done.

I do learning walks if I have time. If I have time, I walk into classrooms... I make them feel very comfortable, so I just walk in I pretend I am making tea but really, I am watching, and I am always popping in...I know how they teach you know. (Nikki, November 2016, SL2 Data set 1)

## Appendix I

### Example of annotations to identify themes on a transcribed interview script



## Appendix J

### A table showing themes, participant and quotes from transcribed interviews, observations and documents

Theme	Source Interview (INT)	Text (these are extracts from transcribed interview transcripts)
Leadership role	SL1 INT /	I have been here for about...I have been in this school for about 12 years now and the head of faculty for about 7 years or 8...
	SL2 INT 1	I worked my way up to being second in department there so for 5 years I was working there I worked my way up.  so <u>yeah</u> and the rest is history really...I have been here...this is my third year now...I have been very successful...I am very happy here
	SL5 INT	12 years...so I became key stage 3 coordinator after two years then I became deputy years after that...and then I have been <u>head</u> of department for seven years this summer.
	SL6 INT	I have been teaching 25 years, was head of year from a pastoral point of view, assistant headmaster at for a wee bit and now I am back experiencing all the joys of middle management all over again.
	SL2 INT 1	I am the head of design and technology and <u>art</u> but they are two separate departments. I am a line manager so I manage art and dt <u>ahhmm</u> but I am the head of art and dt so I call art a department that is its own subject and dt design and technology I call it a department I guess.  I think my system are very straight forward... <u>==</u> I believe in if you create a very efficient system something that works something that anybody can understand you communicating to them becomes very minimal because it is very clear you know so I hardly ever tell them what to do because everything has been laid out...  I have got several folders with bits in...so you can see I have data.....progress check...so that every data drop I will certainly print out in full the bits that might be for the exam groups and then I will go through progress checks for the lower school...and just get it...so it flags out those have got..... and other worries and then focus on them and then again they may become a focus of a meeting...okay so for 10 minutes... so right...what was it? They PG3
	SL3 INT1	

## Appendix K

### **An example of a summary of a memo with a table to support discussion.**

#### Summary

Subject leaders expressed what they thought reduced the number of pupils opting for Design and Technology at GCSE level. A range of issues were raised but the introduction of Ebacc cut across four of the case studies except for Jack and Nikki. Theo also identified external pressure including lack of funding and capacity as the main ingredients of curriculum reorganisation in his school hence leading to a decline in the number of pupils opting for Design and Technology specialisms at GCSE and A level. Theo further explained that the term Design and Technology was a problem and that parents must be made more aware of what is happening in the subject. The number of pupils taking Design and Technology at GCSE were an issue for Theo and Jaspal. Nikki's department boasted a good number of pupils at GCSE however at key stage 3 she explained that she had put in place systems to ensure what pupils were taught in Design and Technology kept them interested.

In Jim's and Adam's department they were concerned that the allocated time for Design and Technology had been reduced significantly in their schools' timetable. Adam explained that the reduction of the timetabled time for Design and Technology was unfavourable and worked to the benefit of Ebacc subjects an issue he raised with his school's head teacher. Jim explained that he took a wait and see approach and hoped to adjust the Design and Technology curriculum to fit within the reduced time.

All the subject leaders except for Jack had facilitated an options assembly and an open evening. Jack's department is unique, and he didn't have to compete for pupils with other departments. Pupils joined the UTC (Adam's school) because they wanted to study engineering related courses. The marketing of Design and Technology in Jack's department was external (to pupils in other schools) in order to bring more pupils to the UTC at the start of year 10 (GCSE in England starts in year 10 and in some schools in year 9) unlike in the other five case studies where showcasing was internal (involving the school community) to raise the numbers at GCSE. Apart from Nikki and Jim who had pupils' work dotted around the school corridors in glassed cabinets the rest of the subject leaders used department open spaces to display current and past pupils work. Most artefacts were within the department areas on clear window displays, display cabinets (along department walls) or on the walls inside and outside of Design and Technology classrooms. Nikki, Jim and Jaspal had conducted an exhibition where they showcased their department's work to the school community (pupils, parents and teachers).

Adam, identified that poor teaching of Design and Technology at key stage 3 worked against having pupils opting for it at GCSE; for example, he explained that the textiles specialism in Design and Technology had a low intake at GCSE due to pupils' bad experience of the specialism during their year 9. In raising awareness of Design and Technology as a GCSE subject on offer in their school subject leaders' actions and pursuits were aimed at bringing awareness to pupils, their parents and to some extent to the senior leadership team and teachers in the school. These pursuits and actions included options assembly, exhibitions, classroom and corridor displays and raising concerns with the head teacher. Data showed that there were various subject specialisms offered under GCSE Design and Technology. The specialisms competed against each other and with the rest of the option subjects for pupils.